

Fuzhan Xie · Fang Cai ·
Xuesong Li *Editors*

The New Journey of China's Economic and Social Development



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Preface

At the 19th National Congress of the Communist Party of China, the CPC Central Committee with Comrade Xi Jinping at its core drew a grand blueprint for China's development in the next 30 years and formulated a strategic arrangement for two-stage development. That is, we will basically realize the socialist modernization from 2020 to 2035 and build China into a modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful from 2035 to 2050. This is an inevitable requirement for realizing the Chinese Dream of national rejuvenation and is also the historical mission of contemporary Chinese people. By the 100th anniversary of the founding of the Party, China will complete the building of a moderately prosperous society in all respects and embark on a new journey of building a socialist modernized country in an all-round way.

An unexpected occurrence of the global COVID-19 pandemic is changing the patterns of people's production and life and may also historically affect and change the world's political and economic structure. To study China's economic and social development in the medium and long term, we must make a deep analysis of and firmly grasp the strategic picture of the once-in-a-century changes taking place in the world and the great rejuvenation of the Chinese nation, correctly analyze the situation, scientifically judge opportunities and challenges, and formulate strategies and policies in a forward-looking manner.

Internationally, in the next five to fifteen years, or even longer, the international power dynamics will evolve to the fact that the instability and uncertainty of world development will rise significantly, and the new round of scientific and technological revolution will profoundly affect the global development pattern.

First of all, the great change in the world rarely seen in a century has accelerated its evolution. The balance of power among major countries in the world is one of the most critical variables in the once-in-a-century changes. In this sense, the great changes are mainly manifested in the "rising east and falling west" of international power balance. On the one hand, after the Cold War, the western countries led by the United States indulged in the illusion of "the end of history", and some big countries wantonly showed their power and consumed their national strength, while they were blinded by the "Great Moderation" at home, ignoring the income gap, letting classes

tear apart and ethnic groups oppose each other, which has already manifested some faint traces of the collapsing western powers. Since the end of the Cold War, the US-led western world let the financial profit-making class absorb the surplus value created by the general public in real economic activities by virtue of high debt and excessive financial innovation; as a result, the rich-poor disparity and class solidification have become increasingly prominent, manifested by concentrated outbreaks of American subprime crisis, European sovereign debt crisis, and international financial crisis. These criticisms provided a hotbed for unilateralism, protectionism, nationalism, and populism in western countries while directly slowing down domestic economic growth and damaging people's well-being, thus making adversary effects spill over to other countries in the world. On the other hand, emerging markets and developing economies represented by China have optimized resource allocation, strengthened technological innovation, developed open economy, integrated into the world economic system, and made rapid progress in social-economic development in the context of economic globalization through reform and innovation of their systems and mechanisms so as to improve people's living standards and enhance their importance in the global production network and their proportion in the world economy. Since 2020, the profound impact of the COVID-19 pandemic on the international situation will further accelerate the evolution trend of the great changes, which features "rising east and falling west".

Secondly, peace and development remain the themes of the times, but the unstable and uncertain factors in the international community have increased significantly. Peace and development accord with the aspirations of people all over the world and conform to the development trend of world history. With the deepening of world multipolarization, economic globalization, social informationization, and cultural diversity, the depth and breadth of interconnections among countries in the world are constantly expanding, and national interests are intertwined. Human beings have never shared one destiny like today. Meanwhile, the international environment is getting more turbulent, competitive, and antagonistic, and this has led to various problems facing the world's economic and social development. For the issue of peace, there always exist security threats to global development as well as endless regional conflicts and local wars, which have devastated many countries and their people, especially children. For the issue of development, there are prominent problems without effective solutions, such as unbalanced development, unfair income distribution, and the widening wealth gap. For the issue of trust, the international cooperation has been seriously eroded by intense competition and geopolitical game. For the issue of governance, there have emerged severe global problems such as climate change, cyber security, refugee crisis, and major infectious diseases, and the global governance system and multilateral mechanism have been impacted by the growing protectionism and unilateralism.

Finally, the new round of scientific and technological revolution will reshape the global economic structure and development pattern. The new round of scientific and technological revolution is a coordinated transition process of technological and economic paradigms, an important driving force for the evolution of global economic structure, and a "double-edged sword" with high complexity and uncertainty. On

the one hand, a vast number of developing countries with certain industrial bases, including China, have seized the historical opportunity of scientific and technological revolution to improve local innovation capability; cultivate innovative entities; create independent product platform, R&D system, and experimental system; and induce new formats, new models, and new industries. They have kept pace with developed countries in some emerging industries and even surpassed developed countries in mature industries by integrating new technologies with traditional technologies and industries. In this process, major power competition will be more and more concentrated in the contest of scientific and technological innovation capability, and the game among major powers for key technologies will become more intense. On the other hand, breakthroughs in new technologies such as artificial intelligence, network information, and biotechnology will have an incalculable and significant impact on economy, society, and human production and lifestyle. Scientific and technological innovation will widen the income gap while improving the labor productivity, will create more jobs while giving rise to unemployment, and may incur disastrous consequences while safeguarding human security. China has entered a stage of high-quality development, with many advantages and favorable conditions for development, but the problem of unbalanced and insufficient development is still outstanding.

First, China has great potential for development. The 19th National Congress of the Communist Party of China clearly stated that the basic reality that China is in the primary stage of socialism remains unchanged, and China's international status as the largest developing country in the world has not changed. At present, the main contradiction in our society is the contradiction between the ever-growing material and cultural needs of the people and the imbalanced and insufficient development. In comparison with developed countries, China faces a big gap in the overall level of its modernization, so it is bestowed with huge potential for investment, broad space for consumption, and good prospects for external demand. Over 40 years of reform, opening up, and rapid development, China has strengthened its macro-control ability, improved its economic system, consolidated its material foundation, advanced its scientific and technological innovation ability, and updated its ability to resist risks and international competitiveness.

Second, China has the prominent advantage as a hypermarket. China is the only country in the world that has all industrial categories under the United Nations International Standard Industrial Classification of All Economic Activities (ISIC), and its industrial system covers 41 groups, 207 classes, and 666 subclasses. With the continuous improvement of the urban and rural income levels and the growth of middle-income groups, the scale of the domestic consumer market is expanding, making China the largest consumer country in the world in the sense of economic aggregate. The complete industrial system and the super-large-scale domestic demand market have brought the advantages of integrated innovation, making possible the fast transformation of new technologies and products from laboratories to large-scale commercial applications and providing sufficient endogenous power for innovation-driven economic development. These factors have paved the way for leveraging the

advantageous domestic super-large-scale market and gradually creating a “dual circulation” development pattern in which the domestic economic cycle plays a leading role while the international economic cycle remains its extension and supplement.

Third, the new round of scientific and technological revolution and industrial transformation makes it possible for the late-comer to catch up with or outperform the forerunners. New technologies represented by new energy vehicles, mobile Internet, big data, cloud computing, artificial intelligence, Internet of Things, and blockchain will quickly enter the stage of commercial applications. The new “Industrial Revolution” is characterized by manufacturing and service industries energized by new technologies, which has profoundly changed the production organization mode and developed towards intelligence and customization; as a result, the specialized division of labor will be further refined, and the labor productivity will be further improved. Seizing the opportunity of the new round of scientific and technological revolution and industrial transformation, China, as the largest emerging economy, will see a significant improvement in its social productivity level.

Fourth, China has improved the modernization level of its national governance system and capacity has been significantly improved, with a sound political and social environment as well as the public aspiration for a better future. Since the 18th National Congress, the Communist Party of China has enhanced its ability and determination to make general plans, formulate policies, and promote reform and played a core role in leading and coordinating the efforts of all quarters, thus consolidating the CPC Central Committee’s authority and unified leadership. The *Decision of the Central Committee of the Communist Party of China on Major Issues Concerning Upholding and Improving Socialism with Chinese Characteristics and Modernizing the State Governance System and Capacity*, deliberated and adopted at the Fourth Plenary Session of the 19th CPC Central Committee, depicts the “map” of the socialist system with Chinese characteristics and provides “multiple pillars”—full institutional support—for the Party and the country’s long-term stability and security. China has made all-round and pioneering breakthroughs in comprehensively deepening reform and achieved remarkable results in law-based governance of the country, leading the improved socialist legal system with Chinese characteristics, the optimized business environment, and greater vitality in social development and innovation.

Of course, there are still many ingrained problems and challenges in China’s economic and social development, including those inevitable in the economic development phase, those related to institutional and structural incongruities, and those brought about by changes in the international environment.

First, after the per capita GDP exceeds 10,000 US dollars, the urgent requirement is to cross the “middle-income trap”. In history, many countries encountered contradictions and challenges after their per capita GDP reached 10,000 US dollars. In the process of moving from middle income to high income, an economy needs to get rid of the path dependence of institutional mechanism, growth momentum, and development mode and achieve a qualitative leap in these aspects. Otherwise, it will find it easy for its economic growth to stagnate and wander, or it will find it difficult to break through the threshold of high-income countries, or wander for a long time

after entering the ranks of high-income countries. This is mainly caused by the fact that the contradictions accumulated during the period of rapid economic development have not been eliminated, the original development model and institutional mechanism cannot adapt to growth slowdown, and there is no effective way to deal with systemic risks. Once the economic growth fluctuates drastically or comes to a standstill, it may lead to social problems and bigger economic problems and even hinder the economic and social development. These lessons are profound worldwide.

Second, the slowdown of economic growth puts forward urgent requirements for innovation-driven development. In China, the number of the working-age population has begun to decline, the growth rate of investment in fixed assets has obviously slowed down, and the space of late-catching mode introduced simply by technological learning has narrowed significantly. Some regions have even increased constraints on land and environment. Generally speaking, the contribution of labor, capital, technology introduction, land, and other essential resources to economic growth is weakening marginally. At present, China's ability to drive economic growth by innovation is not strong enough, and some core key technical fields are still at the risk of "being strangled". Future economic growth puts forward more urgent requirements for reliance on improved total factor productivity and independent technological innovation.

Third, industrialization has entered the second half, urgently requiring industrial transformation and upgrading. This is caused by the weak competitiveness of the traditional manufacturing industry, the aggravating difficulties facing various business entities, the growing pressure on industrial transformation and upgrading, and the increasing intention of some foreign-funded enterprises and private enterprises to migrate outward. China's core technologies are more likely to be "strangled" and its industrial chain and supply chain security are being threatened. China sees a rising proportion of service industry in the economy and integration of its high-end manufacturing industry and modern service industry, but is worrying about the declining proportion of manufacturing industry in its economy. The demand structure of economic growth continues to change, and the investment pulling effect decreases while the consumption pulling effect increases. These changes urgently require industrial transformation and upgrading.

Fourth, urbanization enters the second half, which puts forward urgent requirements for integrated urban-rural governance. The new generation of migrant workers has a stronger desire for their families to live and work in cities, giving rise to the tension between employment urbanization and residential urbanization. The urban population and potential new citizens make a request for equal access to urban basic public services. Rural population structure and production organization are undergoing profound changes, and rural social governance is facing new challenges. All these have required the government to implement a new people-centric strategy of urbanization and rural revitalization and accelerate urban-rural integration.

Fifth, the acceleration of consumption upgrading puts forward more urgent requirements for the supply of public services. With the realization of the goal of building a moderately prosperous society in all respects, the per capita income level of residents has been further improved, the proportion of people's traditional

material consumption demand has stabilized or declined, while the consumption demand of new services and public goods will increase with greater elasticity. On the one hand, higher requirements are put forward for consumption in quantity and quality of medical care, old-age care, early childhood education, domestic service, leisure tourism, culture, sports, and entertainment. On the other hand, the demand for public and quasi-public goods such as ecological environment, public health, residential property services, urban and rural software, and hardware infrastructure has increased, raising higher requirements for governments at all levels to improve awareness and ability to provide public services.

Finally, the accelerated aging of the population puts forward more urgent requirements for economic and social development. China's birth rate is at a low level, and the total fertility rate of fertile women is only 1.719 (2017). In the next few years, the total population will reach its peak, but the size of the elderly population continues to expand. The total working-age population continues to decrease and the dependency ratio of the population increases significantly, which will continue to reduce the potential growth rate and actual growth rate of the economy from the supply side. The rising degree of population aging has posed a series of new challenges to social governance, finance, social security, finance, and medical care, as well as many new major issues for policies such as fertility, retirement, child care, and old-age care.

Pursuant to the current situation, tasks, opportunities, and challenges faced by China's medium- and long-term economic and social development, the Chinese Academy of Social Sciences has pooled researchers in related fields to conduct in-depth research on more than 20 major topics and produced this book. These topics cover rural revitalization and anti-poverty, industrialization and manufacturing transformation, service industry upgrade, social and taxation system and fiscal sustainability, major financial reform, industrial and competition policy, ownership structure, new pattern of opening to the outside world, digital economy, innovation drive, financial stability, macro-control, new urbanization, regional development, ecological environment, population aging, labor market, income distribution, social governance, shortcomings of people's livelihood, social security, legal construction, cultural power, etc.

The impact of the unexpected COVID-19 pandemic is a big test on the national governance system and capacity. It also raises new issues for China's medium and long-term development. Based on medium- and long-term development, this book focuses on medium-term and long-term problems and highlights major medium-term and long-term strategies and policies, but it does not cover all problems and aspects of medium-term and long-term development. It is hoped that the publication of this book will provide a useful reference for all sectors of society to better understand and grasp the new trends, opportunities, and challenges of China's economic and social development in the future and to think about China's medium- and long-term development strategy and development path.

Please feel free to indicate any omissions or errors in this book.

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Chapter 1

Experiences Gained from Past 13th Five-Year Plans and Guidelines for Subsequent Plans



Qunhui Huang, Jiayong Hu, Xuejun Zhao, Chuang Du, Fumin Sui, Peng Wu, Yaofu Ouyang, and Chi Zhang

China's five-year plan for national economic and social development is essential to state government's macroeconomic and social management. As a long-term plan for China's national economic and social development, each five-year plan articulates the goals and directions for long-term economic and social development, and delineates major national construction projects, allocation of productive forces as well as key proportional relations of the national economy and social undertakings. In the light of the five-year plan, the central government is able to mobilize and allocate all resources of the whole society to promote economic and social development. The five-year plan's important role in the process of China's development since its establishment has fully demonstrated the socialist system's superiorities. In the 70-year development process, China has been perseveringly formulating and implementing 13th Five-Year plans in a consecutive manner while experiencing a significant transformation from the planned economy system to the socialist market economy system. The process of implementing 13th Five-Year plans has given a full account of the CPC's brilliant leadership during the socialist construction, from which we have accumulated many valuable experiences for state governance with Chinese characteristics. In a new era of the 2020s when China is making all efforts on seeking a well-off society in an all-round way and comprehensively building a modern and powerful socialist country, feasible guiding thoughts and principles are being developed based on past experiences for subsequent five-year plans, which will be of great significance for China's second of "two centenary goals".

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1.1 Historical Context of Five-Year Plans for National Economic and Social Development

The process of China's formulation and implementation of 13th Five-Year plans has been advancing with the times in terms of each plan's goal, nature, content, system and procedures. In terms of plan goals, the five-year plan was designed initially to realize the socialist industrialization, later to realize the "four modernizations", further to address the problem of people's food and clothing, and recently to build a well-off society in an all-round way. In terms of plan nature, the plan was deemed initially to be simply mandatory, later to be predictive and instructive, and further to be both prospective and restrictive. In terms of planning contents, the plan was described initially as an economic development plan, later as an economic and social development plan, and further as a national plan for comprehensive development of politics, culture, ecology, national defense and military forces. In terms of planning system, the plan was developed initially in the form of an economic plan, later in the form of complex general plan, special plan for key areas, plan for key economic regions, and plan for main functional areas of spatial development, the coverage of which expanded from administrative districts of the inland (mainland) to Hong Kong, Macao and Taiwan regions, and the indicators of which also evolved from physical output indicators to value indicators. In terms of planning procedures, the plan was initially formulated directly by the CPC Central Committee, and later by the State Council in line with the CPC Central Committee's proposal reviewed by the National People's Congress.

The 13th Five-Year plans can be divided into three periods according to their historical evolution process: (1) the period of socialist construction under the planned economic system from 1953 to 1978, (2) the period of socialist construction with Chinese characteristics from the promulgation of the reform and opening-up policies in 1978 to the convening of the 18thCPC National Congress in 2012, and (3) the new period of socialist construction with Chinese characteristics ever since the 18thCPC National Congress.

The period of socialist construction under the planned economy system was started from 1953, and the 1st Five-Year Plan of the People's Republic of China was put into practice, to 1978, when the reform and opening-up policy was promulgated. During this period of traditional planned economy, China had formulated and implemented five five-year plans. China's economic construction in the period from the 1st Five-Year Plan to the 5th Five-Year Plan was tasked mainly with promotion of socialist industrialization and realization of the "four modernizations". The idea of compiling and implementing the "Five-Year Plan" is to give priority to the development of the heavy industry and the creation of an independent and complete industrial system and national economic system through a complete mandatory government plan. Moreover, the five-year plans in this period were interrupted several times by political events, and in fact, four of them other than the first one had not been formally promulgated.

The period of socialist construction with Chinese characteristics from the promulgation of the reform and opening-up policies in 1978 to the convening of the 18th CPC National Congress in 2012 consists of seven five-year plans, extending from the 6th Five-Year Plan to the 12th Five-Year Plan. These plans have been sublimated from purely mandatory plans under the planned economy system to programmatic documents under the socialist market economy system to direct the economic and social development, depict the overall development blueprint, determine the government's future work priorities, and guide the behavior of market players. Overall, the 35-year period from the 6th Five-Year Plan to the 12th Five-Year Plan ushered in a new era of China's reform and opening-up and construction of socialist modernization with Chinese characteristics. As a result, we are able to provide people with adequate food and clothing, realize a well-off society in general, and look forward to building a well-off society in an all-round way; the gross national product has reached the economic construction target—"quadrupling" that of 1980 by the end of the twentieth century, thus advancing the transition from traditional planning system to socialist market economic system and the transformation of the extensive economic growth to intensive economic growth.

Ever since the 18th CPC National Congress convened in 2012, China has entered a new period of socialist construction with Chinese characteristics. The 13th Five-Year Plan, the first five-year plan in this period, is critical to building a well-off society in an all-round way as it is designed to solve many problems arising from economic development under the new normal, and undertakes the historical mission of building a well-off society in an all-round way. It is clearly defined in the 13th Five-Year Plan that the plan, as a key stage of building a well-off society in an all-round way, is intended to: (1) promote economic and social development under the guidance of five new development concepts of innovation, coordination, green, openness and sharing, (2) highlight innovation-driven instead of factor-driven motive force for economic development under the new normal, (3) facilitate transformation of government functions by obligatory indicators, (4) optimize targets and indicators in relation to public services, social governance, resources and environment, (5) implement regional development strategies, such as the "Belt and Road" initiative, the Yangtze River Economic Belt and the coordinated development of Beijing, Tianjin and Hebei, (6) open up to the outside world on all fronts, (7) regard system construction as one of the main targets of the five-year plan to modernize national governance system and governance capability, and (8) encourage integration of various plans, including national economic and social development plan, urban and rural plan, land use plan and ecological environment protection plan.

1.2 Experiences Gained from Past Five-Year Plans for National Economic and Social Development

Apart from being an effective system for governing the country with Chinese characteristics, five-year plan is also a tool for the CPC's brilliant governance of the country over seven decades. Continuous implementation and perfection of five-year plans has facilitated continuous implementation and perfection of the socialist system with Chinese characteristics and modernization of China's national governance system and capability. In-depth study of the rich experiences gained from past 13th Five-Year plans is worthy of our efforts, and will be of great importance for China's adhering to and perfecting its socialist system with Chinese characteristics and modernizing its governance system and capability, and will provide guidance for the formulation of subsequent five-year plans.

First, we will constantly seek for new development concepts under the guidance of the latest theoretical achievements of Marxism localization in China.

Each five-year plan is proposed to address how the national economy and society will develop in subsequent five years and what kind of development concept will be used to guide economic development. The development concept of past 13th Five-Year plans evolved from the traditional concept of socialist development to the concept of socialist development with Chinese characteristics and further to the concept of the new era of socialism with Chinese characteristics. The period from the 1st Five-Year Plan to the 5th Five-Year Plan was guided by the traditional socialist development concept, i.e. the "general line in the transitional period" and the "general line of socialist construction"¹ aimed to realize industrialization, prioritize the heavy industry development, and establish the unitary public ownership and planned economy. The period from the 6th Five-Year Plan to the 8th Five-Year Plan was guided by the concept of socialist development with Chinese characteristics that highlights the "absolute principle of development" aimed solely to pursue economic growth and social productive forces, by deepening reform and opening-up to the outside world. The period from the 9th Five-Year Plan to the 12th Five-Year Plan was guided by the concept of socialist development with Chinese characteristics that advocates the "scientific outlook on development" in addition to the "Development being the absolute need" aimed to seek economic growth and people-oriented sustainable development. The history of 13th Five-Year plans shows that a successful five-year plan is premised on the guidance of scientific and correct development concepts. Many mistakes identified in the period from the 1th Five-Year Plan to the 5th Five-Year Plan are inevitable product of incorrect development concepts while the success of five-year plan since implementation of the reform and opening-up policies and the miracle of China's rapid economic growth are brought about by corrected development concepts. The evolution of these development concepts guiding the five-year plans has reflected the deepening of the CPC's understanding of development laws

¹ Wu (2005).

and China's national conditions, and is also a process in which the CPC has continuously explored the theoretical achievements when combining Marxism with China's practice and innovating localization of Marxism in China. History has proved that China's miracle of rapid economic development arises from its successful exploitation of Marxism localization. In response to complex process of China's modernization and arduous challenges, we will firmly adhere to the guidance of the latest theoretical achievements of Marxism localization in China, continuously explore and innovate our development concepts, and work out scientific and perspective five-year plans under the CPC's brilliant leadership.²

Second, we will insist on giving full play to the decisive role of the market in allocation of resources, and continuously improve the socialist market economy system.

During the "First Five-Year Plan" period, the transformation from the new-democratic economic system to the single socialist public economic system was mainly promoted. Until the first half of the "Fifth Five-Year Plan", the planned economic system was constantly strengthened.

China's five-year plan is not only a national economic development plan but also a plan for its economic system construction and reform. Deepening reform and opening-up and promoting system innovation are also important components of China's five-year plan and even an important main line. The 1st Five-Year Plan period was aimed to promote the transformation from a new democratic economic system to a unitary socialist public economic system. Until the first half of the 5th Five-Year Plan period, the planned economic system was constantly strengthened. Ever since the 6th Five-Year Plan, China has gradually shifted from a planned economic system to a socialist market economic system. Especially after the 14th National Congress of the Communist Party of China in 1992 made it clear that building a socialist market economic system was the direction of system reform, all the subsequent "five-year plans" have always emphasized deepening reform and opening-up and establishing and improving the socialist market economic system. Thanks to constant perfection of the socialist market economy system and solid enhancement of the market's role in allocation of resources, China's economy has made great achievements that attract worldwide attention since 1978 and has rapidly promoted the process of economic modernization. Although China is building a socialist market economic system, the concept that market determines allocation of resources is a general law of the market economy that we must respect. It is necessary to develop five-year plans under the socialist market economy system, but such plans are more strategic, guiding and macroscopic; therefore, all kinds of special plans, regional plans and spatial plans must clearly define the boundaries where they play their roles. Where the market mechanism can fully play its role, the government must be prevented from intervening by any means. A government plan must be aimed at the areas related to the overall situation and in the field of market failure. This means that the most fundamental way to give full play to the market's decisive role in allocation of resources is to

² Yang (2011).

promote the transformation of government functions, so China has adopted a progressive reform approach. Although the market-oriented reform has been promoted for more than 4 decades, China's market economy system remains imperfect, and the innovation of property rights system and the market-oriented reform of factors still need to be deepened. This means that giving full play to the market's decisive role in allocation of resources and continuously improving the socialist market economy system will be basic principles in preparation and implementation of subsequent five-year plans, and that how to deepen the market reform and perfect the socialist market economy system will be seen as important content and task of subsequent five-year plans.

Third, we will respect the objective laws of economic and social development, and strive to identify our historical position and development trend.

A country's development is a matter of complex economic and social system that operates on its objective laws, including economic, social and natural laws. Five-year plans developed by Chinese state government are designed to depict a blueprint for economic and social development in next five years. Planners may have subjective desire to set high standards for grand plans and good vision of accelerating economic development, but they must follow objective laws of economic and social development, correctly understand objective conditions of national situation and strengths, clearly judge the country's historical position, and scientifically grasp the general trend of economic and social development; otherwise, you will go against your wishes. Five-year plans under the planned economy system, except the 1st Five-Year Plan, were subjective and designed blindly to pursue rapid growth rate due to insufficient understanding and less respect for objective laws; especially under strong constraints of the planned system, there was the "Great Leap Forward", which caused great damage to the economy. Even under the planned economy system, China's economy was operating on its objective laws, such as the law of planned proportional development, the law of balance between investment, finance and credit, and the likes, which should also be followed by five-year plans. Under the socialist market economy system, economic development must follow general laws of the market economy, including the laws of market supply and demand, industrialization, urbanization and economic cycle, which, with the particularity of China's national situation being considered, must be followed to formulate and implement five-year plans. With the evolution of development concepts, China's five-year plan has evolved from an economic development plan to an economic and social development plan, and further to a comprehensive national development plan. For instance, during the 12th Five-Year Plan, the proportion of economic indicators was 12.5%, while the proportion of non-economic indicators was as high as 87.5%; of non-economic indicators, education, science and technology indicators accounted for 16.7%, resources and environment indicators accounted for 33.3%, and people's living indicators accounted for 37.5%.³ This inevitably requires planners follow the economic, political, cultural, social and ecological laws. In particular, these objective laws must be respected in implementing such plans. A fundamental judgment

³ Hu (2014).

standard to judge whether relevant indicators or strategies need to be dynamically adjusted in the process of plan implementation is whether the formulated plan violates the objective laws in the process of plan implementation, or whether the laws followed in the original plan are no longer applicable due to changes in objective environment, which should not be adjusted when the plan is implemented by different person.⁴

For some historical reasons, the planned implementation cycle of each five-year plan does not coincide with the term of the Chinese government; in addition, the heads of local governments are often changed during the period of the five-year plan; therefore, it is usual that the plan drafters are different from plan implementers. In order to ensure coordination between formulation and implementation of the plan, it is not enough to ask the implementers to establish the correct performance view of “credit doesn’t have to belong to me, and credit has my share”; more importantly, we must make sure that objective laws are followed during implementation of the plan.

Fourth, we will make scientific development strategy and determine major tasks on a problem-oriented and goal-oriented basis.

The five-year plan, as China’s overall five-year development plan, will be concretely manifested by development strategies and major tasks, including major projects, major policies and major reform measures. In accordance with China’s overall objectives of five-year economic and social development and decomposing them into planning indicators based on management by objectives, we need to identify the key problems facing China under the current conditions, and solve them by determining our development strategies and major tasks on a problem-oriented basis, i.e. determining the national development strategies and major tasks on a problem-oriented and goal-oriented basis. Under the planned economy system, the five-year plans are focused more on specific major projects directly under the central government’s planning. For example, 156 industrial construction projects were determined in the “1st Five-Year Plan” period. These projects run through the entire “First Five-Year Plan” and “Second Five-Year Plan” period. During the “3rd Five-Year Plan” period, a series of large and small “three-line” construction projects were laid out. (Note by the translator: “three-line” means regions far from China’s coastal areas). Under the market economy system, the realization of the objectives of the “Five-Year Plan” depends more on development strategies, major policies and major reform measures. The related projects focus on water conservancy projects, transportation infrastructure and other public works. For example, the strategy of rejuvenating China through science and education and the sustainable development strategy were proposed during the “9th Five-Year Plan”; the strategy for large-scale development of western China and the urbanization strategy were proposed during the “10th Five-Year Plan”; the strategy on developing a quality workforce, the strategy for revitalizing northeast China and the strategy for the rise of central China were proposed

⁴ For example, since Deng Xiaoping made a speech during his inspection to southern China in 1992, the laws of the market economy played a greater role and the economic vitality increased greatly. In 1993, the policies and objectives for the three years after the 8th Five-Year Plan were adjusted to raise the economic growth index.

during the “11th Five-Year Plan”; the strategy of expanding domestic demand and the marine development strategy were proposed during the “12th Five-Year Plan”; and the innovation-driven development strategy, the “Internet Power” strategy and the military-civilian integration development strategy were proposed during the “13th Five-Year Plan”. These strategies were proposed in response to major key problems (or major “weak links”) faced by China’s development at specific development phases, and aimed to solve these major problems by formulating and implementing development strategies and realize the objectives set forth in each “five-year plan”. For example, since China’s reform and opening-up in 1978, a regional development pattern of gradient development in the eastern, central and western regions has been formed under the guidance of opening up first in the eastern region. As the backward development of the western and central regions became a major problem hindering the coordinated development of China’s economy, the strategies for large-scale development of western China and for the rise of the central region were proposed during the “10th Five-Year Plan” and “11th Five-Year Plan” respectively. This is essential to the realization of the objectives of coordinated regional development in China. In addition, during the “Five-Year Plans” since the reform and opening-up, some major infrastructure projects were carried out to solve problems and improve weak links; a series of major policies were formulated in response to major events, difficulties and emergencies in development, and a number of major reform measures were also taken to perfect the market economy system.

Finally, we will ensure extensive social participation and program standardization for the formulation of “Five-Year Plans”, and continuously improve the modernization level of the government’s macro control and national governance capabilities.

This is an important experience accumulated for seven decades since the founding of the People’s Republic of China. The formulation of China’s “Five-Year Plans” is not like compilation of a policy text, or a closed policy-making process; instead, it is a circular process of continuous consultation, drafting, testing, evaluation and adjustment of policies between the central government and local authorities and multiple subjects through various interactive modes. The preparation and implementation of the “Five-Year Plans” have become the core mechanism of China’s policy. While leaving sufficient space for the market, each “Five-Year Plans” plays an important role in strategic policy coordination, resource mobilization and macroeconomic control. This is an essential difference between China and other developing countries in East Asia.⁵ The practice of China’s five-year plans has profound theoretical significance and is an important perspective to explain China’s miracle. Especially since the “9th Five-Year Plan”, the planning process has become increasingly scientific, democratic and standardized. First, we have made more and more research efforts, respected professionals’ suggestions, and carried out scientific evaluation of the five-year plan’s effect so as to maximize the scientific nature of planning. The second is to create various channels and attracted more participants’ plan-making suggestions to maximize the democracy of planning. Third, we have formulated basic ideas for

⁵ Sebastian and Melton (2014).

organizing early studies of major issues and drafting plans, and prepared a series of plan-making procedures, such as following the CPC Central Committee's proposal, drafting plan outlines and submitting to the National People's Congress for approval. Finally, we have built a national planning system consisting of three levels (national, provincial and municipal) and four categories (master planning, special planning, regional planning and main functional area planning) to ensure standardization in formulating plans. The improvement of democracy, scientificity and standardization in the plan-making process is conducive to improving the quality and feasibility of plans, reducing obstacles faced in the implementation process, and handling the relationship between the central and local governments. The plan-making process has become a scientific decision-making mechanism featuring concerted efforts, extensive opinions and repeated top-bottom communications, which is of great significance for improving the government's macro-control ability and the modernization level of national governance ability. In fact, regardless of the final outcome, in-depth discussions and research have been conducted in the nearly-two-year plan-making process on China's future development direction, goals, specific indicators, difficulties and risks. This is an effective measure to solve the national development problems, and an effective means to improve the modernization level of the government's regulation and control capacity and national governance capacity.

1.3 Studies on the Guiding Thoughts of the Next Five-Year Plan

In 2020, China will complete building a moderately prosperous society in all respects, embark on a new journey of building a socialist modernized country in an all-round way, and march towards the second of the Two Centenary Goals. The next five-year plan, as the first "Five-Year Plan" to start a new journey of building a socialist modernized country in an all-round way, is characterized by the new era and is of milestone significance. Based on historical experience, we need to recognize China's historical position in the future, grasp the development trend of the times, analyze the basic conditions and key problems of national development in the next five years so as to do a good job in preparing and implementing the next Five-Year Plan and draw a blueprint for national development. We need also to adhere to the latest theoretical achievements of Marxism in China as a guide to determine the development concept and guiding thoughts in the next five years.

1.3.1 Historical Position and Background in the Next Five Years

China is in a new era of socialist construction with Chinese characteristics, which is the new historical position for China's development. Based on domestic and international environment, the next five-year period marks the initial phase of building a socialist modernization country in an all-round way in the new era of socialism with Chinese characteristics, the continuously deepening period of changes in the world unseen in a century, and the accelerated expansion period of a new round of scientific, technological and industrial revolution. This historical position and background must be recognized in formulating the next five-year plan.

(1) Initial phase of building a socialist modernization country in an all-round way

In different historical periods, it has been an important practice of the CPC in governing and rejuvenating the country to objectively and accurately analyze the international and domestic situation, recognize its own development advantages and disadvantages, and put forward corresponding strategic goals of development. The "Two Centenary Goals" were proposed in the report of the 15th National Congress of the Communist Party of China, which aimed to have further developed national economy and perfected various systems by the centenary of the founding of the Party, and have basically realized modernization and completed building a prosperous, democratic and civilized socialist country by the centenary of the founding of the People's Republic of China in the middle of the twenty-first century. The "Two Centenary Goals" were further clarified at the 18th CPC National Congress: we will be able to complete the building of a moderately prosperous society in all respects by the centenary of the Communist Party of China as long as we can keep the faith, and build a prosperous, strong, democratic, civilized and harmonious socialist modern country by the centenary of the People's Republic of China. After all-round construction and development since the 18th CPC National Congress, China's economic and social outlook has undergone major changes towards a positive development trend in all aspects, and the construction of socialism with Chinese characteristics has entered a new era.

In October 2017, President Xi Jinping depicted the timeline and roadmap for building China into a great modern socialist country by giving a more accurate account of the "Two Centenary Goals" in the report of the 19th CPC National Congress: the second centenary goal will be realized in two stages. In the first stage from 2020 to 2035, we will "basically realize the socialist modernization", and in the second stage from 2035 to the middle of the twenty-first century, we will "develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful". It was pointed out in the report of the 19th CPC National Congress that under the historical orientation of the new era of socialist construction with Chinese characteristics, the period between the 19th and the 20th National Congress is the period in which the timeframes of the two centenary

goals converge. In this period, not only must we finish building a moderately prosperous society in all respects and achieve the first centenary goal; we must also build on this achievement to embark on a new journey toward the second centenary goal of fully building a modern socialist country. Base on the international and domestic situation and China’s own development conditions, the period from 2020 to the mid-twenty-first century was further divided into two stages. In the first stage from 2020 to 2035, we will build on the foundation created by the moderately prosperous society with a further 15 years of hard work to see that socialist modernization is basically realized. In the second stage from 2035 to the middle of the twenty-first century, we will, building on having basically achieved modernization, work hard for a further 15 years and develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful. This strategic arrangement has depicts the grand blueprint of building a great socialist modern country in an all-round way, and highlighted the strategic planning and mission of the Communist Party of China. Under the historical orientation of the new era of socialism with Chinese characteristics, the next five-year period is a key historical node in the opening stage of realizing the second centenary goal. So we should pay full attention to the significance of the next five-year plan (Fig. 1.1).

(2) The continuous deepening period of the great change in the world unseen in a century

Today’s world is undergoing a new round of great development, great changes and great adjustments, such as the intensifying strategic games among great powers, the profound adjustments in the international system and international order, and the increasing uncertain and unstable factors. Based on keen insight and profound analysis of the general trends of the world, the CPC Central Committee with Comrade Xi Jinping as its core has made a major judgment that the world today is marked by changes unseen in a century. Scientific planning is premised by a deep understanding of the great change and a firm grasp of the opportunities and challenges posed by the great change to the great rejuvenation of the Chinese nation.

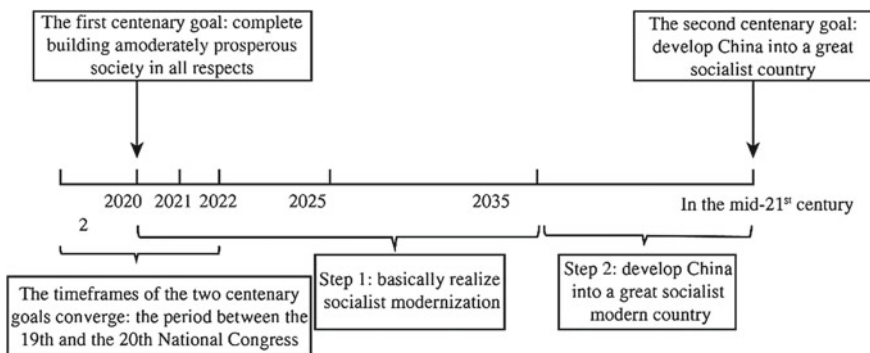


Fig. 1.1 Historical nodes of China’s development from 2020 to the mid-twenty-first century

“Changes in the world unseen in a century” are manifested in such aspects as economy, technology, security and culture. From the perspective of economic development and international order, the process of economic globalization has continued to advance since the end of the Cold War, provided a strong driving force for world economic development, promoted the international flow of goods, services, capital, talents and technology, and brought more and more countries into the global industrial chain, value chain and supply chain. However, many drawbacks have become increasingly prominent in the development of economic globalization to the current stage. On the one hand, the economic growth momentum brought about by the prevalence of neoliberal policies in the world has become increasingly exhausted and also has caused a huge polarization between the rich and the poor while accumulating wealth. In recent years, the rise and development of populism have been promoted by the sluggish economic growth and ordinary people’s sense of deprivation around the globe. On the other hand, economic globalization has resulted in asymmetric flows of labor, capital and technology on a global scale, aggravating the imbalance of development between one country and another and leading to structural difference in the benefits of all countries in the process of globalization. With the deepening of this imbalance, the attitudes of different countries towards globalization have been differentiated, boosting pressure on the original international multilateral system to be reconstructed.

With the transmission of problems in the economic field to the political field, the world’s major strategic forces have re-clarified their own positioning, resource conditions as well as internal and external strategies so as to better cope with the situation, safeguard interests, ensure security, and seize a more favorable strategic position in the increasingly emerging multipolar pattern. From comparison among main strategic powers, the imbalanced situation has changed obviously after the Cold War. In 2018, China’s GDP has reached 2/3 of the United States, and the willingness, determination and ability of the United States to control the regional and international situation alone have obviously declined.⁶ From a global perspective, the trend of multipolarization is deepening, the factors of international chaos and disorder are obviously increasing, the uncertainties and risks continue to be high, the cooperation among big countries is obviously declining, and the competition is obviously getting more intense. In the aspect of international trade, the United States that vigorously promoted free trade has now started trade wars against many countries including its allies. In the aspect of ideology, extremist, populist and racist thoughts are becoming increasingly active, open and influential. At the social level, many countries are faced with increasingly acute domestic contradictions. At the level of order, various conflicts are intensifying; many international conventions and norms are losing efficacy or being reconstructed; some countries tend to solve problems by using force and deterrence; and the degree of disorder in the international situation is generally more serious than most of the time after the Cold War.⁷

⁶ Zhang (2019).

⁷ Jin (2019).

This kind of “great change” in the world is very complicated. Although its duration and evolution prospect are uncertain, it can be judged that the next five-year period will be a continuous deepening period of “great changes in the world unseen in a century”. In the complicated international situation, Chinese people’s wisdom and courage will be tested by how to grasp this “great change”, give full play to various forces at home and abroad, unswervingly follow our own path, concentrate on doing our own things well, and push the international pattern and international order forward in a direction conducive to the peaceful development of mankind.

(3) The accelerating and expanding period of the new round of technological and industrial revolution

After the outbreak of the international financial crisis in 2008 and under the background that developed countries have promoted “re-industrialization”, it is generally believed that the world has entered the information age brought about by the third industrial revolution after experiencing the age of steam initiated by the first industrial revolution and the age of electric power marked by the second industrial revolution. Since the second half of the twentieth century, a new round of technological revolution and industrial transformation characterized by the integration of IT application and industrialization has been gestated and developed, which can be regarded as a new round of technological and industrial revolution. From the perspective of technological and economic paradigm, the new round of technological and industrial revolution are characterized by: (1) reforming social productive forces based on breakthrough applications of information technology, (2) improving the efficiency of economic and social operation with information (data) as a core input factor, and (3) constructing a modern industrial system based on intelligent manufacturing.⁸

The new round of technological and industrial revolution is a great historic opportunity for the process of China’s industrialization and modernization. From the perspective of economic growth theory, the new round of technological and industrial revolution has improved the quality of labor, capital and other factors of production, so it will be very likely to improve the total factor productivity, and then create new kinetic energy to economic growth. From the perspective of aggregate demand, the development of the new round of technological and industrial revolution will lead to huge investment demand for new generation infrastructures such as big data, cloud technology, the Internet, Internet of Things and intelligent terminals, and will directly increase the economic growth rate. From the perspective of division of labor, due to great changes in cooperation modes under the new round of technological and industrial revolution, the degree of information asymmetry has decreased, and cooperation modes such as flexible production, sharing economy, network collaboration and crowdsourcing cooperation have become increasingly popular. On the basis of ensuring economies of scale, they have greatly expanded the economic scope and exploited new sources of economic growth. The new kinetic energy of world economic development shaped by the new round of technological and industrial revolution has thus begun to emerge and show huge potentials in the future. China

⁸ Huang (2016).

has entered the post-industrial period and is at a critical period of economic restructuring and upgrading. The new round of technological and industrial revolution has promoted a large number of new technologies, industries, formats and models, laying a technical and economic foundation for China's industry to move from low end to high end. It has also pointed out the development direction, and provided an important opportunity for China to scientifically formulate industrial development strategies, accelerate transformation and upgrading, and enhance development initiative.

When formulating the next five-year plan, we should focus on analyzing the characteristics and trends of the new round of technological and industrial revolution, and accordingly determine the direction of China's industrial upgrading and high-quality development and embody policies and measures to accelerate the expansion of the new round of technological and industrial revolution in specific plan, so as to seize the important opportunity of the new round of technological and industrial revolution in 2021–2025 to push China's economic and social development to a new level.

1.3.2 Basic Conditions and Key Issues in Relation to the Next Five-Year Development

The historical experience of five-year plans has shown that the combination of problem-oriented and goal-oriented strategy is based on identifying the basic conditions and key issues of national development to determine development strategies and major tasks. In 2020, China completed building a moderately prosperous society in all respects, with all aspects of its economic and social development up to a new level. China has developed into a super-large-scale economy, and the socialist system with Chinese characteristics has also matured day by day, laying a solid foundation for the country to develop towards the second centenary goal in the next five-year period. However, we must also realize that China is still faced with prominent imbalance and inadequacy of development, that the socialist market economic system needs to be further improved, and that the innovation ability of technology and industry needs to be improved urgently. These are key problems hindering China's future development.

(1) Material base advantages of a super-large-scale economy

Since the founding of the People's Republic of China 70 years ago, especially since the reform and opening-up more than 40 years ago, China has accumulated a relatively solid material foundation, and its comprehensive national strength has ranked first in the world. In 2019, China's GDP was close to 100 trillion yuan, making it the world's second largest economy, the largest manufacturing country, the first largest country of trade in goods, the second largest country of goods consumption, and the second largest country of foreign capital flow. China's reserves of foreign exchange ranked first in the world for many years, and have formed a super-large-scale economic foundation. On the one hand, from the perspective of production and

supply, China has the most complete and largest industrial supply system, with 39 industrial categories, 191 middle categories and 525 small categories, making it the only country in the world with all industrial categories in the United Nations industrial classification. It is this complete modern industrial system that has enabled China's industry to have the most perfect supporting capacity, and ensured that China's economy still has great resilience under the impact of external uncontrollable factors. With China's rapid industrialization process, China's manufacturing industry continues to grow and develop. "Made in China" products are seen in over 230 countries and regions in the world. After 2010, China has become the world's largest manufacturing country in terms of output, with its added value of manufacturing industry being almost the sum of the added values of manufacturing industry in the United States (ranking first) and Japan (ranking third). On the other hand, from the perspective of consumer demand, China has a vast domestic consumer market with diverse demands. In 2019, China had a population of 1.4 billion, with per capita GDP of 10,000 US dollars, and had the largest middle-income group in the world. In 2018, if residents with per capita income above the middle income group level were regarded as a broad middle income group, 60% of them could be classified as middle income groups in 2018, and the population of this middle income group ranged generally between 500 and 700 million. This is undoubtedly the largest middle-income group or a potential consumer group in the world, laying a population foundation for the formation of a super-large-scale consumer market.⁹ A super-large-scale consumer market can create super-large-scale domestic demand, which will become the great potential of China's future economic growth.

(2) The socialist system with Chinese characteristics and China's institutional advantages of national governance system

Since the founding of the People's Republic of China 70 years ago, the Communist Party of China has led Chinese people to create a rare miracle of rapid economic development and long-term social stability, and the Chinese nation has made a great leap from standing up, getting rich to being strong. The socialist system with Chinese characteristics and a national governance system have been formed in the long-term practice and exploration of the CPC and its people. The strengths of China's socialist system and governance system are manifested in many ways, including: (1) ensuring the country follows the socialist path, (2) relying on the people to drive national development, (3) ensuring social fairness and justice, and guaranteeing the rights of the people, (4) coordinating all our efforts to complete key national undertakings, (5) fostering a strong sense of national identity, and working together for common prosperity, effectively combining the socialist system and the market economy and helping create and unlock additional productive forces, (6) uniting the nation in shared beliefs and convictions, (7) improving quality of life and achieving prosperity for all, (8) leading to a more vibrant and dynamic society, (9) preparing talent for the country's future needs, (10) safeguarding China's sovereignty, security and national interests, (11) promoting the peaceful reunification of China, and (12)

⁹ Cai (2020).

making greater contribution to the construction of Community of Shared Future for Mankind.¹⁰ These strengths are fundamental bases for us to maintain confidence in the path, theory, system and culture of socialism with Chinese characteristics, and have constituted the strengths of China's state systems.

(3) Inadequate and imbalanced development

After China completed building a moderately prosperous society in all respects in 2020, the level of social productivity has improved significantly on the whole, but the problem of inadequate and imbalanced development has become the main constraint factor to meeting the people's growing needs for a better life. This includes imbalanced and inadequate economic development in all aspects, and also includes imbalance and inadequacy between economic and social development. From the perspective of economic development, China's economic development achievements since the reform and opening-up can be attributed to the rapid advancement of industrialization and urbanization, but there are many problems of inadequate and imbalanced development in China's industrialization and urbanization. First, industrial development levels are imbalanced. This is manifested in that, on the regional structure of industrialization, the level of regional industrialization generally shows the gradient gap that the eastern, central and western regions gradually decrease; in the industrial structure of industrialization, low-level and low value-added industries have overcapacity, and high-quality, personalized and complex products and high value-added industries are insufficient; on the resources and environment of industrialization, the speed of industrialization is not balanced with the carrying capacity of resources and environment. Resources and environment still can't bear such a rapid industrialization process; in the relationship between industrialization and informatization, further integration between them is needed. Second, the development of high-quality urbanization with people as the core is not sufficient; the imbalance between urban and rural development is still very prominent; and the benign interactive development between urbanization and industrialization is not sufficient. Third, agricultural modernization has become a shortcoming that restricts China's modernization process. And the coordinated development of agricultural modernization, industrialization and urbanization is not sufficient. From the perspective of economic and social development, social development has lagged behind rapid economic development. There are also many shortcomings in social development, including: inadequate total amount of basic public services such as education, medical care and social security, low degree of equalization, and big gap between urban and rural areas in medical care, education, employment, health and infrastructure. Generally speaking, the development in democracy, rule of law, fairness, justice, security and environment cannot meet the growing needs of the people. The prevailing COVID-19 pandemic is one of the major challenges facing China's social development.

(4) Imperfection of the socialist market economic system

Allowing market to play its decisive role in resource allocation is an important experience of China's development and a principle that must be adhered to in formulating five-year plans. After more than 40 years of market-oriented reform, there are

¹⁰ Writing Group of This Book (2019).

still many problems in China's market economic system that needs to be improved. First, the property rights system and the market-oriented allocation mechanism of factors need to be improved, which requires the realization of effective incentives for property rights, free flow of factors, flexible price response, fair and orderly competition, and survival of the fittest for enterprises. Second, the management system of state-owned assets needs to be improved, which requires further reform of the authorized management system of state-owned capital, optimization of the layout, structural adjustment and strategic restructuring the state-owned economy, deepening the reform of state-owned enterprises and developing a mixed ownership economy. Third, the market system and market competition rules need to be further improved, which requires cleaning up and abolishing various regulations and practices that hinder the unified market and fair competition, deepening reform of the commercial system, breaking administrative monopoly, preventing market monopoly, accelerating the market-oriented reform of factor prices, and improving the market supervision system. Finally, the government's macro-control system needs to be improved, which requires allowing the national development plan to play its strategic guiding role, deepening reform of the government system, continuously optimizing the business environment, improving the coordination mechanism of financial, monetary, industrial and regional economic policies, and deepening reform of investment and financing, fiscal taxation, financial system and marketization of interest rates and exchange rates. Since 2015, China has continuously advanced the supply-side structural reform, aiming to promote the adjustment of supply structure and improve the quality of supply by reforming the system and mechanism, so as to better meet demand and achieve stable and healthy economic development. The supply-side structural reform has become the main line of economic work. The essential requirement of supply-side structural reform is to deepen market-oriented reform, improve the market economic system, and promote the adjustment of economic structure through a more perfect market system and mechanism. We must avoid seeing supply-side structural reform as government's direct intervention in the supply structure to realize the adjustment of economic structure.¹¹

(5) Weak links in technological and industrial innovation capability

Under the guidance of the strategy of rejuvenating China through science and education, the innovation-driven strategy and the concept of innovation and development, great achievements have made in China's science and technology and industrial innovation and development. In general, however, China's technological and industrial innovation capabilities remain weaker than that of developed countries. In particular, China is still faced with many problems, in particular, the original innovation ability is still relatively low, some major core key technologies need to be broken through, the commanding heights of global competition in emerging technologies and industrial fields are not well controlled, the industrial basic ability needs to be improved, and the key equipment, core components and basic software in the manufacturing industry are heavily dependent on imported and foreign-funded enterprises. According to the

¹¹ Huang (2016).

ranking of global innovation index released jointly by the World Intellectual Property Organization, Cornell University and the INSEAD, the ranking of China's technological innovation capability has increased year by year from the 34th place in 2012 to the 13th place in 2019.¹² However, this is not commensurate with China's status as the second largest country in the world in terms of total economic output. As President Xi Jinping said, "China's total economic volume has leapt to the second place in the world, but there are prominent problems of 'being big but not strong, puffy and weak', which are manifested in the weak innovation capability. This is the Achilles' Heel of China as an economic power".¹³ Improving the innovation capability of technology and industry has become a more urgent problem facing China's development, which is the development requirement in the initial stage of building a great socialist modern country, the need to accommodate and usher in the changes in the world unseen in a century, and the inevitable choice to seize the opportunity of the new round of technological and industrial revolution.

1.3.3 Research on the Concept and Guiding Ideology for Development in Next Five Years

The historical experience of five-year plans has shown that the development concept for exploration and innovation of five-year plans should be guided by latest theoretical achievements in localization of Marxism in China. Xi Jinping's thought on socialism with Chinese characteristics for a new era encapsulates Marxism in contemporary China and Marxism in the twenty-first century, and adapts Marxism to China's practice. It has created a new realm of Marxism and provided guidance for the completion of building a moderately prosperous society in all respects. In addition, the thought has contributed Chinese wisdom and Chinese solutions to the development of socialism in the world, the exploration of a more reasonable social system for mankind and the modernization of developing countries. Therefore, the historical position of China's development in the new era of socialism with Chinese characteristics and the historical node of the initial stage of building a great socialist modern country in all respects have ensured that the next five-year plan must be formulated under scientific guidance of Xi Jinping's thought on socialism with Chinese characteristics for a new era.

Faced with the new trends, new opportunities, new contradictions and new challenges of economic and social development in the new era, we must establish new concepts for development and use them to lead development actions. The five concepts for development that is innovative, coordinated, green, open, and inclusive have become an important part of Xi Jinping's thought on socialism with Chinese

¹² Global Innovation Index 2019 (2019).

¹³ Compiled by the Literature Research Office of the Central Committee of the Communist Party of China (2017).

characteristics for the new era. Innovation is the first driving force to lead development; coordination is the inherent requirement for sustainable and healthy development; green is the necessary condition for sustainable development and an important embodiment of people's pursuit of a better life; openness is the only way for national prosperity and development; and sharing is the essential requirement of socialism with Chinese characteristics. The five concepts for development, in a very succinct manner, present the theories, course of action, and priorities for China's development in the 13th Five-year Plan period, and for many years to come, which reflects our Party's deep understanding of the laws of economic and social development.¹⁴ To grasp the new development concept, we must observe the viewpoint of dialectical unity. On the one hand, the new development concepts are problem-oriented. For example, innovative development focuses on developing new drivers for China's development; coordinated development addresses imbalances in development; green development highlights the importance of harmony between man and nature; open development means pursuing development in the context of a closer relationship with the rest of the world; and inclusive development is aimed at promoting social equity and justice.¹⁵ On the other hand, the five concepts form an integral whole with mutually complementing components, and the development process would suffer serious harm if any of them is not properly managed.¹⁶ Innovation is the first driving force to lead development and is at the core of overall development of China. It is the fundamental policy to cope with changes in the development environment, enhance the driving force for development, grasp the initiative in development and better lead the new stage of development. It is also the cornerstone for realization of all-round development in all fields of economy and society. Coordination is the inherent requirement of sustainable and healthy development. It is not only a means but also a goal of development. It is also a criterion for evaluating development. Green is a necessary condition for sustainable development and a prerequisite for realizing people's needs for a better life. Without the support of green development, all aspects of economic and social development will lose their bearing foundation. Openness is the only way for a country to prosper and develop. Innovation, reform and development driven by opening wider to the outside world are important magic weapons for China to continuously achieve brilliant achievements. Sharing is the essential requirement of socialism with Chinese characteristics. It represents the superiority of the socialist system, and the ultimate goal of economic and social development in all aspects.

Standing at the historical position and node of the period from 2021 to 2025, we must adhere to new development concepts, implement them in national economic and social development, and give new meanings to them, as compared with the

¹⁴ Compiled by the Literature Research Office of the Central Committee of the Communist Party of China, *Excerpts from Xi Jinping's Discussion on Socialist Economic Construction*, Central Party Literature Press, and 2017. p. 20.

¹⁵ Compiled by the Literature Research Office of the Central Committee of the Communist Party of China, *Selected Important Documents since the 18th National CPC Congress (Part Two)*. Central Party Literature Press, 2016, pp. 825–827.

¹⁶ Xi (2016).

13th Five-Year Plan. Specifically, the next five-year development plan should clearly promote the following strategic tasks.

First, we follow the five-sphere integrated plan to actively promote China's comprehensive and high-quality development. The report of the 19th CPC National Congress has made clear that the principal contradiction facing Chinese society in the new era is that between unbalanced and inadequate development and the people's ever-growing needs for a better life, that we must therefore continue commitment to our people-centered philosophy of development, and that China's economy has shifted from high-speed growth to high-quality development. High-quality economic development means the economic growth guided by five concepts and aimed to address imbalanced and inadequate development and better meet the people's ever-growing needs for a better life. China is faced not only with imbalanced and inadequate economic development but also with imbalance and inadequacy between economy and all social aspects. In the next five years, we will solve the problem of inadequate and imbalanced development in five major areas based on the "five-sphere integrated plan" (economic, political, cultural, social and ecological civilization) under the guidance of five new concepts for development, so as to meet the people's ever-growing needs for a better life and promote comprehensive and high-quality development of the whole country.

Second, we must see that new industrialization, IT application, urbanization, and agricultural modernization go hand in hand to accelerate the construction of a modern economic system. According to the strategic plan of the 19th CPC National Congress, we will embark on a journey to fully build a modern socialist China in the next five years. The socialist modernization must be new industrialization, IT application, urbanization and agricultural modernization, and the economic system of a socialist modern country must be a modern economic system. The report of the 19th CPC National Congress specifically stressed hand-in-hand advancement of new industrialization, IT application, urbanization, and agricultural modernization, stating that building a modern economic system is a strategic goal of China's development. Therefore, the next five years will be the initial stage of building socialist modernization in an all-round way, and it must be a major strategic task to promote hand-in-hand development of new industrialization, IT application, urbanization, and agricultural modernization. When President Xi Jinping presided over the collective study of the Political Bureau of the CPC Central Committee on January 30, 2018, he envisaged the "6 + 1" concept of a modern economic system, including building an industrial system led by innovation and coordinated development, a unified, open and competitive market system, an income distribution system that reflects efficiency and promotes fairness, an urban-rural regional development system featuring multi-agency and co-ordination, a green development system that is resource-saving and environment-friendly, a comprehensive and open system that is diversified, balanced, safe and efficient, and an economic system that allows market and government to play their respective roles.¹⁷ In the next five years, we must explore how to

¹⁷ Compiled by the National Editorial Steering Committee for Cadre Training Textbooks, *Building a Modern Economic System*, People's Publishing House, 2019, p. 13.

gradually realize the “6 + 1” modern economic system in pursuit of hand-in-hand development of new industrialization, IT application, urbanization, and agricultural modernization.

Third, we will further market-oriented reform and opening-up to the outside world, and substantially promote supply-side structural reform. It is required by the historical experience of five-year plans and the current situation of China’s market economic system that the socialist market economic system must be further improved in the next five years so that the market plays a decisive role in resource allocation, actively participates in and promotes the economic globalization process, and helps develop a higher-level open economy. The supply-side structural reform is essentially market-oriented reform aimed to improve the quality and efficiency of the supply system to better meet demand, so as to achieve sustained and stable economic development. In other words, the market-oriented reform is furthered to improve market mechanism and allow market to play its role in eliminating backward production capacity, improving supply quality and resolving structural contradictions between supply and demand. In the next five years, we must recognize the essence of supply-side structural reform, continue deepening market-oriented reform and opening-up to the outside world, and substantially promote supply-side structural reform.

To sum up, based on the historical experience of five-year plans and considering the historical node and background of China’s development in the next five years in response to the basic conditions and key problems of China’s development, the preparation and implementation of the next five-year plan should adhere to the following overall guiding ideology: (1) accepting the guidance of Xi Jinping’s thought on socialism with Chinese characteristics for a new era, (2) following the spirit of the 19th CPC National Congress and the Second, Third, Fourth and Fifth Plenary Sessions of the 19th CPC Central Committee, (3) relying on the historical position and node of China’s development, and grasp the direction of changes unseen in a century, (4) seizing the strategic opportunity of the new round of technological and industrial revolution, (5) making advantage of China’s super-large economy and give full play to the advantages of the socialist system with Chinese characteristics, (6) adhering to the concept for development that is innovative, coordinated, green, open and inclusive, (7) making a five-sphere plan to promote comprehensive and high-quality development of China, (8) further promote hand-in-hand development of industrialization, IT application, urbanization and agricultural modernization to accelerate the construction of a modern economic system, (9) continuing to deepen market-oriented reform and expand high-level opening up, (10) substantially furthering the supply-side structural reform to improve the ability of technological and industrial innovation, (11) continuously enhancing the people’s senses of acquisition, happiness and security, (12) continuously improving the modernization level of national governance system and capacity, (13) maintaining sustained and healthy economic development and overall social stability, and (14) embarking on a new journey to build a socialist modern country in an all-round way.

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Chapter 2

Overall Evaluation and Main Experiences of the Implementation of the 13th Five-Year Plan



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The *13th Five-Year Plan for Economic and Social Development of the People's Republic of China (2016–2020)* (hereinafter referred to as the “13th Five-Year Plan”), deliberated and adopted at the Fourth Session of the 12th National People's Congress in March 2016, is a programmatic document in the decisive stage of building a moderately prosperous society in all respects. Making an overall evaluation of and learning experiences from the implementation of the 13th Five-Year Plan based on the major objectives and tasks defined therein will be of great significance for scientifically formulating medium and long-term development plans.

2.1 Evaluation on the Performance of Major Objectives and Tasks of the 13th Five-Year Plan

Major objectives of the 13th Five-Year Plan for economic and social development involve economic growth, innovation-drive development, coordinated development, standards of living and quality of life, the overall caliber of the population and the level of civility in society, the quality of the environment and ecosystems, and all institutions. Evaluation on the performance of these major objectives and tasks is as follows.

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2.1.1 Evaluation on Economic Growth

During the “13th Five-Year Plan” period, China’s economy maintained a medium and high-speed growth rate. From 2016 to 2019, the compound annual growth rate of real GDP reached 6.6%, and the per capita GDP exceeded US\$10,000. The change of pace in economic growth has promoted structural transformation, and improved the quality of economic development. On the demand side, the growing scale of the consumer market has increased its contribution to economic growth; more investment has been put into infrastructure and people’s livelihood, with its efficiency being improved; and China’s economic dependence on external demand has been significantly reduced, allowing a basic equilibrium in international balance of payment. The advantage of ultra-large-scale market has been consolidated on both the production side and the demand side. On the supply side, the proportion of agricultural working population has been further reduced; the urbanization rate of permanent residents has grown significantly, with various restrictions on *Hukou* (household registration status) being relaxed or cancelled in most cities and breakthroughs being made in the reform of the household registration system; the industrial system of industry and service industry has been further improved to create a number of advanced manufacturing clusters with international competitiveness, with their basic industrial capacity and modernization level of industrial chain being significantly improved; and the high-end manufacturing industry and modern service industry are likely to be integrated for coordinated development.

2.1.2 Evaluation on Innovation

In the “13th Five-Year Plan” period, innovation has achieved remarkable results, with traditional drivers being quickly replaced by new ones. Transformation and upgrading of traditional industries have paced up, with new drivers being quickly gathered. Represented by new generation of information technology, high-end equipment, new energy and new materials, big data, cloud computing and artificial intelligence, the new economic model driven by new technology, new business form, new industry and new mode (hereinafter the “four-new economy”) has been growing faster than the GDP growth rate, and has become a new engine for economic growth. The digital economy continues to progress rapidly. As the integration of online and offline industries unleashed new vitality, all kinds of Internet applications accelerated their penetration into fourth- and fifth-tier cities and rural users, so that the consumption of mobile Internet traffic maintained rapid growth. The sustained development of new drivers has become an important force in supporting China’s economy to move towards high-quality development.

2.1.3 Evaluation on Coordinated Development

During the “13th Five-Year Plan” period, China’s economic development became more coordinated. Consumption and investment, domestic demand and external demand played more coordinating roles in boosting economic growth. In the emerging era of consumer economy, we have upgraded the quality of products and services, and steadily improved business efficiency. We have improved the quality of urbanization, accelerated reform of the household registration system, and increased the urbanization rate of household registration. The “fast forward” button was pressed for coordinated development of the Beijing-Tianjin-Hebei region, the Yangtze River Economic Belt, the Guangdong-Hong Kong-Macao Greater Bay Area and the integration of the Yangtze River Delta. The ecological protection and high-quality development of the Yellow River Basin were included into national strategies to form a number of new urban agglomerations and growth poles. The spatial layout of high-quality development has been continuously optimized. We have broadened and deepened opening up to the outside world, made preliminary achievements in exploring the new model of open economic governance, and strengthened our capacity of global resource allocation. The success of two China International Import Expos has facilitated optimization of the import–export structure, and promoted basic equilibrium in our balance of international payments. We have further relaxed restrictions on foreign capital market access, steadily advanced cooperative construction of the “Belt and Road”, deepened our reforms to streamline administration, delegate powers, and improve regulation and services, and improved business environment.

2.1.4 Evaluation on Standards of Living and Quality of Life

During the “13th Five-Year Plan” period, the standards of living and quality of life have been generally improved. We have increased the income of urban and rural residents, optimized the income distribution pattern, and increased the proportion of middle-income population. Residents’ consumption of quality goods and services has grown steadily. The level of equitable access to basic public services in urban and rural areas and regions has steadily heightened. We have further implemented the employment priority strategy, and made macro policies focus on expanding employment and improving employment quality so as to ensure sufficient employment. The *China Education Modernization 2035* was promulgated and implemented, which aimed to build a modern education system of lifelong learning, improve the level of basic education, enhance the quantity and quality of vocational and technical education, increase the gross enrollment rate of higher education, and prolong the years of education of working-age population. The Healthy China Strategy has been steadily implemented, the living conditions of urban and rural residents have been continuously improved, and a fair and sustainable social security system has been basically

established. Decisive achievements have been made in the fight against poverty, and the overall regional poverty has been basically solved.

2.1.5 Evaluation on the Overall Caliber of the Population and the Level of Civility in Society

During the “13th Five-Year Plan” period, the overall caliber of the population and the level of civility in society have been obviously improved. We have improved the soft power of national culture and its influence in the world, strengthened the leading and cohesive role of the Chinese Dream, interiorized the socialist core values, carried forward the patriotic, collectivist and socialist thoughts, advocated science, and showed respect to such social conducts as humanity, being good and positive, honesty and mutual assistance. We have basically completed the building of the public cultural service system so as to enrich people’s spiritual and cultural life, increase residents’ consumption of cultural products and services, broaden and deepen public participation in cultural activities. The improvement of political ecology has created a good political culture. We have promoted nationwide reading and body-building programs to enhance public scientific and cultural literacy, boost civic morality, popularize legal knowledge, and improve the overall caliber of the population and the level of civility in society.

2.1.6 Evaluation on the Quality of Environment and Ecosystems

During the “13th Five-Year Plan” period, the quality of the environment and ecosystems has been improved. We continued to take actions against air pollution, water pollution and land pollution, which has increased the average number of days with good air quality, improved the surface water quality, and strengthened the prevention and control of soil pollution in prefecture-level cities and above. The consumption of energy and water resources and the total amount of carbon emissions have been put under effective control, and the emissions of major pollutants have been continuously reduced. We have created the green production lifestyle, improved the efficiency of energy resources development and utilization, and made remarkable progress in coping with climate change and low-carbon transformation. We have made notable achievements in the protection of the Yangtze River. The ecological protection and high-quality development of the Yellow River Basin have been included into national strategies. There has emerged new advantage of regional coordinated green development. And the layout of main functional areas and ecological security barriers is basically taking shape. The new development concept, ecological civilization and the requirement of building a beautiful China are written in the Constitution. The

idea that clear waters and green mountains are as valuable as mountains of gold and silver has become a social consensus. We have perfected the system of harmonious coexistence between man and nature, and built the “multiple pillars” for ecological civilization.

2.1.7 Evaluation on all Systems

During the “13th Five-Year Plan” period, all systems have become mature and finalized, and significant progress has been made in modernizing the national governance system and capacity. We have carried out the tax system reform and tax-fee reduction. While completing the “replacing the business tax with a value-added tax” and starting the comprehensive personal income tax levying reform, the VAT rate has been greatly reduced and the tax threshold has been raised. We have improved the macro-control system, established the macro-prudential policy framework, and achieved results in prevention and resolution of major financial risks. We have promoted “reforms to streamline administration, delegate powers, and improve regulation and services”, and carried out negative list management to optimize the business environment and reduce the start-up time of enterprise registration. We have boosted the government’s public service capacity, and promoted App service and mobile payment for public utilities such as water, electricity, gas and heating so as to realize “integrated online service” so that people can get things done even in different places. We have achieved results in the construction of social credit system and commitment system. We have made important steps in the construction of foreign system aimed at accelerating the new round of high-level opening up, and advanced reforms in market access, foreign investment management, foreign trade system and marketization exchange rate. The *Foreign Investment Law of the People’s Republic of China* has further relaxed foreign investment access in the fields of automobiles, oil and gas, some telecom value-added services and finance. Important reform documents were published, such as the *Opinions of the CPC Central Committee and the State Council on Constructing a Better System and Mechanism of Factor Marketization Allocation* and the *Opinions of the CPC Central Committee and the State Council on Accelerating the Perfection of the Socialist Market Economic System in the New Era*. The *General Plan for the Construction of Hainan Free Trade Port* depicts a blueprint for reform and opening-up in China.

On the whole, we have made great achievements in China’s economic and social development during the “13th Five-Year Plan” period. Most of the seven major objectives defined in the “13th Five-Year Plan” can be realized as scheduled: achieving medium and high speed economic growth, improving the standards of living and quality of life, promoting coordinated development, improving the overall caliber of the population and the level of civility in society, perfecting the quality of environment and ecosystems, and maturing various systems.

2.2 Evaluation on the Performance of Main Indicators During the “13th Five-Year Plan” Period

The “13th Five-Year Plan” lists 25 main indicators for building a moderately prosperous society in all respects, which are divided into four categories: economic development, innovation, the people’s living standards and well-being, and resources and environment. Among them, 12 indicators are anticipatory and 13 indicators are obligatory. The performance of the main indicators during the 13th Five-Year Plan period will be evaluated in four categories.

2.2.1 Evaluation on Economic Development Indicators

Of four specific indicators of economic development, 1 indicator has been achieved ahead of schedule, 1 indicator seems difficult to complete due to the impact of the COVID-19 pandemic, and 1 indicator is no longer worthy of much attention due to great changes in domestic and international situations. Among the two detailed indicators included in the urbanization rate index, the urbanization rate index of permanent residents has been realized ahead of schedule. At the end of 2019, the urbanization rate of permanent residents reached 60.60%, thus the expected goal (60%) set in the 13th Five-Year Plan has been completed ahead of schedule. The urbanization rate of registered population in 2019 reached 44.38%. It is estimated that by the end of 2020, the expected goal (45%) set in the 13th Five-Year Plan can be achieved. Two indicators difficult to complete due to the impact of the COVID-19 pandemic are the gross domestic product (GDP) indicator and the overall labor productivity indicator. In order to achieve the goal of doubling the GDP in 2020 over the year 2010, GDP needs to increase by 5.63% in 2020, which is difficult due to the impact of the COVID-19 pandemic and the sharp decline in external demand. In 2019, the overall labor productivity of China reached 115,000 yuan/person, and in 2020, it needs to increase by more than 4.35% to achieve the expected target (120,000 yuan/person). The indicator that is no longer worthy of much attention due to great changes both at home and abroad is the “the proportion of added value of service industry”. In 2019, the proportion of added value of service industry was 53.9%, as against the expected target of 56%.

2.2.2 Evaluation on Innovation-Driven Indicators

Of four specific indicators of innovation drive, 2 indicators have been achieved ahead of schedule, 1 indicator has progressed as expected and is anticipated to be achieved in 2020, and 1 indicator makes slow progress. There are 2 indicators achieved ahead of schedule: the invention patent ownership per 10,000 people, and the Internet

penetration rate. By the end of 2019, the number of invention patents ownership per 10,000 people reached 13.3 items, exceeding the expected target in 2020 (12 items); and the penetration rate of fixed-broadband households and mobile broadband users reached 86.1% and 93.6% respectively as early as in 2018, both exceeding the expected targets set for the 13th Five-Year Plan. The indicator that meets the expected progress is the contribution rate of scientific and technological progress to economic growth, which was 59.5% in 2019 and is expected to reach 60% of the expected progress in 2020. The indicator that makes slow progress is the input of research and experimental development spending. From 2016 to 2019, the inputs of research and experimental development spending were 2.11%, 2.13%, 2.18% and 2.19% respectively. There is still a big gap from the expected target (25%) set in the 13th Five-Year Plan.

2.2.3 Evaluation on Indicators of the Peoples' Living Standards and Wellbeing

Of 7 specific indicators set in the “13th Five-Year Plan”, 3 indicators have been achieved ahead of schedule and 4 have progressed as expected. There are 3 indicators achieved ahead of schedule. First, the number of newly employed people in cities and towns was more than 13 million from 2016 to 2019. By the end of 2019, the expected goal of 50 million new jobs within five years had been achieved ahead of schedule. Second, the number of people participating in basic endowment insurance reached 967.48 million in 2019, achieving 90% of participation ahead of schedule. Third, the expected target of housing renovation in urban shanty towns has been completed ahead of schedule in 2019. There are four indicators that have progressed as expected. First, the average schooling year of the working-age population was 10.6 years in 2018, 0.17 year away from the expected target, and it is anticipated to reach the target by 2020. Second, 5.51 million people in China had not yet been lifted out of poverty in rural areas at the end of 2019, and it is expected that all impoverished rural people will be lifted out of poverty under the existing standards in 2020. Third, the average life expectancy was 77.00 years by 2018. According to the annual growth rate of 0.2–0.3 years in previous two years, it is estimated to exceed the expected target of 77.34 years by 2020. Fourth, the per capita disposable income of residents reached 30,733 yuan in 2019, 5.8% higher than that of the previous year after deducting the price factor. To achieve the expected target of an average annual growth rate of more than 6.5% in the 13th Five-Year Plan, it needs to increase by 6.6% in 2020 as compared with that in 2019. However, it is difficult to achieve the expected target of the 13th Five-Year Plan under the impact of the COVID-19 pandemic and the slowdown of residents' income growth. Given a substantial growth of the per capita disposable income of residents from 2011 to 2019, the expected target of doubling the per capita disposable income of residents in 2020 as against 2010 will be achieved as long as it could grow 1.75% in 2020.

2.2.4 Evaluation on Indicators of Resources and Environment

Of 10 quantitative indicators in the 13th Five-Year Plan, 4 have been completed ahead of schedule, 5 have progressed as expected, and 1 fails to meet expectations. There are 4 indicators achieved ahead of schedule. First, in terms of forest development, the forest growing stock has been achieved as expected in 2017, and the forest coverage rate has nearly achieved the target set in the “13th Five-Year Plan” in 2018. Second, of air quality indicators, the proportion of excellent days in prefecture-level cities and above reached 82% at the end of 2019. According to the air quality evaluation caliber before 2019, the target has been completed ahead of schedule. At the end of 2019, PM2.5 concentration fell by 23.1% from 2015 in prefecture-level cities and above that failed to achieve PM2.5 standard, so this target has outperformed the expected target ahead of schedule. Third, in terms of surface water quality, the proportion of water bodies up to or higher than Class II was 74.9% in 2019, and the proportion of Class V water bodies fell to 3.4% in 2019, so all targets in this regard set in the “13th Five-Year Plan” have been achieved ahead of schedule. Fourth, in terms of total emission control of major pollutants, 4 sub-indicators, such as sulfur dioxide, chemical oxygen demand, ammonia nitrogen and nitrogen oxides, had been achieved by the end of 2019. There are 5 indicators that have progressed as expected. First, the obligatory target of more than 1.865 billion *mu* of cultivated land has been maintained. Second, the 3 indicators of water consumption per 10,000 yuan of GDP, energy consumption per unit of GDP and carbon dioxide emissions per unit of GDP are expected to achieve the established obligatory targets in 2020. Third, the proportion of non-fossil energy in primary energy consumption had reached 14.3% by the end of 2018, meeting the expected progress. The indicator that fails to meet the expected progress is the obligatory indicator of newly-added construction land due to structural problems.

Taken together, all objectives and tasks are progressing smoothly if calculated by 25 quantitative indicators; 10 of them have been completed ahead of schedule, 10 can be achieved on schedule, and 5 of them fail to meet expected progress due to unexpected factors or changes in domestic and international conditions, but 2 of the 5 indicators can still be basically achieved while the remaining 3 are difficult to achieve.

The 2 indicators that can be basically achieved are GDP and overall labor productivity. These two indicators are anticipatory indicators. The GDP and overall labor productivity have progressed as expected, but due to the sudden impact of the COVID-19 pandemic, they failed to meet the expected progress in the first quarter of 2020. However, the pandemic is an unexpected disturbance factor. Excluding the influence of this factor, the quarterly GDP and overall labor productivity after the pandemic will return to the expected level.

Among the three indicators that are difficult to meet expected progress, the proportion of the added value of service industry and the input of research and experimental development spending are anticipatory indicators, while the scale of newly-added

construction land is an obligatory indicator. It should be noted that although the proportion of the added value of service industry is not up to expectation, under the background that manufacturing countries such as the United States, Germany, Japan and South Korea generally promote manufacturing comeback to their native country, it is no longer appropriate to simply take the rise of this index as a measure of economic structure optimization at present and in the future. The input of research and experimental development spending relatively falls behind the schedule, but it has been expanding rapidly in China in recent years. The newly-added construction land may break through constraints as the increased part is used mainly to meet some structural needs of infrastructure land such as roads and railways in the western region and of project land needed for poverty alleviation and rural revitalization.

2.3 Evaluation on the Performance of the Fight Against Poverty

In the “13th Five-Year Plan”, there are seven objectives and 25 indicators for building a moderately prosperous society in all respects, of which the core goal and index is that all rural poor people must get rid of poverty.

It is pointed out in the *Decision of the Central Committee of the CPC and the State Council on Fighting to Win the Tough Battle Against Poverty* released on November 29, 2015 that ensuring the rural poor get rid of poverty by 2020 is the most arduous task for building a moderately prosperous society. Poverty alleviation and development programs are related to building a moderately prosperous society, people’s well-being, consolidating the ruling foundation of the Party, the long-term stability of the country, and China’s international image. Winning the tough fight against poverty is an important measure to promote all people to share the fruits of reform and development and achieve common prosperity. It is also an important symbol of the superiority of the socialist system with Chinese characteristics.

2.3.1 Performance of the Poverty Alleviation Tasks

First, the number of impoverished people continues decreasing. From the 18th National Congress of the Communist Party of China to 2019, the average annual poverty reduction size of rural poor people under the current standards exceeded 13.35 million people, the number of poor people dropped to 5.51 million, and the poverty incidence dropped to 0.6%. In the most impoverished three regions and three prefectures (note: “three regions” are Tibet, the Tibetan ethnic areas of Sichuan, Yunnan, Gansu and Qinghai provinces, and the four prefectures in southern Xinjiang, i.e., Hotan, Aksu, Kashi and Kizilsu Kirgiz Autonomous Prefecture; the

“three prefectures” are the Liangshan Yi Autonomous Prefecture in Sichuan, Nujian-Lisu Autonomous Prefecture in Yunnan and LinxiaHui Autonomous Prefecture in Gansu), the number of people who have been registered as the impoverished has decreased to 430,000, and the poverty incidence has dropped to 2%. Since the 13th Five-Year Plan period, poverty reduction has been accelerated. The income of poor groups has greatly increased, and the outstanding problems in the field of basic security have been generally solved. Only about 50,000 poor people have not got rid of the problem of food and clothing, and have no chance to receive compulsory education, basic medical services and safe housing. China has improved production and living conditions in poverty-stricken areas, and basically eradicated poverty over entire regions. The quality of poverty alleviation has been consolidated year by year, and the number of people returning to poverty after poverty alleviation has dropped sharply, from 684,000 in 2016 to 5400 at the end of 2019. The anti-risk capability to get rid of poverty and resist risks has steadily increased.

Second, counties and villages have shaken off poverty in an orderly manner. After Jingtangshan in Jiangxi Province and Lankao in Henan Province announced their success in shaking off poverty in 2016, the number of poverty-stricken counties that achieved such success has continued to increase from 2017 to 2019. By the beginning of 2020, only 52 of 832 counties remained poverty-stricken in China, with a reduction rate close to 94%. The progress of poverty alleviation in 128,000 poverty-stricken villages across the country has been accelerated simultaneously. By the beginning of 2020, only 2707 villages remained impoverished, with a reduction rate close to 98%. The remaining 52 poverty-stricken counties and 1113 poverty-stricken villages are most severely impoverished due to a large number of poverty-stricken people or a high poverty incidence. Since the beginning of 2020, the central government called for speeding up efforts in lifting the remaining impoverished counties out of poverty, and refining poverty alleviation program to tackle protruding issues and weak links. The central government and provincial governments have increased their investment in impoverished counties, and all provincial governments have allocated funds to severely impoverished villages. At the same time, private enterprises, social organizations and other social forces have been further recruited to participate in the poverty alleviation work. Strict supervision on poverty alleviation work has achieved preliminary results, laying a solid foundation for lifting all counties out of poverty.

2.3.2 Impacts of the COVID-19 Pandemic on Poverty Alleviation

First, poverty alleviation through employment and labor export are hindered. Wage income is one of the main sources of income for rural residents in poverty-stricken areas. However, jobs have been reduced due to the overall economic situation. Since 2020, the wage income of poor laborers has seen a negative growth, and the pressure continues to exist. On the one hand, it is difficult to stabilize the employment stock of

migrant workers. Of 290.77 million migrant workers in China in 2019, about 27.29 million cross-town migrant workers were poor laborers. Affected by the epidemic, there are still more than 2 million poor laborers failing to resume work. On the other hand, due to the impact on enterprises and markets, major fields such as manufacturing and catering, which has absorbed migrant workers, are still in the process of recovery, so it is obviously more difficult to create new employment opportunities.

Second, the unsmooth circulation of poverty alleviation products has prolonged the sales of product and earned cash income. The imperfect prevention and control of the COVID-19 pandemic, impeded transportation and logistics, and the difficulty for poverty alleviation products from poverty-stricken areas to enter the urban consumer market have resulted in the overstocking of some products, and operators cannot obtain income from sales in time. At present, the sales channels of poverty alleviation products have not been fully opened. Since March, 2020, the COVID-19 pandemic has prevailed in foreign countries, with a severity far exceeding that in China. Some contracts for characteristic agricultural products signed in advance with foreign countries could not be fulfilled after entering the harvest period. Due to the cyclical characteristics of planting industry, farmers failed to adjust their business structure in time, resulting in the overstocking of products to be exported. Some poverty alleviation industrial projects supported by external forces have been affected. Because the market-oriented independent ability has not been strengthened, the fragility of these projects in promoting income has been exposed in the “epidemic”.

Third, the risk of returning to poverty and the risk of new poverty have exerted more pressure on poverty alleviation. The risk of returning to or falling into poverty is unavoidable to a certain extent, but the sudden outbreak of the COVID-19 pandemic has aggravated the risk that people who have just been lifted out of poverty may fall back into it, though this risk may not actually occur. According to relevant monitoring data, as of the first quarter of 2020, nearly 2 million people who have been lifted out of poverty are at risk of falling back to poverty, and nearly 3 million people in the marginal population are at risk of falling into poverty. This risk has been enlarged by the COVID-19 pandemic. Since 2020, 380,000 people have been added to the two types of risk groups, which have aggravated the annual task of poverty alleviation. If people at risk of falling into poverty and those who are not out of poverty are counted together, the task of poverty alleviation may double to more than 10 million in 2020, and the assistance work in villages might be limited at the beginning of 2020, which may have increased the intensity of poverty alleviation tasks in the next few months of 2020.

2.3.3 Ensuring Realization of the Poverty Alleviation Goals and Resolutely Winning the Tough Fight against Poverty

The *Government Work Report 2020* requires that we should ensure the realization of poverty alleviation goals, increase the income of farmers with bumper agricultural harvest, and resolutely win the tough fight against poverty. We will channel greater energy into eliminating poverty in all remaining poor counties and villages, and ensure rural migrant workers from these areas have stable jobs in places where they work. We will launch programs to boost the consumption of products from poor areas, and support businesses involved in poverty alleviation in resuming operations. Follow-up support will be provided to people relocated from inhospitable areas. We will deepen collaboration on poverty alleviation between the eastern and western regions, and encourage stronger assistance for targeted poor areas from central Party and government departments, offices of other political parties, as well as state-owned enterprises, public institutions, and universities under the central government. We will work harder to ensure that the basic needs of the most vulnerable groups are met. A poverty reduction survey will be conducted nationwide. For counties that have recently eliminated poverty, major support policies will remain in place. We will continue to promote both poverty alleviation and rural revitalization in an all-out effort to help people who have risen out of poverty move toward prosperity.

2.4 Experiences in the Implementation of the 13th Five-Year Plan

Generally speaking, the implementation of the 13th Five-Year Plan has made remarkable achievements, despite the complicated international political and economic environment and arduous domestic reform and development tasks. Achievements are hard-won under the centralized and unified leadership of the CPC Central Committee. To make these achievements, we have strengthened strategic planning, adhered to the people-centered development thought, sought improvement in stability, followed the new development concept, promoted high-quality development, focused on supply-side structural reform, conducted bottom-line thinking, and aroused enthusiasm of both the central and local governments.

2.4.1 Pay More Attention to the Guidance of New Development Concepts and Lasting Effect

The “13th Five-Year Plan” adopted at the 5th Plenary Session of the 18th Central Committee of the Communist Party of China put forward five development concepts

of “innovation, coordination, green, opening up and sharing” for the first time. These new development concepts have provided a theoretical basis for economic transformation, and have a more lasting effect. Concept guides action. To promote high-quality development in the new era, we must unswervingly implement new development concepts of innovation, coordination, green, opening up and sharing. We must adapt to the new stage of China’s development and the inevitable requirements of changes in major social contradictions, promote development through new development concept, and focus on solving various problems of insufficiency and imbalance. These new development concepts help us to optimize the economic governance mode from the system theory, promote comprehensive development, and seek dynamic balance among multiple objectives.

First, we have accelerated the implementation of the innovation-driven development strategy and improved the core competitiveness of economic growth. During the “13th Five-Year Plan” period, we emphasized the building of national innovation system, accelerated independent innovation of key and core technologies, consolidated strategic scientific and technological strength, and broke through technical blockade that may strangle China’s development. We have cultivated new driving forces for development and accelerated the development of digital economy, artificial intelligence and blockchain technology. By seizing the historical opportunity for the development of new technologies, new business forms, new industries and new models, we have transformed traditional manufacturing industries, advanced the integration and development of high-end manufacturing industries and modern service industries, and promoted the upgrading of industrial chains. We have deepened the reform of science and technology system, and established a market-oriented system for technological innovation, which made enterprises play the leading role and combined the efforts of enterprises, universities and research institutes. We have also stimulated and protected entrepreneurship, built an innovative workforce, and accelerated the transformation from labor quantity dividend to innovation dividend.

Second, we have improved the macro-control system and promoted coordinated economic development. By rationalizing the main proportional relations and spatial distribution of national economy, we have ensured smooth circulation of production, circulation, distribution and consumption, so as to avoid the ups and downs of economic development and guard against systemic financial risks. We have made national development strategy play a guiding role, and improved the mechanism for coordinating fiscal, monetary, industrial, regional, and other economic policies. We have accelerated the establishment of a modern financial system, deepened reform of the financial system, stabilized the macro leverage ratio, improved the financial supervision system, and kept the bottom line of no systemic financial risks. We have optimized the spatial layout of the modern economic system, and promoted the coordinated development of urban and rural areas. We have built the high-standard Xiong’an New Area with a high starting point planning, and promoted coordinated development of the Beijing-Tianjin-Hebei region, the Guangdong-Hong Kong-Macau Greater Bay Area, the regional integration of the Yangtze River Delta and the Yangtze River Economic Belt. We have vigorously implemented the rural revitalization strategy and modernized agriculture and rural areas.

Third, we have promoted high-level opening to the outside world and enhanced international competitiveness of the modern economic system. We have expanded the pilot reform of the Pilot Free Trade Zone, accelerated construction of Hainan Free Trade Port, and promoted reform and innovation of the Guangdong-Hong Kong-Macau Greater Bay Area and other platforms. We have deepened the rule-based opening and improved the system and mechanism of opening to the outside world. We have guaranteed the implementation of the *Foreign Investment Law of the People's Republic of China*, continue streamlining the negative list of foreign investment market access, cancelled all restrictions outside the negative list, and continuously improved the business environment. We have strengthened civil judicial protection and criminal protection, and improved the level of IPR protection. Under the principle of win-win cooperation, we have built the “Belt and Road Initiative”, promoted the signing of the *Regional Comprehensive Economic Partnership (RCEP)*, sped up the negotiation process of multilateral and bilateral trade and investment agreements, and expanded international cooperation space and international markets. We have continuously reduced the import tariff rate to meet the diversified domestic consumption demand and force domestic enterprises to upgrade products and improve quality.

Fourth, we have accelerated green development and promoted long-term sustainable economic development. We have promoted harmonious coexistence between man and nature, and provided the masses with a good production and living environment. Taking ecological civilization construction as a guiding principle, we have established the concept of green development in the whole society, and accelerated the formation of policy orientation, institutional mechanisms, laws and regulations for green development. We have fostered green finance and promoted the development of green industries, such as energy conservation and environmental protection, clean production and clean energy. We have advocated green consumption methods such as green travel, and improved the economic system of green and low-carbon circular development. We have strived to make green development a universal form, and form a new pattern of modernization with harmonious development between man and nature.

Fifth, we have improved the primary distribution and redistribution system, so that all people can share the fruits of development. We have eliminated poverty and narrowed the gap between urban and rural areas and between regional development and residents' income distribution so that all people can share the fruits of development, thus mobilizing the enthusiasm, initiative and creativity of the vast majority of people, maintaining long-term social stability and accumulating social capital. We have optimized the initial distribution of factor market, achieved higher quality and fuller employment, and provided opportunities for individuals to work hard to achieve their own development. We have ensured residents' income growth along with economic development, labor remuneration growth along with improved labor productivity, and broadened the channels of residents' labor income and property income. We have perfected the redistribution system, improved people's livelihood in development, made up for shortcomings in guaranteeing people's livelihood, and won the fight against poverty. We have promoted the equalization of basic public

services, narrowed the income distribution gap, and made the achievements of reform and development fairer and benefit all the people.

2.4.2 Deepening Reforms in All Respects and Vigorously Promoting High-Quality Economic Development

Comprehensively deepening reform based on supply-side structural reform was the result of continuous efforts of the CPC Central Committee with Comrade Xi Jinping at its core to make theoretical and practical exploration on the basis of comprehensive analysis of the long cycle of the world economy and the stage characteristics of China's development and their interactions. The supply-side structural reform has been implemented in the macro control process to break institutional obstacles facing development. This helps enhance the vitality of micro entities and activate development potential. We have deepened the reform of economic system and built the institutional foundation for high-quality development. By upholding and improving the socialist system with Chinese characteristics, we have constantly promoted modernization of the national governance system and governance capacity. We have built a modern economic system, sped up the construction of a systematic, scientific, standardized and effective institutional system, harnessed the advantage of China's socialist system, and provided institutional guarantee for high-quality development. Adhering to the direction of socialist market economy reform, we have made the market play a decisive role in resources allocation, and give better play to the role of the government. We have worked unswervingly to consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector. The common development of the public economy and the non-public economy will further consolidate the foundation of China's economic and social development. With focus on effecting an all-round improvement in the property rights system and promoting the market-based allocation of production factors, we have realized the effective incentive of the property rights, the free flow of production factors, the flexible response of prices, and the fair and orderly competition among enterprises.

We have accelerated building a high-standard market system. State capital and SOE reforms have been accelerated to promote the optimization and adjustment of state-owned capital layout. With focus on effecting an all-round improvement in the property rights system and promoting the market-based allocation of production factors, we have improved the legal environment in support of the development of private economy, and improved the policy system for the development of SMEs. We have reformed the mode of land planning and management, and deepened the reform of fiscal and taxation system. The reform of financial system has been accelerated to improve the basic system of capital market, enhance the quality of listed companies, perfect the exit mechanism, and steadily advance the reform of ChiNext and New OTC Market. We have encouraged big banks to provide services for prefecture- and county-level governments, urged small and medium-sized banks to focus on their

main responsibilities and businesses. We have deepened the reform of rural credit cooperatives, and guided insurance companies to perform their guarantee functions.

By keeping a close eye on environmental changes at home and abroad, we have worked on both the supply side and the demand side to promote quality and efficiency change with dynamic change, improve the quality of goods and services, and guide new demands with new supply of higher quality. We have improved the total factor productivity to acquire international competitiveness of products with input and output efficiency and economic benefits, and continuously improved the quality of the supply system. We have actively expanded effective demand to maintain stable, healthy and sustainable economic development, and promoted economic transformation and upgrading to effect fundamental transformation of development mode. Macroeconomic control has been strengthened and improved to consolidate the overall coordination of various policies and inter-department collaboration. Any policy has been adopted at appropriate time and pace in sufficient effort to ensure they can play its coordination effect. We have created an ecological environment conducive to the sustainable and healthy development of enterprises, especially of private enterprises. We have continued reducing tax burden of enterprises. We have further cut taxes and fees to reduce the burden on enterprises in an inclusive way, and enhance their sense of gain. We have endeavored to solve the problem of difficult and costly financing for enterprises. The coordination among monetary, fiscal and industrial policies has been strengthened to reform and improve the supervision and assessment of the financial system and the internal incentive mechanism. To create a competitive environment for companies, we have adhered to equality of rights, opportunities and rules so as to further break restrictions and obstacles on private enterprises in all aspects, establish a more open, transparent, stable and predictable policy system, protect entrepreneurs' personal and property safety, promote entrepreneurship, and enhance entrepreneurs' confidence. We have improved the way policy was implemented, improved the performance of government departments, strengthened policy coordination, refined and quantified policy measures, and improved the accuracy, forward-looking and effectiveness of policy implementation.

With adherence to the policy of consolidation, enhancement, upgrading and smoothness, and based on innovation driver as well as reform and opening-up, we have comprehensively improved the overall competitiveness of the economy, and accelerated the construction of a modern economic system. We have focused on the supply of agricultural production to accelerate the structural reform of the supply side of agriculture, increase farmers' income, and promote rural revitalization. We have deepened the reform of scientific and technological system to accelerate the transformation and application of scientific and technological achievements, upgrade technological innovation capability of enterprises, and ensure SOEs play a positive role in technological innovation. We have improved the system and mechanism to encourage and support basic research and original innovation, and improved the discovery, training and incentive mechanism of scientific and technological talents. We have provided support for the development of strategic industries, increased investments in equipment renewal and technological transformation, and promoted the optimization and upgrading of traditional manufacturing industries. The policy

of cutting tax and fees has been implemented to reduce expenses of electricity, gas and logistics for enterprises, and promote the disposal of “zombie enterprises” in an orderly manner. We have improved systems and mechanisms to build a group of advanced manufacturing clusters with international competitiveness, upgrade the basic industrial capacity and the modernization level of the industrial chain, and vigorously develop the digital economy. We have adopted the market mechanism and modern scientific and technological innovation to promote the development of service industry, the extension of producer services into specialization and high-end value chain, and the upgrading of life service industry to high quality and diversification. To solve the problem of caring for the elderly and infants, we have sped up the construction of old-age service system and support social forces to develop inclusive child care services. We have promoted the high-quality development of tourism and the market-oriented development of physical exercise and fitness.

We have stepped up implementation of China’s regional development strategies to improve regional policies and spatial layout, give full play to the comparative advantages of each region, and build a new power source for high-quality development in China. We have moved forward with the coordinated development of the Beijing-Tianjin-Hebei region, the development of the Guangdong-Hong Kong-Macao Greater Bay Area, and the integrated development of the Yangtze River Delta, so as to build a world-class innovation platform and growth pole. We have made solid progress in the construction of Xiong’an New Area and the Yangtze River Economic Belt to promote ecological protection and high-quality development of the Yellow River Basin. We have improved the comprehensive carrying capacity of principal cities and city clusters.

2.4.3 Giving Top Priority to a Higher Level of Openness, and Fully Stimulating Internal Driving Force and Market Vitality

With an open development concept and a higher level of openness, we have promoted reform, innovation, cooperation, mutual benefit and win-win, fully stimulated the internal driving force and vitality of market, and achieved more balanced, adequate and inclusive economic development.

First, we have deepened reforms through active opening-up. Active opening-up has forced Chinese enterprises to cross the deep water zone of domestic reforms. China’s legal and standard system in agreement with international standards has accelerated creation of a law-based, open, fair, stable and transparent competitive environment so as to promote reforms in market access, foreign investment management, foreign trade system and marketization of exchange rate.

Second, we have promoted innovation and development through two-way opening-up. Foreign cooperation has helped introduce the technology and talents

needed for China's economic transformation and development and promote cooperation and innovation. By encouraging enterprises to go global, we have been well-informed of the international market demand and deeply participated in international competition so as to strengthen the willingness and ability of enterprises to innovate, and enhance the innovation of new technologies, new products and new business forms.

Third, we have stimulated market vitality in a fair and open manner. By relaxing control over market access, we have provided a level playing field for both domestic and foreign enterprises, optimized the resources allocation, and stimulated the internal driving force and external vitality of market.

Fourth, we have achieved balanced regional development through comprehensive opening up. By promoting the formation of an open pattern of the coordinated development of inland and coastal areas and the mutual aid between east and west, we have accelerated the east-to-west flow of resources, boosted the adjustment and upgrading of industrial structure in the central and western regions, narrowed the development gap between the eastern and western regions, and overcome the contradiction of unbalanced regional development.

Fifth, we have expanded international cooperation in a win-win, inclusive and open manner. Despite huge pressure from external trade protectionism, we have established a new open economic system and a community with a shared future for mankind. We have taken initiative in international cooperation on a win-win open basis, and expanded new international space for economic development.

2.4.4 Maintaining Strategic Resolve and Improving the Effectiveness of Macroeconomic Regulation and Control

During the "13th Five-Year Plan" period, the stability of China's macro economy increased, and the fluctuation range of GDP growth rate narrowed. This is due to the maintenance of strategic strength, the significant improvement of the effectiveness of macro-control policies, and the scientific and steady grasp of the counter-cyclical adjustment of macroeconomic policies.

First, we have maintained our strategic resolve. Faced with the continuous downward pressure on economic growth, the central government has successively made some major judgments, such as "new normal" and "imbalanced and inadequate development", and maintained a high degree of strategic strength. By deepening reform, opening wider to the outside world and stimulating innovation, we have motivated the vitality of micro-enterprises and promoted the transformation and upgrading of economic structure. After the outbreak of Sino-US trade friction in 2018 and facing the extremely complicated external economic environment, the central government continued to maintain a high degree of strategic resolve in two aspects. On the one hand, China emphasized insisting on domestic development and doing our own things

well. We have persisted in the supply-side structural reform to enhance the people's sense of gain through large-scale cut of tax and fees and the operating costs of enterprises. According to the *2020 Business Environment Index* released by the World Bank, China's ranking has greatly improved and jumped to 31st place in the world. We have made decisive progress in the three critical battles against poverty, pollution and potential risk. On the other hand, China has not closed its door but opened it wider in the resurgence of American trade protectionism and anti-globalization. China has lowered the tariff rate five times and enacted the *Foreign Investment Law of the People's Republic of China* to cancel or relax the access threshold for foreign investment in the fields of finance, automobiles, oil and gas, and some telecom value-added services. We have expanded the quotas of QFII, RQFII, Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect, and initiated the Shanghai-London Stock Connect. We have also increased the weight of A shares and domestic bonds in the global benchmark index.

Second, we have emphasized the effectiveness of macro-control policies. China's economy is currently experiencing a slowing economic growth rate and structural adjustment, so different industrial sectors, regions, and enterprises with different ownership and size were faced with different prosperity and profitability and with different opportunities and challenges. Therefore, they also had different demands for macro policies. In this case, although universal and aggregate macro policies are still needed, their effects have been greatly reduced; in contrast, some structural and directional policies can play their roles more effectively. Emphasis on effectiveness is therefore one of the main experiences of China's macro-control policies during the 13th Five-Year Plan period. In terms of fiscal policy, the active fiscal policy focused on the improvement of quality and efficiency, emphasized the structural adjustment, resolutely reduced general expenditures, and provided potent support for key projects so as to ensure wages, operation and people's livelihood at grass-root level, increase the VAT exemption for small and micro enterprises and individual industrial and commercial households, encourage enterprises to increase investment in R&D and fixed assets through policies such as deduction of R&D expenses and accelerated depreciation of newly purchased fixed assets. In terms of monetary policy, the People's Bank of China has newly introduced and repeatedly adopted structural monetary policy tools such as mortgage supplementary lending, medium-term lending facility, and standing lending facility to guide fund flow towards specific sectors including micro, small and medium-sized enterprises as well as agriculture, rural areas and farmers. The People's Bank of China also adopted macro-prudential evaluation indicators to encourage optimization of credit structure, accelerate structural reform on the financial supply side, dredge the transmission mechanism of monetary policy, increase the medium and long-term financing of manufacturing industry, and better alleviate the problem of difficult financing faced by private enterprises and micro, small and medium-sized enterprises. In addition, the fiscal policy and monetary policy worked together with consumption, investment, employment, industry and regional policies to guide fund flow toward advanced manufacturing,

people's livelihood, infrastructure shortcomings and other fields that benefit both supply and demand and have multiplier effect, so as to upgrade both the industry and consumption.

2.4.5 Emphasizing the Effect of Scale Economy and Building a Strong Domestic Market

Currently, China's per capita GDP has exceeded 10,000 US dollars, and its overall economic scale ranks second in the world. As per capita income continues to increase, the market demand potential will further expand. During the "13th Five-Year Plan" period, China's external environment went from bad to worse. It is therefore necessary for China to tap the potential of internal demand, expand new driving forces, readjust new supply in line with new demand, and build a strong domestic market by creating new supply, guiding new demand and taking targeted measures. We have made full use of our advantageous super-large-scale market and given play to the basic role of consumption and the key role of investment.

Consumption potential was exploited to promote consumption upgrading, and meet the ultimate needs of the people. Reform rather than leveraging methods were used to expand consumption. We have improved the social security and unemployment insurance system, reduced residents' preventive savings, and enhanced consumer confidence. We have improved the government's public service system so that government provides basic services such as education, medical care and old-age care, and encourages private capital to invest in personalized education, medical care, old-age care, culture and sports, tourism and other service industries. We have built a better social credit system to strengthen consumer protection, crack down on illegal acts in food and medicine industries and improve the quality of various products, so that people are reassured of what they eat and what they wear and that overseas high-end consumption can come back to domestic market, i.e. the so called high price for good quality. We have adjusted the automobile purchase restriction policy and promoted transformation from automobile purchase restriction to automobile consumption restriction policy so as to meet residents' automobile consumption demand, and encourage residents to purchase green and smart home appliances. We have boosted nighttime economy. The e-commerce went down to rural areas so as to make up for the shortcomings in cold chain logistics of agricultural products, and activate online and offline markets in urban and rural areas. The supply of high-quality services was increased to foster "China Service" brands and formulate relevant standards.

We have tapped the potential of investment demand, given full play to the key role of investment, and promoted industrial upgrading. To enhance private enterprises' confidence in investment, we have improved the legal system, strengthened protection of property rights and intellectual property rights, and optimized the business environment. The Foreign Investment Law, the negative list and the principle

of competition neutrality were implemented to promote high-level opening up and enhance Hong Kong, Macao and Taiwan enterprises' and foreign-funded enterprises' confidence in investment in China. We focused on stable investment in manufacturing and appropriately reduced the proportion of project investment capital. We accelerated technological transformation and equipment renewal in manufacturing industry. We made good use of special fund for technological transformation to support information-based, digital, intelligent and green transformation and upgrading of manufacturing enterprises, and increased financial support from the central government, with emphasis on private enterprises. We accelerated commercialization of 5G technologies and strengthened construction of new infrastructures such as artificial intelligence, industrial Internet and Internet of Things. We increased investment in intercity transportation, logistics and municipal infrastructure, and prioritized the construction of urban sewage and garbage treatment facilities. By encouraging local governments to improve the coordination mechanism of special bond management and project arrangement under general guidance of the provincial government, we increased the special bonds' support for infrastructure projects, and moderately reduced the minimum capital ratio of infrastructure projects in some areas. From a perspective of long-term development, we have strengthened the construction of strategic and network-based infrastructures, promoted the construction of major projects such as Sichuan-Tibet railway, steadily promoted the construction of communication networks, sped up the implementation of major projects for natural disaster prevention and control, strengthened the construction of municipal pipe networks, urban parking lots and cold chain logistics, and accelerated the construction of rural roads, information, water conservancy and other facilities. We have made steady advancement in renovation of old residential areas, and accelerated the improvement of supporting facilities including water, electricity, optical fiber and elevators, and living service facilities such as old-age care and child care. We have accelerated the building of rental housing and commercial housing in large and medium-sized cities with a large net population, made up for the shortcomings in building rural infrastructure and public service facilities, and strengthened the capacity of natural disaster prevention and control.

2.4.6 Implementing the People-Centered Development Thinking, and Enhancing Coordinated Development

Since the "13th Five-Year Plan" period, the Party's Central Committee and local governments at all levels have implemented the people-centered development thinking to achieve the fundamental purpose of improving people's livelihood and well-being. A large number of measures for the sake of all people have been implemented to ensure continuous improvement of people's livelihood and well-being. Especially in the case of financial shortage, we should do everything within our capacity to improve the wellbeing of our people. We must see that the government

provides basic guarantees, and that public services are inclusive, meet essential needs, and ensure basic living standards for people in difficulty.

We have constantly broadened channels for urban and rural residents to increase their income, stimulated the vitality of key groups to increase their income, and promoted reform of key areas such as agriculture, rural areas and household registration system, stabilized wage income expectations, improved the personal income tax system, and effectively guaranteed reasonable improvement of per capita disposable income. We regarded full employment as the first goal of improving living standards, carried out the employment priority strategy, put employment policy at the macro policy level for the first time, focused on solving structural employment problems, and launched a series of new effective policies. By stabilizing the total employment, improving the employment structure, and enhancing the employment quality, we focused on the employment of key groups, and ensured that there are no unemployed families. We worked hard to deliver a good performance in the employment of key groups such as college graduates, retired military personnel and migrant workers, strengthened employment assistance for all kinds of people with employment difficulties in cities and towns, and introduced timely measures to stabilize employment in view of the possible impact of changes in the external environment on employment.

We provided vocational skills training programs and taken effective incentives to encourage employment by starting businesses. Regarding priority development of education, we increased the proportion of fiscal expenditure on education in GDP over 4%, promoted integrated development of urban and rural compulsory education, attached great importance to rural compulsory education and improving the treatment of rural teachers, promoted implementation of the salary policy for compulsory education teachers, improved conditions for running schools with weak compulsory education in poverty-stricken areas, and strengthened the construction of small-scale rural schools and township boarding schools. We made up for shortcomings in improving living standards by effectively solving the problem that hinders migrant workers' children from going to school.

We established a central adjustment system for the basic old-age insurance fund for enterprise employees, improved the basic pension for retirees, deepened reforms on medical care, medical insurance and medicine, steadily promoted the construction of the tiered diagnosis and treatment system, and vigorously implemented the healthy China strategy. Basic guarantees were provided to ensure that pensions are paid in full and on time, and accelerate national overall planning of endowment insurance. Full play was given to the advantage of market supply flexibility by deepening market-oriented reform and opening-up in living standards services such as medical care and old-age care so as to enhance multi-level diversified supply capacity, and better realize the integration of social and economic benefits.

We increased housing security for urban poor people, strengthened urban renewal and upgrading of existing housing, renovated old urban communities, and developed rental housing. We must not forget that housing is for living in, not for speculation. We need to implement the long-term management and control mechanism of stabilizing land prices, housing prices and expectations, so as to promote stable and healthy development of the real estate market.

2.4.7 Making Up For Shortcomings and Achieving Remarkable Results in Three Tough Battles against Poverty

Since the “13th Five-Year Plan” period, the CPC Central Committee and the State Council have paid more attention to making up for shortcomings in important areas such as benefiting people’s livelihood, infrastructure and private investment, adhered to the bottom line thinking, persisted in promoting and deepening reforms as a whole, consolidated development weaknesses, strengthened risk awareness, and firmly held the bottom line of no systemic risks. The three major battles have achieved remarkable results.

We have always taken targeted measures in development-oriented poverty alleviation to form a nationwide poverty alleviation pattern by integrating the willingness and intelligence into the poverty alleviation process, and continuously strengthening the internal development momentum of poor groups. In terms of anti-poverty methods and mechanisms, full play was given to the institutional advantages of a socialist country and the overall resource advantages of a big country. We adhered to the working mechanism of overall planning by the central government, overall responsibility by provincial government and implementation by municipal and township government. We emphasized mobilizing all anti-poverty forces of the whole society to implement anti-poverty cooperation between the east and the west and poverty alleviation linkage among industry sectors. We continuously increased total investment in poverty alleviation resources, and continuously accumulated new driving forces for poverty alleviation. Extraordinary measures were taken to fight poverty in most impoverished areas so as to achieve the goal of comprehensive and targeted poverty alleviation.

A sound eco-environment benefits all. The CPC Central Committee and the State Council has insisted on solving outstanding ecological environment problems as a priority, promoted the reform of ecological civilization system, and constantly improved the environmental governance system in which government takes the lead, enterprises assume main responsibility, and social organizations and the public also participate. We have implemented and normalized the environmental protection inspection system. The public were invited to participate in addressing environmental problems so as to keep our skies blue, our waters clear and our lands pollution-free, promote the formation of green production lifestyle, and build a beautiful China. We have taken active part in global environmental governance and fulfilled our commitments on emissions reduction.

Since the 13th Five-Year Plan period, the CPC Central Committee and the State Council have reiterated the importance of preparing for adversity while striving to achieve the best possible results, attached emphasis to risk prevention and control, and taken comprehensive measures to prevent and defuse risks in key areas. With adherence to the basic idea of structural deleveraging, we have taken actions to prevent abnormal fluctuations and vibrations on financial markets, guide the financial industry back to their original functionality of serving the real economy, properly

handle local government debt risks, and earnestly strengthen the management of government investment projects.

First, we adopted a goal-oriented approach to addressing prominent risk points. Risks are not evenly distributed in the economy, but aggregate in some special fields. Therefore, we should focus on major risks in the process of forestalling and defusing financial risks in different periods.

Second, with emphasis on prevention, we paid much attention to building a long-term mechanism for risk prevention. We have strengthened dynamic monitoring and judgment of risks in macro-economic, fiscal and financial fields, and formulated risk response plans in a timely manner. In addition to counter-cyclical adjustment, we should carry out macro-prudential management and improved the regulatory framework of counter-cyclical macro-policy and macro-prudential policy. We have improved management of all government debt, and intensified budget constraints of local governments and state-owned enterprises.

Third, we took proper measures to address risks in a controllable manner. Appropriate efforts were made in addressing risks so as to avoid affecting macro economy or avoid risk diffusion that may lead to greater risks.

Fourth, we emphasized the coordinating role of economic and financial policies. Facing the pattern of mixed operations in the financial field, we should pay more attention to the policy communication and coordination among various regulatory authorities, so as to prevent multiple government departments from interfering with each other, and forestall the space and new risks of regulatory arbitrage.

Chapter 3

Impacts of Medium and Long-Term External Environmental Changes on China and Countermeasures



Yuyan Zhang, Zhizhong Yao, Weijiang Feng, and Chenyu Zeng

The coming period will be a critical period for China to adapt to the profound changes unseen in a century, and also a historical period in which the timeframes of the Two Centenary Goals converge. In the face of a more complicated and severe international environment, China remains in an important period of strategic opportunity for development in the new era. The period of strategic opportunity in the new era has distinct characteristics. First, from the perspective of driving force, the period of strategic opportunity in the new era is characterized by self-driven development. The previous driving force originated more from opportunities or conditions outside China, while the strategic opportunities in the new era depended more on China's own choices or behaviors. Second, from the perspective of nature, the strategic opportunity in the new era needs to be refined and transformed from challenges brought about by uncertainties, the strategic opportunities in the new era need to be refined and transformed from the challenges brought by uncertainty, instead of directly utilizing the ready-made opportunities. Third, in terms of conditions, China has a stronger capacity to create and seize opportunities in the period of strategic opportunity in the new era. China's market size, investment capacity, position in the global value chain and comprehensive national strength are not what they used to be. China's capacity to lead the reform of global governance system and its appeal to developing countries are not what they used to be with the implementation of the "Belt and Road" Initiative. China's ideological system and institutional advantages are not what it used to be with the increasing appeal of the concept of "community of a shared future for the mankind" in the practice of promoting global common development and cooperating to deal with non-traditional security issues such as the COVID-19 pandemic.

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3.1 External Environment for China's Medium-And Long-Term Development

It is predicted that by 2025, the trend of “ascending east and descending west” will continue, and China will step into the ranks of high-income countries, and its economic scale is expected to be closer to that of the United States. With its own strength, it has a certain capability to shape the external environment. This will lay a solid foundation for shaping a more balanced world pattern in a medium and long-term period in the future. At the same time, the external environment will also see obvious changes, such as the increasing external risks, the intensifying competition and confrontation in the international community, and the prominent uncertainty and instability faced by international cooperation. Judging comprehensively, China's development shows a steady upward trend and remains in an important period of strategic opportunities in the new era. It is also faced with various contradictions, increasing risks, and greater challenges posed by risks both at home and abroad. We must accurately understand the profound changes in conditions in the new era of socialism with Chinese characteristics, seize and make good use of the strategic opportunity period in the new era, and calmly cope with various risks and challenges.

3.1.1 International Balance of Power (Ascending East and Descending West), and Profound Changes in the Structure of World Powers

The world is undergoing major developments, transformation and adjustment, but peace and development remain the call of our day. The trend of “ascending east and descending west” continues, and the international balance of power is undergoing unprecedented positive changes in a direction conducive to peace and development. Institutional problems in major European and American countries had great impact on the global governance system dominated by Western countries, and led to comprehensive adjustment in international order. The rise of emerging and developing countries has become a general trend. China has become a leader in profound changes rarely seen in a century, and a mainstay for safeguarding world peace and development.

The most critical variable in the profound changes unseen in a century is the balance of power among major countries in the world. In the past two or three decades, the balance of power among major countries has undergone constant changes, and the accumulated quantitative changes have been transformed into qualitative changes to some extent. The strength of a country can be measured by many indicators, among which the most comprehensive and commonly used indicator may be economic strength. As far as economic strength is concerned, China has developed rapidly in the past 40 years. In 1978, China's per capita gross domestic product (GDP) was only US \$200, and in 2018 the figure jumped close to US \$10,000. Especially in the

past dozen years, China's rapid development has exceeded the expectations of all parties. In 2005, China's GDP was less than 1/2 of Japan's at the market exchange rate. In 2010, China's GDP began to surpass Japan's, and in 2014 it reached twice that of Japan. At this growth rate, it may triple that of Japan in 2022. More than 40 years ago, China's GDP was about 1/15 of that of the United States, and in 2018 the figure jumped to 2/3. China is rapidly approaching the United States in terms of economic aggregate, while the two great powers are increasingly distanced from the third country and following countries in the ranking.

In the medium and long term, the above-mentioned trend of "ascending east and descending west" will continue. The economic growth rate of emerging and developing economies will be significantly higher than that of developed economies by 2 percentage points or more, and the overall economic strength will come close to that of developed economies at a faster speed. In 1980s, the economic growth rate of emerging and developing economies was lower than that of developed economies in most years. Since 1990s, the economic growth rate of emerging and developing economies has been significantly higher than that of developed economies. From 1990 to 1999, the average annual economic growth rate of emerging and developing economies reached 3.6%, while that of developed economies was only 2.8%. From 2000 to 2018, the average annual economic growth rate of developed economies further decreased to 1.9%, while that of emerging and developing economies jumped to 5.7%. The International Monetary Fund predicts that the average annual economic growth rate of emerging and developing economies will be 4.8% and that of developed economies will drop to 1.7% from 2019 to 2024.¹

Against the background of the overall sluggish world economic growth, the gap between the overall economic strength of emerging and developing economies and that of developed economies will further narrow due to the weaker growth of developed economies. In current dollar terms, the GDP of emerging and developing economies was 31.9% of that of developed economies in 1980, and it rocketed to 65.9% in 2018. This figure is expected to reach 77.9% of developed economies by 2024. The economic strength of emerging and developing economies will be closer to that of developed economies, and their share in the world economy will further increase from 39.7% in 2018 to 43.8% in 2024.

3.1.2 Globalization Embarks on a Zigzag Path Due to Worldwide Problems and Challenges

One of the factual reasons why today's world has not changed fundamentally is that the interdependence between one country or region and another remains at a historically high level. The trend of globalization has not reversed, but it has encountered

¹ In April 2020, DIMF released data after considering the impact of COVID-19, but it only provided the predicted value until 2021. Among them, the average annual economic growth rate of emerging and developing economies from 2019 to 2021 was 3.1%, and that of developed economies was 0.

temporary setbacks. As an important stage in the historical process, globalization does not always evolve on a flat and straight road with flowers and trees along the roadside. The beginning of US President Trump's term in 2017 marked a turning point in globalization. The United States announced its withdrawal from the *Paris Agreement on Climate Change* and refused to appoint new judges. As a result, the dispute settlement mechanism of the World Trade Organization (WTO) was paralyzed, and globalization entered a rugged or even steep road.

If the forces for cooperative development fail to make due progress in globalization, they will instead seek some solution in regionalization. After the establishment of the North American Free Trade Area (NAFTA) and the Eurozone, the process of regional integration with higher standards has been accelerated by the formation of the "10 + 1" and "10 + 3" cooperation mechanisms, and by the negotiation or signing of agreements such as the Trans-Pacific Partnership (TPP). What is even more interesting is that the regional integration has not been severely hindered by the Trump Administration's exit from international organizations or agreements, but has been strengthened in some areas. For example, the NAFTA was renamed as the US-Mexico-Canada Agreement (USMCA) after renegotiations, and the TPP was implemented in the name of the Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP) after the withdrawal of the United States. Despite India's refusal to sign the RCEP, the Regional Comprehensive Economic Partnership Agreement (RCEP) ended its seven-year negotiations at the end of 2019. This major breakthrough has laid the foundation for the establishment of the "15 + 1" free trade zone. At the China-Japan-ROK Leaders' Meeting held in December 2019, three leaders reached a consensus on accelerating the negotiations of China-Japan-ROK Free Trade Area and building a higher standard free trade area as early as possible.

When multilateral efforts to promote economic globalization are faced with challenges, regional or plurilateral efforts have naturally become the main driving force for economic globalization. Whether multilateral or plurilateral, globalized or regionalized, great powers or important blocs (e.g. the European Union) are critical. In the world system that consists of one superpower and several powers, the intentions of leading countries are often realized, thus resulting in expansion and strengthening of the multilateral system. With economic globalization being checked and regionalization being accelerated, there will be several parallel systems dominated respectively by several major powers.

The lack of global coordination and solution to global problems is related to the fact that the international order framed by existing international mechanisms, organizations and relevant rules is increasingly unable to adapt to the rapid changes in the global landscape. On the one hand, emerging and developing countries believe that the existing mechanisms, organizations and rules mainly reflect the interests of developed countries that play a leading role in establishment of this system, so they hope these mechanism, organizations and rules can reflect and confirm the changes in relative strength of various countries in a timely manner. On the other hand, some developed countries believe that the existing mechanisms, organizations and rules have given emerging and developing countries greater and non-reciprocal growth opportunities, and can no longer protect their comparative advantages, so they have

begun to seek changes by withdrawing from these bodies and applying pressure on emerging and developing countries.

In order to consolidate and strengthen their competitive advantages, either developed economies or emerging and developing economies are intended to contend for the upper hand in revision and adjustment of future international economic mechanisms, organizations and rules. With a more active and radical position and greater power, developed countries often give rise to the inefficiency, disability or even shutdown of existing international or multilateral mechanisms, and deteriorate the problem of insufficient public goods in the international system, so as to cripple the international community in response to emerging global problems and challenges such as poverty, environmental pollution, climate change, natural disasters and infectious diseases.

In next few years, the process of globalization will keep zigzagging on a bumpy road, the old international order will be difficult to continue, and the new rules for international governance will be refactored. The game between developed economies and emerging and developing economies will get more intense for the right to make rules in stabilizing the world economy, promoting climate governance, ensuring health and environmental security, building a global financial safety net, and improving the multilateral trade system and global economic governance. Global problems and challenges will only be partially solved, and the game will become even more serious in some areas. The current international order may enter a turbulent period of disintegration and reconstruction, and the possibility of a parallel system of mutual competition and even fierce confrontation cannot be ruled out.

3.1.3 Scientific and Technological Progress Has a Far-Reaching Impact and Is Beset With Many Uncertainties, So Science and Technology Will Become a Strategically Important Area for Great Power Competition

Since the twenty-first century, global scientific and technological innovation has boomed, and a new round of scientific and technological revolution and industrial transformation is reshaping the picture of global innovation and reconstructing global economy. Technological progress is changing with each passing day; in particular, the rapid development of digital-related technologies, such as network information, has caused chain reactions in various fields such as production, circulation, distribution and employment. Automation or assembly line of manufacturing industry once created a large number of new jobs (such as engineers), but today's digitalization and artificial intelligence will not create enough new jobs while slashing a large number of service jobs. According to McKinsey and Company's estimate, up to 800 million

jobs in the world will be replaced by robots by 2030,² and in theory, almost all jobs may be replaced by increasingly cheap artificial intelligence.

Compared with economic globalization and national policies, technological progress has also been recognized by academic circles as an important reason for the widening income gap within countries or stagnation of working-class income growth. Whether in developed economies such as the United States, Europe and Japan or major emerging market countries, the growth rate of labor productivity has been declining since the twenty-first century, which is a sharp contrast to the huge R&D investment. This phenomenon has been called the “productivity puzzle” by economists, and will have a negative impact on the long-term growth of global economy.³

The field of science and technology has become a key arena for today’s international competition and an important source of maintaining national strength and innovation vitality. It has a vital impact on the global international division of labor system. The competition for the high ground of science and technology is becoming increasingly fierce, and disruptive technologies are rapidly approaching the critical line of breaking through bottlenecks. With the general intensification of scientific and technological innovation in various countries, there emerges a new round of scientific and technological revolution. Breakthroughs have been successively made in 5G mobile internet and cloud technology, big data, artificial intelligence, synthetic biology and bioengineering. The extensive penetration of information technology, biotechnology, new material technology and new energy technology has led to a mass technological revolution characterized by green, intelligent and ubiquitous in almost all fields, which is promoting profound changes in the global economy, human production and life, and even the way of war. A new round of scientific and technological revolution is ready to come out.

China’s power of discourse in research and development in high-tech fields is increasing day by day, and the gap between China and major developed countries is greatly reduced in some fields and thus leads to direct competition with western developed countries. The wide application of new technologies, especially the integration of information technology and industry, is triggering far-reaching industrial transformation with intelligent manufacturing at its core and the historic transformation of China’s economic development mode. This will also be a historic opportunity for the great rejuvenation of the Chinese nation. The new generation of information technology has become the primary goal of science and technology competition among great powers. In the name of “national security”, major developed countries call on national resources to attack and impose blockade and suppression on China’s leading science and technology enterprises. As a result, China’s access to information technology has been denied, including restricting data flow, controlling data transactions, and embargoing core hardware. For example, in the name of “security review”, the United States tried to “decouple” from China in

² Mckinsey Global Institute. (2017).

³ Zhang (2019a).

the field of science and technology, interfere in academic exchanges of information technology with China, hinder mergers and acquisitions of Chinese science and technology enterprises, disrupt global industrial chain in the field of information technology, and obstruct China's core technology research and development and industrial catch-up in the information field. The blockade and anti-blockade around high technology are gradually unfolding. In addition, the United States is launching the "Third Offset Strategy" against China, that is, using technology and mechanism innovation to occupy a leading position on the "new track", so as to defuse the pressure of narrowing gap on the "old track". The risks and impacts of competition in the field of science and technology will be more severe than trade friction. They may substantially hinder China's capability of scientific and technological progress and innovation, bring damage to international economic and trade relations, and even cause serious humanitarian disasters.

3.1.4 Far-Reaching Influence of Demographic Changes

The demographic structure can be subdivided into age structure and ethnic group structure. Nowadays, major developed countries in the world are experiencing population aging to varying degrees, especially Japan and Europe. In some emerging economies, including China, the aging process has also started. Population aging involves a series of issues, including the sustainability of the social security system, the government's macro policies, a country's savings and investment, the political attitude and voting participation rate of the elderly population, etc.

The aging of population coexists with the rejuvenation of population in many developing countries. Population explosion is seen in Africa, Middle East, India and other places. In some of these countries, the population under the age of 25 accounts for 40–50% of their total population. This highly rejuvenated population structure naturally brings about extremely high youth unemployment rate, which in turn exerts great pressure on social stability and resource demand.

Compared with the polarization of age structure, the change of ethnic or racial structure may have a more direct impact on a country's social integration, political stability and foreign policy. According to the survey data of European Muslim population released by Pew Research Center in November 2017, the Muslim population in Europe increased from 19.5 million in 2010 to 25.8 million in 2016, accounting for 4.9% of the total population of Europe. By 2050, the Muslim proportion will reach 11.2% in the context of moderate immigration growth, and the proportion of German Muslim population in the total population of Germany will reach 19.7% in the context of high immigration growth.⁴ Today, more than half of the newborns in the United States are no longer European-American. In 2024, more than half of the population under the age of 20 will be non-white. It is not difficult to understand that US President Trump issued the executive order of "Muslim ban" shortly after

⁴ Zhang (2019a).

taking office, and insisted on building a wall along the US-Mexico border to prevent Mexicans' entry into the territory of the United States.

The change of ethnic group structure results in the strengthening of ethnic identity. According to Eric Hobsbawm, author of *Nation and Nationalism Since 1780*, one of the essential features or functions of ethnic group or national identity is to judge who is innocent and who is the culprit, and the culprit must be responsible for "our" immediate sufferings. When "we" are suffering grievance and uneasiness, and feel at a loss about where to go, all these are caused by "them" who are "notus" and strangers. "They" are "our" enemy just because "they" are outcomes.⁵ Minority groups living in conflicts often reject the hospitality or tolerance of other groups, because ensuring the existence of certain enemies is sometimes part of political wisdom, which is the only way to effectively maintain group unity. The extreme situation of ethnic identity or ethnic opposition within and between countries is the topic of *The Clash of Civilizations and the Remaking of World Order*, a book by Samuel Huntington.⁶

3.1.5 Normalization of Network Security Game between Countries and the Public Consciousness of Rights Awakened By Network Technology

Cyberspace has become an important support for human civilization in the information age, a meeting point of national interests, and a new source of national conflicts. At present, the new round of scientific and technological revolution and industrial transformation based on the Internet developments reshaping the global innovation pattern has provided an unprecedented opportunity for China to chase after, keep pace with and even take the lead in scientific and technological progress. However, the cyberspace itself not only has security problems, but also provides conditions and media for the interactions of various traditional threats and non-traditional threats. This may amplify security incidents and bring new challenges to national security in the information age.

The confrontations around cyberspace governance have frequently occurred, including the growing conflicts between major powers in cyberspace and frequent occurrences of cyber security games between major powers, e.g. technology game, idea game and discourse power game. As a deterrent force, the cyber warfare capacity is being built by some great power, and it will become one of the important contents of military power contest among them in the future. The competition of network governance is greater than cooperation, showing a normalization trend.

Obviously, the development and popularization of network technology have resulted in the reduced cost, the expansion of spreading capacity and the accelerating speed of communication, thus greatly facilitating people to obtain information and new ideas and communicate with each other. With the deepening of people's

⁵ Hobsbawm (2006).

⁶ Huntington (2010).

cognition of their own rights and of how to obtain these rights, the awakening of people's consciousness of rights due to the development of information technology has become an important social force to propel evolution of the times. With the awakening of people's awareness of rights, populism and nationalism came into vogue in some countries and penetrated deeply into political and diplomatic practice, leading to the resurgence of the "clash of civilizations" theory mixed with racism. People of insight feel worried about this.

In 2019, the social disorder due to protests and demonstrations has triggered turmoil and riots around the globe. No exceptions were found in the UK, France, Italy and Spain in Europe, India in Asia, Ethiopia in Africa, and Chile, Ecuador, Bolivia and Colombia in Latin America. Although there were external incentives that had "ignited" these protests in these countries or regions, the long-term sluggish economic growth, the wide gap between the rich and the poor, the serious unemployment of young people, the lack of development opportunities, and the lower-than-expected social security have shown significant vulnerabilities for a long time, and no solutions were available for solving these problems. This was the essential factor that "fueled" these riots and turmoil. The convenient communication brought by network technology had also added a powerful combustion improver for them.

Another consequence of the digital age is the social divide. The information explosion in the online world makes the audience feel at a loss and pay less attention when facing massive information, that is, the so-called "paradox of plenty" appears.⁷ In view of the nature that people are more willing to hear or see the information they are willing to accept, various media have carefully arranged programs, designed algorithms and launched all kinds of highly targeted information in order to compete for attention, so that false information from "friends" looked more credible. The "Yellow Jacket" mass movement in France was the natural result of different opinions, lack of communication and mutual misunderstanding among all orders of society. The remarks made by the US House Speaker Nancy Pelosi, i.e. "I don't want President Trump to be impeached, but I'd rather see him go to jail", have proved the serious polarization of American society. The identity conversion of populist-nationalist political parties and politicians from the opposition to the ruling party was not only the natural consequence of the awakening of working class's rights consciousness caused by the negative impact of globalization and the progress of network technology, but also the power source that accelerated the spread of populism-nationalism in the world. In the transitional period between the collapse of the existing global system and the creation of the alternative system, whether there will be a long blank period also depends on the strength of this power source.⁸ In the medium and long term, the game between great powers around cyberspace security tends to be fierce, so the populist globalization will be likely to prevail, and the risk of national confrontation brought by the "clash of civilizations" will ascend.

⁷ Nye (2019).

⁸ Zhang (2019a).

3.1.6 *Worsening Sino-US Relations Boost the “Decoupling” Pressure*

The United States is one of the most important influencing factors of China’s external environment. The balance of power between China and the United States has crossed the “critical point”, with bilateral relations entering a period of qualitative change, and the US policy toward China has undergone major changes.⁹ With the rapid rise of China, the comprehensive strength of China is rapidly approach to that of the United States. In order to maintain its “super” status, the United States has constantly put pressure on China. In addition, with the increasing overseas interests of China, the conflicts and frictions between two countries are increasing all over the world, and the competitiveness in bilateral relations is on a rise. The United States’ purpose to effect “peaceful evolution” of China through economic cooperation has proven to be a failure, giving rise to the hostility of American political and economic circles towards China. The US government has made it clear that it is impossible for relations with China to come back to the past. The relationship between two sides has deteriorated rapidly due to the contradiction of national interests and the increase of international political conflicts, and the hostile and confrontational elements have risen sharply. The Sino-US cooperative partnership has been seriously challenged, and the future uncertainty of bilateral relations has increased. The hostility and confrontation of the United States towards China may become one of the most influential and most serious external risk factors.

Since the end of 2017, the United States has issued a series of national security strategies and national defense documents with negative strategic orientation towards China, and defined China as a strategic competitor and a “revisionist country”. Subsequently, it provoked trade disputes with China and boosted pressure on China in trade. The traditional “ballast stone” role of economic and trade exchanges between China and the United States has been greatly weakened, and economic and trade exchanges have become the competitive field with the most concentrated disputes, the fiercest struggles and the most prominent risks in bilateral relations. While trade is being suppressed, the United States is suppressing China’s strategic and growth enterprises. At the same time, the United States raised the threshold for Chinese-funded enterprises to invest in the United States, strengthened the security review and the review power of the Committee on Foreign Investment in the United States, expanded the scope of jurisdiction, and systematically and strategically evaluated the economic behavior of Chinese-funded enterprises in “sensitive industries” in the United States.

The United States has also directly interfered in China’s internal affairs such as the South China Sea, the Taiwan Strait and Hong Kong. The United States has continuously strengthened its military deployment in the South China Sea and its surrounding areas, and made the issue of the South China Sea more complicated. On the Taiwan question, the United States enacted the so-called *Taiwan Travel Act*,

⁹ Zhang (2019b).

making high-level “mutual visits” unrestrained between the United States and China Taiwan. In terms of diplomatic aspect, the United States has provided potent supports for Taiwan authority. This series of Taiwan-related actions hit China’s core interests and diplomatic bottom line, and brought about lasting tension and escalating risk of conflicts between the two sides of the Taiwan Straits. In addition, the US Congress passed Hong Kong—related Act, Xinjiang—related Act and Tibet—related Act to directly interfere in China’s internal affairs. It also abolished the special tariff treatment for Hong Kong, seriously threatening China’s political, economic and financial interests.

After the outbreak of the COVID-19 epidemic, the United States was disturbed by social tear, general election and other factors, and was eager to return to work, but neglected to guard against and fight against the epidemic, resulting in an epidemic spreading. In order to shirk its responsibilities, the U.S. federal government wantonly poured blame on China, and some people took the opportunity to promote the use of “whole government” means to vilify, contain and suppress China from all aspects, and decouple from China. Since 2020, American military aircraft have entered the sea area around China more than 2000 times. Since July 4th, the United States has continuously sent two aircraft carrier fleets to cruise and conduct military exercises in the South China Sea, undermining regional peace and stability. On July 13, US Secretary of State Pompeo issued a so-called statement concerning the South China Sea, which violated the public commitment of the US government not to take a stand on the sovereignty of the South China Sea, and denied China’s claims in the South China Sea. On July 21, the US defied international law and the basic norms of international relations, compelling China to close its Consulate General in Houston before 4 pm on July 24. On July 31, the US State Department and the Treasury Department announced sanctions against Xinjiang Production and Construction Corps and its two officials, and Secretary of State Pompeo issued a statement criticizing China’s policy of governing Xinjiang. On the evening of August 5, the US reconnaissance plane approached less than 100 km away from the coast of Guangdong to spy on China. On August 6th, President Trump abandoned the basic principles of market economy and violated WTO rules, and signed an executive order under the pretext of unwarranted national security threats to prohibit any American individual or entity from making any transactions with TikTok and WeChat apps and their Chinese parent company after 45 days, so as to force Chinese owners to transfer TikTok to the US at a low price. Trump also claimed to charge an “intermediary fee” for the acquisition, which was “extremely brazen” (spokesperson of Russian Foreign Ministry). On the same day, the US President Working Group on Financial Markets released a report on the website of the Department of Finance, suggesting that the Securities and Exchange Commission should take measures to improve the listing standards on American exchanges and delist Chinese companies that failed to meet the audit requirements of the United States in January 2022, thus forcing US-listed Chinese shares to withdraw from the US stock market. On August 7, the U.S. Treasury announced that it would impose sanctions on 11 officials from mainland China and Hong Kong, including Carrie Lam Cheng Yuet-ngor, Chief Executive of the Hong Kong Special Administrative Region. On August 9, then Health and Human Services Secretary

Alex Azar led a delegation arrived at Taiwan, a visit to Taiwan by a US cabinet officer of highest rank since 1979.

In the medium and long term, the competitive trend and pressure from the United States will continue to exist in Sino-US relations. Under the impact of specific events, there will be increasing constraints on China's international environment from the United States. However, it should also be noted that the maximum pressure measures taken by the US government before these elections posed certain threats to China's development and security interests, but they also caused huge losses to the strategic credibility, diplomatic resources, security and economic interests of the United States, much greater than the so-called cost that the United States was willing to bear or pay to compete with China as a big country in the *Strategic Policy of the United States Strategic Approach to the People's Republic of China* issued on May 20, 2020. Some Americans are sparing no effort to "demonize" and "stigmatize" China, just trying to seek "legitimacy" for their unscrupulous sanctions and attacks on China, and then calling on "allies" to "carve up" China. However, TikTok, a Chinese multinational private enterprise that fully meets the regulatory requirements of the United States and the principles of market economy is extorted by the U.S. government through administrative means, which has fully exposed the hypocrisy of the Trump administration's so-called maintenance of security, fairness and freedom. This has not only disappointed Chinese people, enterprises and markets, but also made multinational enterprises of other countries feel deterred by the danger, such as Germany's Volkswagen and Allianz, the Netherlands' Shell and EXOR Group, the United Kingdom's BP, France's AXA Group, Japan's Toyota and Toshiba, and South Korea's Samsung, simply because they have outperformed the United States in some fields. More than 2400 years ago, Zhi Yao, the most powerful patriarch of the Zhi family in the State of Jin, led his soldiers and the armed forces of Han Hu and Wei Ju to besiege Jinyang, the last city in Zhao's territory, for a year but did not occupy it, and then he ordered to flood the city with water. The city was on the verge of destruction. When patrolling along with Han Hu and Wei Ju, Zhi Yao was beside himself with joy and said: "I know today that water can subjugate a state". Upon hearing these words, Han and Wei felt panic-stricken, and secretly elbowed each other, implying that their cities surrounded by rivers could also be the target of greedy and cruel Zhi Yao's flood attack. Soon after, the Han and Wei joined hands with Zhao in occupying Zhi Yao and carving up the latter's territory. Take history as a mirror, if the United States drifts away from fairness and justice and refuses to turn back, TikTok that quivered some American politicians may be the last straw to crush American hegemony.

3.2 Influences of Medium and Long-Term Internal and External Environment on China

In the foreseeable future, the influence of external environment on China will be more complicated. These influences include the direct influence of external factors

on China and indirect influence of external factors transmitted through overseas stakeholders in China, the reverberating influence of external response induced by China's own policy measures, the influence of interests, the influence of systems and concepts, the positive and beneficial influences, the negative and adverse influences, and uncertain influences of mixed advantages and disadvantages. It is therefore necessary to analyze and clarify influences of the external environment on China's reform, opening up, development, overseas interests and participation in global governance from a multi-dimensional perspective, so as to make the best use of the situation, seek advantages and avoid disadvantages, and actively reshape the external environment to the benefit of China.

3.2.1 Influences on Promoting Supply-Side Structural Reform

In the coming period, the intensified competition in international community will be, in the final analysis, the competition for institutional superiority of different countries, especially major powers, i.e. competition for whether domestic reform can be carried out in a more timely, thorough and successful manner. In this process, influences in two aspects should not be ignored for China's supply-side structural reform. On the one hand, new and more efficient supply-side factors need to grow as quickly as possible while the old inefficient supply-side redundancies need to be smoothly eliminated and reconstructed, and related institutional adjustments and concept changes need to provide driving force under a rivalrous external environment. On the other hand, when we carry out supply-side structural reform, we also need the whole society to maintain sufficient security and resilience, and we also need to take into full consideration the "reverberating effect" of external impact of reform measures, so as to reach a dynamic balance with the increasing external environmental pressure, and avoid social division, market disorder or economic collapse due to external pressure arising from reform panic.

3.2.2 Influences on Achieving High-Quality Development

First, the United States has impacted China's innovation and development through its "confinement" policy. The United States intends to continue its access to the benefits provided by China at the low end of the global value chain, and it also intends to avoid or prevent China from catching up in the hi-tech field by leveraging a new set of international rules to normalize or limit China's behaviors in the high-tech field with a new set of international rules, so as to confine China's position in the global value chain and maintain a constant and as large a gap as possible between

China and the United States at the level of science and technology.¹⁰ The tug-of-war between “confinement” and “anti-confinement” makes it more difficult for China to achieve “introduction, digestion, absorption and re-innovation” of external advanced technologies, and forces China to increase its independent research and development power and make progress in “original innovation” and “integrated innovation”.

Second, the tightening of external environment has a great impact on China’s open-door development. On the one hand, the “close-door” pressure of the United States and the west countries has impacted China’s inland-coastal linkage and east–west economic development. The adjustment of global division of labor network, especially in Asia, has an impact on the distribution of China’s production factors both at home and abroad. The fragmentation of international economic and trade rules caused by the impact of power politics on the international economic order makes it more difficult for China to implement institutional opening up based on rules and related institutions. On the other hand, this also urges China to make greater efforts in making good use of the anti-driving mechanism and enhancing the balance between two markets, so as to achieve more institutional innovations in support of the country’s high-quality development. China can effectively integrate and expand domestic and foreign commodity and capital markets through International Import Expo and foreign direct investment expo, and drive other countries to create a super-large-scale common open development space supported by China’s huge product and factor markets.

3.2.3 Influences on Safeguarding and Shaping the Security of Overseas Interests

First, influences of geopolitical hot issues on China’s overseas energy resources and strategic channel security. Second, threats posed by terrorism and religious extremism to the security and interests of Chinese overseas institutions, personnel and assets. Third, threats posed by weaponization of financial hegemony and abuse of global financial infrastructure to China’s overseas fund security, capital security, offshore financial security and cross-border transaction security. Lastly, opportunities and challenges brought about by the rising expectations of developing countries for China to fulfill its international responsibilities. It should also be noted that the prominent problems including geopolitical hot issues and active terrorist extremist forces may have a negative impact on the safety of China’s overseas energy resources, strategic channels and institutional personnel assets. However, China’s ability to actively safeguard and shape the security of overseas interests will be strengthened if we can make a forward-looking layout, constructively intervene in relevant regional hotspots, and join hands with other members of the international community to establish an effective mechanism to curb terrorist extremist forces. There indeed exists the risk of weaponizing financial hegemony and abusing global financial infrastructure, but if

¹⁰ Zhang et al. (2018).

China can unite with other countries to properly deal with this risk, it may create favorable conditions for Renminbi internationalization and for the establishment of a more just and rational international monetary system. Effective management and reasonable response to the expectations of developing countries for China, and appropriate increase in the supply of public goods will help China gain more international support in maintaining and shaping the security of its overseas interests.

3.2.4 Influences on China's Participation in and Leadership over International Economic Governance

There are four possible adverse effects on China's participation in and leadership over international economic governance. First, developed countries are unwilling to cede power to emerging economies such as China in the existing international economic governance system, so as to prevent them from enhancing their influence in global governance. Second, developed economies launch attacks on China from outside and inside, and rejects or opposes new institutions and mechanisms advocated by China, or constrains its development. Third, the US-led west has excluded China from the process of reshaping international economic rules, and formulated new international economic rules to curb China's development. Fourth, they have chosen to compete with China in cooperation with developing countries, and raised China's costs for building and maintaining relevant international economic governance mechanisms. At the same time, the growth and decline of the international power pattern and the call of the international community to speed up reform and reconstruction of the international governance system also provide an opportunity for China to lead and promote the development of this system in a more fair and rational direction. First of all, the situation in which the economic growth rate of developed countries is obviously lower than that of emerging and developing countries will continue for a long time. The transfer of the discourse power for governance is the general trend, depending on the evolution of China and other emerging and developing countries. Then, the international cooperation mechanisms such as the AIIB and the "Belt and Road" Initiative advocated by China have won support and response from quite a few countries, and are expected to create more experience in follow-up operation and become the common intellectual wealth guiding the reform and reconstruction of human international economic governance. Finally, China will adhere to the correct concept of justice and interests, and keep being honest with emerging and developing countries, so most of them will help China lead the reform of international economic governance.

3.3 Strategic Choice in Response to the Changes of External Environment

At present, profound changes have taken place in the international environment, such as the disruptive effects produced in the new round of scientific and technological revolution, the growing competition and friction among great powers, the rising risk of China's external environment, and the changing global governance system. In the medium and long term, China is faced with a severe external environment and a period of strategic opportunities for initiative actions. So China is more capable and better conditioned to respond to and even lead the shaping of China's external environment from domestic, bilateral and multilateral levels. In next few years, China should further deepen its reform at home, and promote high-quality development and high-level opening up. For this purpose, we will promote major country diplomacy with Chinese characteristics, expand common interests with other countries, form an all-round, multi-level and three-dimensional diplomatic layout, further enhance China's international influence, appeal and shaping power, create better external conditions for our own development, and make new and significant contributions to world peace and development.

3.3.1 Transforming External Pressure into the Driving Force for Reform and Promoting Modernization of the National Governance System and Governance Capacity

Recently, China's external environment has changed significantly. The original world political and economic order has been disintegrated while the "new world trade order" is still being reconstructed. The uncertainty about China's external economic risks has suddenly increased, bringing new issues for economic and social development. Certainly, China will face a more complicated and severe external environment, so we should maintain strategic strength, insist on giving priority to internal affairs, hedge external uncertainties with the certainty of reform and opening-up and self-development, and transform external pressure into the driving force for reform and opening-up. Current problems encountered by China's economy are more structural problems, so it is necessary to take targeted measures, address structural problems with structural policies, and advance along the high-quality development route.

In addition, with the driving force for deepening reform and opening-up, we will continue to promote social organizations and governance systems to adapt to the development requirements of advanced productive forces, urge market to play its decisive role in resource allocation, encourage government to play its role, stimulate the vitality and creativity of market players, improve the business environment, and realize the development momentum from factor-driven to innovation-driven, and the development form from scale enlargement to high-quality development. Under

external pressure, China should speed up construction of a modern economic system and give emphasis on improving quality, structure and living standards. In practice, we will uphold and improve the socialist system with Chinese characteristics and modernize the state governance system and capacity, improve the Party's ability to lead the people in managing economic and social affairs, make the best of our institutional advantages and transform institutional advantages into the efficiency in managing economic and social affairs.

3.3.2 Guiding Other Countries' Opening Up To Facilitate an Open World Economy and Achieve Global Good Governance

The 70-year development course of the People's Republic of China has fully shown that China cannot develop in isolation from the world, and the world also needs China for its development. China has realized self-development through opening up to the outside world, but it does not gain the benefits of opening to the outside world at the expense of the interests of other countries. At the same time, China's development does not mean it will seek for hegemony or winner-take-all, but pursue share benefits, achieve win-win goals and promote the building of a community with a shared future for mankind. The 19th National Congress of the Communist Party of China proposed that China should open wider and actively participate in and promote the process of economic globalization, develop a higher-level open economy, and promote the formation of a new pattern of opening up in all respects. We will focus on the construction of the "Belt and Road" Initiative, insist on paying equal attention to "bringing in" and "going out", follow the principle of co-operation, co-construction and sharing, strengthen the open cooperation of innovation ability, and constantly promote the formation of a pattern of linkage between the mainland and overseas and mutual assistance between east and west.

As the socialism with Chinese characteristics enters a new era and profound changes have taken place in the international environment, China will further deepen reform and opening-up around high-quality and sustainable development. China has basically completed the role transition from passive adaptation to active involvement. At the current time of "ascending east and descending west" and when the West-dominated governance system and international order need to be restructured, China will play the role as an advocator, contributor and leader over such restructuring. This of course necessitates China's wider opening so as to lead and promote mutual opening and common opening of all countries in the world.

We should stand united to promote trade and investment liberalization and facilitation, and make economic globalization more open, inclusive, and balanced so that its benefits are shared by all. China will gain experience and learn lessons from building the pilot free trade zones and special zones in a timely manner, promote international dissemination of relevant experiences and alignment of domestic rules

with international rules, form and expand the pace of international open cooperation with high governance standards in which China is a main participant. China is committed to promoting world peace, contributing to global development and upholding the international order.

3.3.3 Building the System and Capacity of Scientific and Technological Innovation to Improve the Overall Efficiency of the Innovation System

Building the system and capacity of scientific and technological innovation, enhancing the scientific and technological governance system, and heightening the capacity of the scientific and technological governance are the powerful thruster of China's scientific and technological innovation, an essential toolbox for building an innovative country with strength in science and technology, and an inevitable requirement for modernizing national governance system and capacity.

To build the scientific and technological innovation system and capacity, we must increase government's investment in basic original research, encourage enterprises to reinforce R&D investment and innovation, and guarantee employment and entrepreneurship of global innovative talents in China. We will endeavor to achieve major breakthroughs in key core technologies, continuously enhance scientific and technological strength and innovation capability, and occupy an important position in the world's high-tech field.

Secondly, we need to improve national innovation system, further deepen reform of the science and technology system, and complete the change from "point-by-point breakthrough" to "system innovation". The China-US science and technology game has exposed the lack of system innovation ability in China. We will attach more emphasis to basic capacity than to "technological application". Technological development has its inherent laws. New technologies are created on the ground of solid basic capability. To a large extent, breakthroughs in key core technologies depend on the level of basic research. We will lay a solid foundation and make forward-looking arrangement and systematic planning in key areas related to national security and long-term development, so as to seize the high ground of future science and technology. We also need to give more emphasis to "inclusive environment" than to "picking winners". We will stimulate the creativity of scientific research institutes and enterprises and build an "innovation-friendly" policy and institutional environment for more enterprises to participate in fair competition. In addition, some outstanding problems such as repeated resource allocation, scattered scientific research strength and unclear functional orientation of innovation subjects need to be addressed so as to improve the overall efficiency of the innovation system.

Thirdly, we will continue to expand international scientific and technological cooperation. China should actively weaken and divide the intentions of the US-led

West to contain China, strengthen scientific and technological cooperation with European Union, Israel, Japan and South Korea, and vigorously promote scientific and technological cooperation, technical exchanges and enterprise mergers in areas with characteristics and advantages. At the same time, we will encourage the development of more “hidden champion” enterprises,¹¹ expand the procurement channels of key element devices, and utilize capital strength and market capacity to gain more discourse power in the industrial chain.

Fourth, we will actively strive for the power of discourse in international standards and trade associations. China has obtained fewer key positions and weaker power of discourse in the International Standard Organization than developed countries in Europe and America. Take Huawei as an example. Since Huawei was added to the “Entity List” by the United States, more than 60 international standards and industrial organizations have suspended its membership or restricted its rights and interests, resulting in the risk that technical standards will not be available to Huawei. We will promote cooperation between academic institutions and industrial entities, and make the best of non-governmental forces in China’s computer industry in an effort to strengthen our power of discourse in international standards industry organizations with the help of huge domestic market. We will continue to protect intellectual property rights and fully mobilize original investment of domestic enterprises and the enthusiasm to participate in international standards. We will continue to strengthen investment in basic research education, train and reserve international talents suitable for standards and industrial organizations.

Finally, we will strengthen safety in the field of science and technology. The science and technology security has become an important part of national security. We will strengthen the overall planning and organization of major scientific and technological security tasks, and build national strategic scientific and technological security forces. To speed up the building of early warning and monitoring system for scientific and technological security, we will accelerate relevant legislation for artificial intelligence, gene editing, medical diagnosis, automatic driving, unmanned aerial vehicles and service robots.

3.3.4 Actively Improving the Structure of Global Partnerships

To promote the building of a community with shared future for mankind, we must actively develop global partnerships and pull together all countries’ interests. We will rely on neighboring countries and major countries for China’s development, take multilateral measures to deepen pragmatic cooperation and strengthen political mutual trust. We will consolidate our social foundation, improve institutions and mechanisms, and develop friendly cooperation with other countries. We will improve China’s all-round, multi-level and three-dimensional diplomatic layout,

¹¹ It refers to small and medium-sized enterprises that occupy the vast majority of market share in the global market but are not generally known to the public.

build a “circle of friends” covering the whole world, and join hands with people of all countries to create a better future.

Following the principle of “developing partnership instead of alliance” with other countries, we aim to build a framework of relations between major countries that promotes overall stability, balanced development and healthy competition. The Sino-US relation is one of the most important bilateral relations. As the top two economies in the world, China and the United States should assume special and important responsibilities in maintaining world peace and stability and in promoting global development and prosperity. Developing long-term and stable Sino-US relations serves the fundamental interests of all people of two countries, and is also widely expected by the international community. Although Sino-US relations have undergone qualitative changes, and the United States has increased hostility and suppression against China, we will endeavor to maintain the principle of mutual benefit and mutual respect with the United States while conforming to principles and national interests, so as to improve Sino-US relations in pursuit of stable development of bilateral relations. We will focus on China-EU relations from a strategic perspective, endeavor to develop partnership with the EU on peace, growth, reform and civilization, enhance global influence of China-EU comprehensive strategic partnership, promote in-depth development of world multipolarization and economic globalization, and make greater contributions to world development and prosperity. China and Russia are each other’s most important strategic cooperation partners. The two countries will consolidate strategic and political mutual trust and enhance mutual support for issues involving each other’s core interests, expand pragmatic cooperation and deepen humanities exchanges so as to build close coordination and cooperation in international and regional affairs to safeguard world peace, security and stability. We will also comprehensively deepen the relationship between BRICS partners and emerging economies, devote ourselves to promoting pragmatic economic cooperation, strengthen the coordination of development strategies, promote international order in a more just and rational direction, and facilitate people-to-people exchanges.

In addition, we will forge sound relations with neighboring countries through the principle of amity, sincerity, mutual benefit and inclusiveness. We will properly handle and develop relations with Japan, India and other countries, and provide impetus in international relations. We are obligated to promote peace, stability and development in neighboring countries, deepen mutually beneficial cooperation and interconnection, and jointly build the community of shared future with neighboring destiny. With the principle of amity and sincerity, China upholds greater good and pursues shared interests with developing countries. A vast number of developing countries are fellow travelers along China’s peaceful development path. Despite great development achievements, China remains a developing country. We will earnestly strengthen unity and cooperation with developing countries, and closely link China’s development to the common development of developing countries.

3.3.5 Expanding and Upgrading the Space for the “Belt and Road Initiative” Cooperation, and Promoting Renminbi Internationalization

The “Belt and Road” Initiative is a grand idea and China’s solution put forward by President Xi Jinping after profound reflections on the future and destiny of mankind and the development trend of China and the world. The Initiative is designed to promote global common prosperity and build a community with shared future for mankind, which opens up a new realm for China to participate in and lead global open cooperation. Significant achievements have been made in building the “Belt and Road Initiative”. In the six years after the initiative was proposed, the trade volume between China and countries along the Belt and Road exceeded 6 trillion US dollars, and China’s investment in countries along the Belt and Road reached 90 billion US dollars. China has carried out large-scale international capacity cooperation in more than 30 countries and built more than 90 overseas industrial parks in countries along the Belt and Road. In the future, China will continue to create a new model of international cooperation based on international cooperation concept of mutual respect, fairness, justice and win–win cooperation along the Belt and Road, establish an innovative cooperation mechanism to promote sustainable development, and endeavor to improve the institutionalized level of cooperation.

Specifically, we will stay focused on the investment and financing needs associated with infrastructure construction to promote Renminbi internationalization. The capital demand for infrastructure construction along the Belt and Road and related cross-border M&A activities have provided an important opportunity for financial cooperation. Deepening financial cooperation between China and countries along the route, promoting construction of the investment and financing system and credit system, and expanding the scale of bilateral currency swap among countries along the route have created conditions for steadily promoting Renminbi internationalization. We will seize the strategic opportunity of RMB internationalization brought by the “Belt and Road” Initiative, expand the depth and freedom of China’s financial strategy, and contribute to a more stable multipolar international monetary system.

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Chapter 4

Strategic Priorities of Medium and Long-Term Economic and Social Development



Xiaojing Zhang, Cheng Li, and Quheng Deng

Facing the great transformations once in a century and the changes in major social contradictions in China, China has treated the principle of “innovation, openness, distribution and rule of law” as strategic priorities for its medium and long-term economic and social development, so as to enhance its core competitiveness based on “innovation” and “openness”, modernize national governance based on “distribution” and “rule of law”, and gain a longer period of strategic opportunities for its future development.

Internationally, the new industrial revolution, backlash against globalization trend, populism, global governance dilemma, and Sino-US economic and trade frictions will continue. In particular, the deliberate suppression by the United States has caused problems in Sino-US relations, the ballast stone of foreign relations, and the external environment tends to deteriorate. As far as China is concerned: on the one hand, the transformation of major social contradictions has raised new requirements for high-quality development; on the other hand, the slowdown of economic growth under the new normal, the superposition of cyclical factors and the accumulation of long-term institutional and structural problems have constituted main development risks in the future. In response to the worsening external environment, the growing domestic risks and the people’s new desire for a better life, the strategic priorities of China’s future development have touched upon “innovation, openness, distribution and rule of law”, enhancing our core competitiveness, modernizing national governance, and achieving high-quality development in the new era. Innovation is a most effective means to enhance our core competitiveness. It is conducive to transforming growth drivers and coping with the risk of technological decoupling under the new normal. Openness is the inherent requirement of making the best of the important strategic

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opportunity period of China's development under the great global changes. We have sped up the formation of a new development pattern in which domestic economic circulation plays a leading role while international economic circulation remains its extension and supplement, and cultivate new advantages of China's participation in international cooperation and competition under the new situation. Distribution means adjusting the distribution pattern of national income. We have expanded the scale of middle-income groups, and improve the basic economic system. On the one hand, consumption potential has been unleashed to form a strong domestic market. On the other hand, efforts have been exerted to avoid the populist thoughts brought about by excessive income gap, and ensure middle-income groups play their role in social stability and social harmony. The rule of law is a positive response to the people's desire for a better life in terms of democracy, rule of law, fairness and justice in the new era, and an institutional guarantee for "market to play its decisive role and for the government to better play its role". The rule of law is an indispensable aspect of state governance modernization, and the key to transforming China's institutional advantages into the efficiency of state governance.

It is noted that the outbreak of COVID-19 in early 2020 not only changed the basic situation of world economic growth in the short term, but also had a noticeable impact on promoting new business forms, reshaping growth momentum and improving public governance in the medium and long term. In particular, the epidemic's impact on global value chain and supply chain revealed that globalization (dependence) has been embedded in the global production division system. With this reflection, countries may no longer adhere to one-dimensional efficiency standards in participating in the division of labor in global value chains, but consider the stability, security and flexibility of value chains. These reflections and actions will have a very direct and significant impact on China's medium and long-term development, especially on innovation and opening up.

4.1 Innovative Development After "Kicking Away the Ladder"

German economist Friedrich List once put forward the famous "ladder theory", comparing trade protection to a "ladder" for ascending a height so as to analyze the change of trade policy in the first-mover countries, such as the United Kingdom. He wrote, "This was a very common ingenuity. When a person reaches the peak, he will kick away the ladder he uses as he gradually climbs up, so as not to be followed by others".¹ If the "ladder theory" is used to understand the motivation behind the current economic and trade conflict and technological decoupling between China and the United States, it is also very appropriate. The United States, which has reached the peak, will "kick away the ladder". This means that China's future

¹ List (1961).

innovative development may encounter challenges after the United States “kicks away the ladder”. China needs to rely more on its own strength.

4.1.1 Innovative Development in the New Round of Industrial Revolution

From the 1980s, the information technology based on personal computer (PC) began to boom as the Internet was widely used. In the late 1990s, there resurged a new generation of information technology based on personal mobile terminals (mobile phones, tablet computers, etc.), which gave birth to new technology/industry fields such as big data, artificial intelligence and digital manufacturing, and was widely combined with new business models and new formats such as e-commerce platform, sharing economy, e-banking, mobile payment, e-sports and live broadcast. This constitutes the core driving force of the new round of industrial revolution. It is noted that China, as a later-mover, had been in a passive position of running after and catching up with advanced economies in previous industrial revolutions. As far as this industrial revolution is concerned, the gap between China and the first-mover countries has narrowed. With complete and huge manufacturing industry, market scale advantages and strong national capacity, China is on the same starting line as the frontier countries in some fields.

In this context, Chinese policy makers have attached great importance in recent years to the leading role of innovation in economic growth, industrial upgrading, reshaping the value chain and enhancing international competitiveness.

The Third Plenary Session of the Eighteenth Central Committee of the Communist Party of China emphasized “making China an innovative country”, and put forward some work priorities such as “deepening reform of the management system for science and technology”, “building a national innovation system”, and “strengthen the application and protection of intellectual property rights (IPR), and improving the technological innovation incentive mechanism”.² In order to further implement the concept of innovative development, in May 2016, the CPC Central Committee and the State Council issued the *Outline of the National Strategy of Innovation-Driven Development*, which put forward the top-level design and overall deployment of innovation-driven development in China. This programmatic document has also depicted the three-step strategic goal of building China’s strength in science and technology in the mid-twenty-first century. Step 1: China will enter the ranks of innovative countries by 2020 and basically build a national innovation system with Chinese characteristics. Step 2: China will be in the forefront of innovative countries by 2030, with fundamental transformation of its development drivers, and a higher level of economic and social development and international competitiveness. Step 3: China will become a major country that has much strength in sci-tech innovation

² See *Decision of the Central Committee of the Communist Party of China on Several Major Issues Concerning Comprehensively Deepening Reform*, People’s Publishing House, 2013.

and a major scientific center and innovation highland in the world by 2050. In the report of the 19th National Congress of the Communist Party of China, the importance of innovation has been highlighted unprecedentedly. The “innovation-driven development strategy” has not only been clearly defined as a national strategy, but also become the key to establishing a modern economic system and achieving high-quality development. In this regard, President Xi Jinping pointed out that “we will accelerate the building of an innovative country. Innovation is the primary engine of development and the strategic support for building a modern economic system”.³ At the Fourth Plenary Session of the 19th CPC Central Committee held in October 2019, the central government put forward for the first time that “data” should be used as a production factor and participate in distribution according to contribution, which undoubtedly provided important incentives and institutional guarantees for related sci-tech innovation and industrial development.

4.1.2 Achievements and Shortcomings of Innovative Development

First of all, since the 18th National Congress of the Communist Party of China, China has made remarkable progress in innovative development, and its role in the international industrial value chain is also constantly improving. For example, as an important measure of labor productivity, the per capita output of employees in China is approaching the world level. In 1978, this indicator in China was only 2.5% of that in the United States, exceeded 10% for the first time in 2006, and reached more than 1/4 of that in the United States by 2018. This has shown the improved quality and value of China’s labor force, which of course means the banishment of China’s traditional advantages of “simple labor and low cost”. Furthermore, it also suggests that the position and role of China’s participation in international division of labor need to be deeply adjusted, and the new comparative advantages need to be fostered urgently. Otherwise, China may fall into a dilemma and be alienated from the “center-periphery” framework of international division of labor, which is one of the core meanings of the “middle-income trap” that has attracted much attention (Fig. 4.1).

Secondly, in recent years, China has made steady progress in the core source of innovation and basic research of natural science, and is even moving closer to the United States that represents the forefront of the world. For example, according to the nature index compiled by the top international academic journal *Nature*,⁴ China’s scientific research has made remarkable progress between 2015 and 2018: China’s

³ Xi (2017).

⁴ The index is mainly based on the number of articles published in top natural science journals for physics, chemistry, biology, earth and environment.

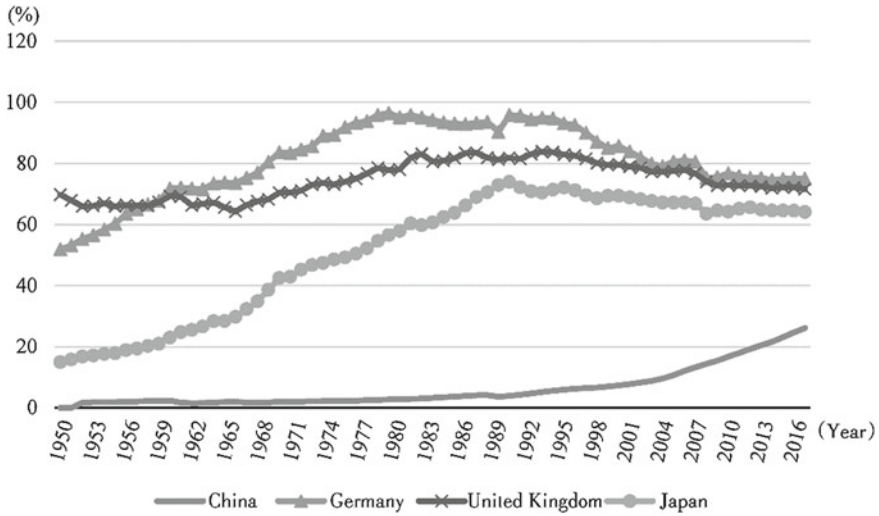


Fig. 4.1 Relative values of per capita output of practitioners (100% for the U.S.). *Source* The Conference Board’s Total Economy Database

index increased from 7680 to 11,026, and its relative value to the US index increased from 37 to 56%; in addition, China expanded its advantages over Germany, United Kingdom, Japan, France and other major countries with scientific research center, and the absolute amount even approached the sum of these four countries (13,038) Of course, this index also indicates that for China, as a country with the largest number of R&D personnel, there is still much room for improvement in basic scientific research (Fig. 4.2).

Finally, from the perspective of the value/technical content of international trade, China has made outstanding progress in recent years. For example, according to data of export local added value provided by OECD (see Fig. 4.3), the proportion of added value created locally by China’s total export trade was significantly lower than that of major developed economies such as the United States, Japan and Germany. However, thanks to industrial upgrading and export structure transformation, China has been moving to the high end of the international industrial value chain, and the corresponding indicators have also been rising continuously from 73.7% in 2005 to 79.2% in 2012, and then further to 83.4% in 2016. For this indicator alone, China has narrowed its gap with the United States and Japan, and even surpassed Germany. In addition, according to data of the National Bureau of Statistics of China, from 2013 to 2018, the proportion of “general trade” with higher added value in China’s merchandise export increased from 49 to 56%, and the proportion of “processing trade” decreased accordingly. This change in trade structure, together with the above-mentioned local added value data, reflects that China is constantly moving to the high end of the international industrial value chain. From the perspective of the technical content of trade, the proportion of China’s high-tech products in all manufacturing

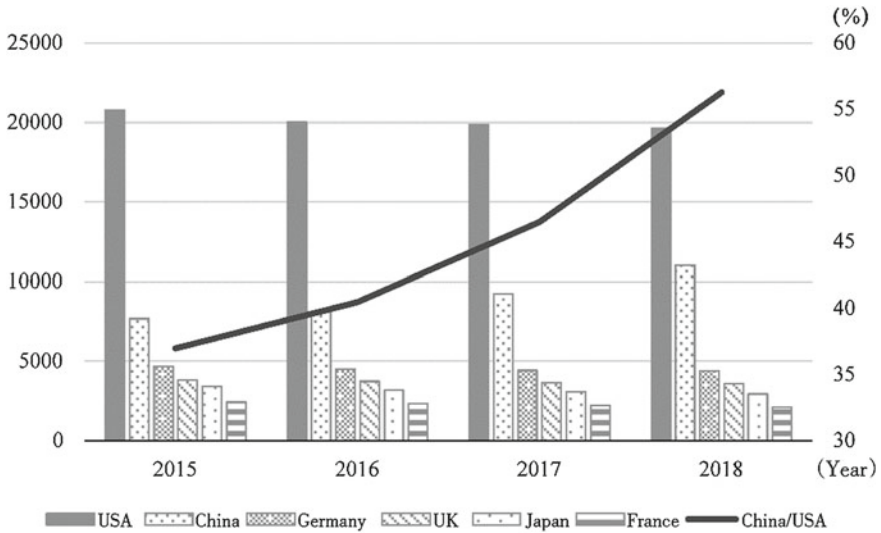


Fig. 4.2 Nature indices of major economies (2015–2018). *Note* The Nature index is represented by the left axis, and the ratio of China and the United States index is represented by the right axis. *Source* Nature Index

exports in recent years has outperformed that of major economies in the world such as the United States, Japan, Germany and India in the same period. According to WDI statistics of the World Bank, in 2017, this indicator reached 31% in China, while it was only 20% in the United States, 18 and 16% in Japan and Germany respectively, and only 7% in India. Thus, it is clear that this is the performance of China’s domestic industrial upgrading in the international division of labor.

Although China’s innovative development has made remarkable progress in recent years, we should be soberly aware that innovative development remains one of the shortcomings of China’s high-quality development. First, China’s basic scientific research is faced with some major problems, including: Less attention paid by enterprises to basic research, few achievements in major original technologies, and inadequate capability of underlying basic technology and basic process. Second, there are bottlenecks in core technologies. There are bottlenecks hampering development of industrial machine tools, high-end chips, basic software and hardware, development platforms, basic algorithms, basic components and basic materials. The hard situation that core technologies in key areas are under the control of advanced economies has not been fundamentally changed. This has been fully manifested in this round of Sino-US trade frictions. Third, there are insufficient demands for China’s industry-specific technology R&D, the inadequacy to plan the opening and cooperation of science and technology from a global perspective, and the weak capability to transform technological achievements. Fourth, China’s science and technology management system cannot fully meet the need of building a world power in science and technology. Many important decisions on reform of the science and technology system have not yet

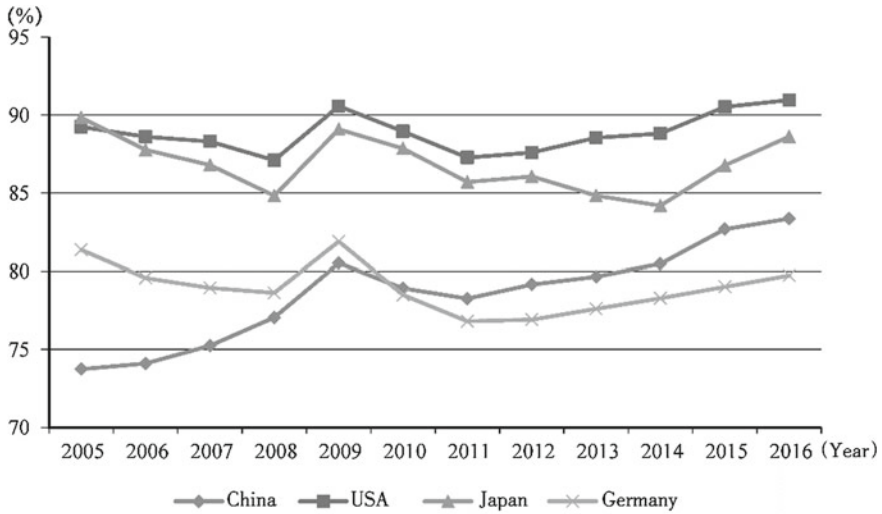


Fig. 4.3 Proportion of local added value in exports of major economies. *Source* OECD Trade in Value Added Database (TIVA database)

been implemented. The overall linkage between science and technology innovation policies and economic and industrial policies is not strong; and the mechanism and environment for the whole society to encourage innovation and inclusive innovation need to be optimized.

4.1.3 Policy Priorities for Innovative Development

Based on new internal and external conditions, China’s effort and policy priorities for comprehensively promoting innovative development include the following five interrelated contents.

- (1) Avoiding the “decoupling” between China and the United States, and actively responding to the potential technical “decoupling” risks

The benefits of China’s opening or globalization are due to China’s learning from developed countries so as to give full play to its later-mover advantages for catch-up with advanced economies. According to Fig. 4.4, China’s import of technologies reached 29 billion US dollars in 2017, and export was only 5 billion US dollars, with an export/import ratio of 0.2, while the technology export/import ratios of South Korea, Germany, Japan and the United States reached 1.8, 1.6, 2.0 and 2.5 respectively in the same period. This reflects from one side that China’s international dependence on import of technologies remains very high. Therefore, we will try our best to avoid (technical) “decoupling” between China and the United States. From a rational and objective point of view, China has no intention to challenge the United States, and nor

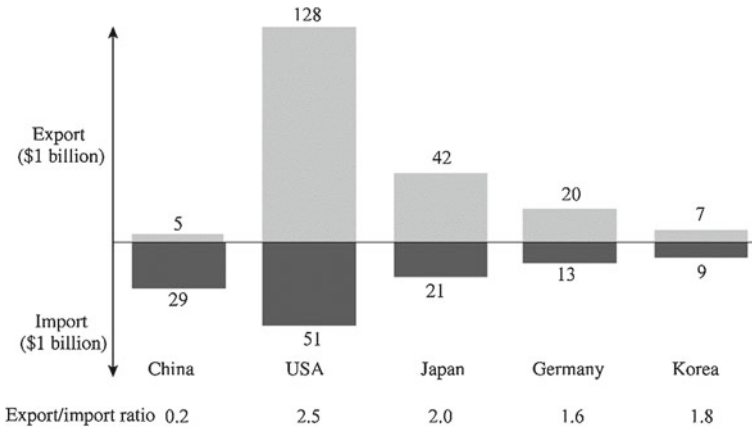


Fig. 4.4 International comparison of China's import and export of technologies (2017). *Source* McKinsey Global Institute (MGI) (2019)

does it want to replace it. The United States can't change China, let alone stop China's development. From a global perspective and a long-term perspective, there are more areas in which China and the United States can and should cooperate than at any time in history. Therefore, the principles of avoiding "decoupling" include: (1) mutual respect and expanding common ground while shelving differences, (2) managing and controlling differences, and avoiding confrontations, and (3) expanding interests, and focusing on cooperation. In practice, the two countries should be given greater freedom in formulating industrial policies, scientific and technological systems and social standards, and allowed to use precise policy measures (including tariff and non-tariff measures) to protect their choices in industrial, technological and social policies, while avoiding unnecessary or asymmetric burdens on trading partners.

In order to cope with the potential risk of technological decoupling between China and the United States, China will promote independent innovation, maintain the integrity of industrial chain and value chain, and guard against being squeezed out of the global value chain by the United States.

Internationally, we will develop regional value chains. Faced with the prospect of "decoupling" between the US-led west and China, efforts will be made to optimize institutional systems by building a national innovation system, improving intellectual property protection, and improving R&D incentives and flexibility of scientific research institutions, so as to ensure the leading role of innovation, improve the autonomy and controllability of core technologies in key areas, and prevent foreign companies' supply disruption. At the same time, we will make good use of our own scale advantages and the comparative advantages and markets of other countries and regions (especially those along the Belt and Road) to promote extension and upgrading of the industrial value chain, build a regional value chain, and finally promote a market network, division of labor system and technical standard system that are relatively independent of the United States. It is noted that though there is

a small possibility of complete “decoupling” between China and the United States under the background of globalization, it is obviously a lose-lose or even a multi-lose result, so we must be fully prepared for such decoupling and plan ahead. In the long run, only by making sufficient preparations can we avoid “decoupling” and the interruption of global industrial value chain.

Domestically, the innovation focus of national economic and technological development zones should shift from region to industrial value chain. In recent years, as the main carrier of open innovation, more than 200 state-level economic and technological development zones have played an immeasurable positive role in open innovation, technological innovation and institutional innovation. However, there have also emerged some deep contradictions. Among them, in more than 200 state-level economic development zones in various places, there are problems such as fragmentation, low-level redundant construction and low efficiency of resource utilization, which led to insignificant promotion of economic development zones on the whole industrial value chain because these zones laid too much stress on their contributions to local economy. In fact, the decision-makers have also issued a number of policy programs in recent years, which aimed at correcting relevant defects and adapting to the changing of the situation. In May 2019, the State Council issued the *Opinions on Promoting Innovation and Upgrading of National Economic and Technological Development Zones and Building a New Highland of Reform and Opening-up*, which emphasized that the construction of economic development zones should be driven by overall innovation and open upgrading. Based on this policy idea, the development of economic development zone will continue to strengthen top-level design and overall coordination, break the compartmentalization of local departments, and make economic development zone more oriented to the industrial chain than to the region. Only in this way can we give full play to its functions of promoting innovation and industrial upgrading, and make better use of the advantages of the vast domestic market and complete industrial system, which is particularly important under the background of economic transformation and upgrading and intensified external competition.

(2) Exploring a new model of the national sci-tech innovation system in the new era

The national sci-tech innovation system has made great contributions to China’s scientific and technological development and progress, such as missiles, nuclear bombs, and the artificial satellite as well as follow-up aerospace project. However, under the new international and domestic environment, it is necessary for China to explore a new model of the national sci-tech innovation system. The Third Plenary Session of the Eighteenth Central Committee of the Communist Party of China put forward the important judgment that “we will ensure the market play a decisive role in resource allocation and give better play to the role of government”, which pointed out the fundamental way for innovative development in the new era.

Under the socialist market economic system, the traditional “national system” is incompatible with the needs of the rapid development of science and technology at present. Too much emphasis placed on government planning and the will of the

state will often lead to the insensitiveness to market. It is difficult to correct the deviation after setting goals or topics, and it ignores the uncertainty in scientific research, especially in basic research. By discarding and surpassing the traditional national system which overemphasized the role of government and neglected other innovative elements such as market, we will build a new national system of sci-tech innovation from the perspective of balanced governance to realize the transformation from government-led to multi-participation national system. With focus on the balance between government planning and scientific independence, we will ensure the balance between government role and market power, strike the balance between organized innovation and self-organized innovation, and combine government promotion and market drive with the active role of scientific and technological circles.⁵

First, the government can give full play to the advantages of top-level design, platform establishment, mechanism coordination and mobilizing resources for major undertakings. Building a new national system of sci-tech innovation needs a series of mechanisms that constitute a institutional framework, including: a national high-level macro-decision-making mechanism for science and technology, a cross-disciplinary horizontal coordination mechanism, a mechanism for scientists to participate in the decision-making process, and a joint research mechanism for government, industry, university and research. We also need to improve the contract constraint mechanism, project responsibility mechanism and R&D organization mechanism, and strengthen the cost control mechanism, performance evaluation mechanism, financing mechanism, government procurement system, market signal policy incentive mechanism and risk prevention mechanism. Under the guidance of this framework, when faced with the complicated situation at home and abroad, on the one hand, we will fully mobilize the innovation enthusiasm and capability of market players, give full play to the special role of government and state-owned enterprises in integrating and allocating resources, and stay focused on tackling key problems and making key breakthroughs in innovation fields, which are difficult for general enterprises to get involved in, such as national security, major core technologies and key infrastructure. In addition, according to different objects, we will ensure the guiding and leading role of government investment funds in the innovation process. In the whole process of government's participation in innovation, we will emphasize pre-operational scientific and democratic decision-making, as well as operational and post-operational oversight and accountability, so as to ensure "pooling resources for major breakthroughs". It is thus noted that a complete national system of sci-tech innovation will not be formed until concerted efforts are made between government and market, between military and people, between public ownership economy and other ownership economies.

Second, the joint efforts between government and market are highlighted. Venture capital is the trailblazer of technological innovation. However, venture capital cannot be separated from government's support. Venture capital often enters market after government has invested and assumed all uncertainties and high risks of innovation.

⁵ Tao and Kaiming (2018).

Mazzucato argues that governments of developed economies should and can play a very active role in innovation, and that it is industrial policy rather than free markets that has promoted innovation.⁶ As a venture capitalist, government has bridged the gap between public investment and private investment by repairing market (make up for the shortage of market) and actively creating shaping market. This has actually subverted some dogmas of neoclassical economics. Studies on IT revolution, biotechnology industry and nanotechnology in the United States show that most private venture capital is concentrated in the intermediate stage of venture capital, while in the early stage it is financed by the American Small Business Innovation Research. The main reason for this situation is that the early stage of radical innovation features capital-intensive, low income expectation and long-term persistence in venture capital, while private venture capital is not interested in it, so the government has to shoulder the responsibility for this risk. If the “first driving force” of venture capital entering an uncertain field can be provided by government, then the subsequent innovation process is mainly driven by market. Different forms of coordination between government and market are needed in different stages of the whole life cycle of innovation.

(3) Ensuring enterprises play a leading role in innovation

Innovation is essentially a market phenomenon, and market competition is the touchstone to identify the value of innovation. If the process innovation supported by government may be effective in the stage of imitation and catch-up, then independent innovation is full of uncertainty in a stage close to the forefront of technology. At this time, it is necessary to rely on market mechanism to spread risks, and entrepreneurs should also obtain monopoly profits through market mechanism. Therefore, the role of market mechanism is an institutional premise for entrepreneurs to realize innovation.

We will establish an innovative factor allocation mechanism that is truly “market-oriented and market-dependent” through reform. We will encourage free flow and flexible combination of all innovation factors, including capital, talents and technology, and get rid of various unreasonable institutional obstacles, such as financial control, (industry) access restrictions, household registration system, personnel files, etc. We will minimize government’s intervention in competitive fields, cancel all kinds of unreasonable administrative approvals and permits, reduce the cost of starting a business, enhance the tolerance for entrepreneurs’ entrepreneurial failure, and fully release the competitive vitality of micro-economic entities.

In enterprise innovation, more support will be given to private enterprises. According to data in Fig. 4.5, foreign-funded enterprises are at the highest level, followed by private enterprises and state-owned enterprises in terms of the number of patents generated per 100 million yuan of R&D investment of enterprises of different ownership (and sizes). State-owned enterprises in monopolized industries often have insufficient innovation motivation, so we can consider liberalizing market access and allowing private capital to enter these industries to compete fairly with them. This will

⁶ Mazzucato (2013).

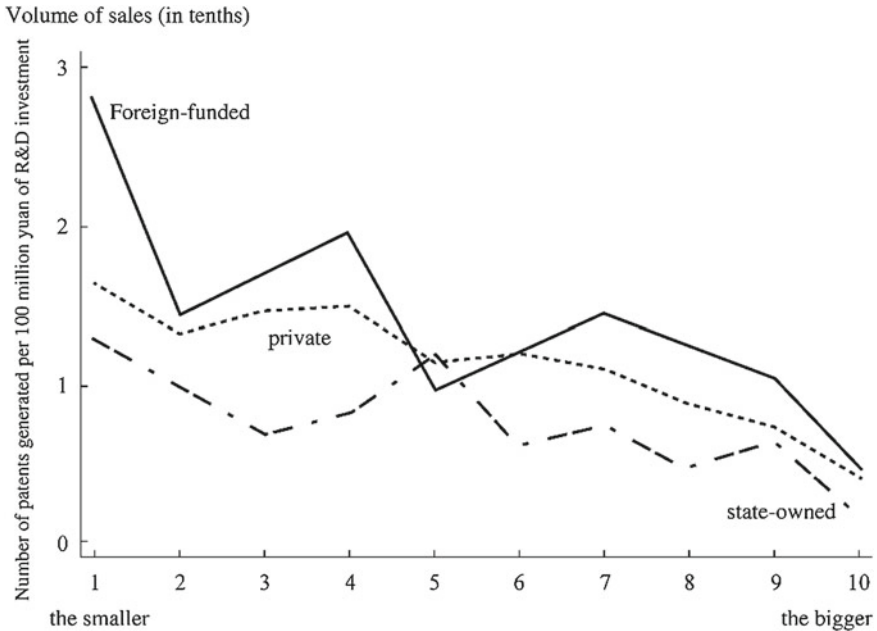


Fig. 4.5 Efficiency of R&D investment of enterprises with different ownership (and sizes). *Source* Wei et al. (2017)

give private enterprises more room for development, and force state-owned enterprises to promote innovation. In addition, China is now facing more cutting-edge technologies than imitative technologies. It is thus difficult to achieve this purpose by imitating according to the established technical route. Therefore, more enterprises are allowed to make trial and error. The ability of private enterprises to bear the risk of failure is much stronger than that of state-owned enterprises.

(4) Taking civil-military integration strategy as a new driving force for promoting sci-tech innovation

In September 1994, the U.S. Office of Technology Assessment first used the term of “civil-military integration” in its report on *Assessing the Potential for Civil-Military Integration*, and defined it as the process of integrating the national defense industrial base with the civil sci-tech industrial base to form a unified national sci-tech and industrial base of the United States. Over years, there has been a strict institutional boundary between military and civilian science and technology in China, which not only causes waste of resources, which affected the enthusiasm and creativity of military scientific research personnel, and restricted mutual transformation of dual-use science and technology and the overall national capability of sci-tech innovation.

Therefore, the key to promoting sci-tech innovation through civil-military integration lies in advancing the following changes: (1) breaking the institutional boundary between military (national defense) science and technology industry and civil science

and technology industry, (2) establishing a new military ordering and purchasing mechanism, setting up a confidentiality system under the new system, clarifying the ownership of intellectual property rights, and creating a mechanism for military technology to enter the market and (3) strengthening the overall planning and effective alignment of military and civil science and technology planning. First, we will strengthen the effective alignment of national overall planning for civil-military integration with professional planning in the field of science and technology, and establish the guidance of the national “integrated development plan for economy and defense” in the “special plan for civil-military integration in science and technology”. Second, we will strengthen the alignment of the national defense-related sci-tech development plan with the national sci-tech innovation plan, and promote the overall allocation and management of various military and civilian sci-tech plan resources from the perspective of basic research and cutting-edge technology research. Fourth, we will tackle key problems in civil-military collaboration on sci-tech innovation. Based on implementing major national science and technology programs and major projects, we will stay focused on major strategic products and major industrialization goals of the development of the economy and national defense, enable military and local government to jointly launch a new round of demonstrations for national major science and technology programs, and initiate a group of major projects related to national security and defense security. We will make overall plans for a number of dual-use strategic high technologies to enhance our new military capabilities and industry-driven capabilities, endeavor to make substantial breakthroughs in major key areas, make R&D layout and collaborative innovation among military and civilian units, industries and regions, and effectively enhance military capabilities and the industrialization level.

(5) Promoting innovative development in the process of opening up, and ensuring a smooth “learning channel”

Despite the above-mentioned “decoupling” possibility and the backlash against globalization in the post-crisis era, we stay committed to unswervingly opening wider and building a new open economic system. Meanwhile, it must be noted that China will remain a developing country in a long period of time, and there is still a big gap between China and the first-mover countries in fields of science, technology and commerce. In this regard, China must learn and make full, active and flexible use of the knowledge spillovers and human capital of the first-mover countries. In the face of new international situation, special attention will be paid to the protection of intellectual property rights, the competitive neutrality of various enterprises, and the compliance of technology transfer activities. In addition, we will continue to strengthen educational and cultural exchanges and R&D cooperation with developed countries including the United States, to which we will take a highly flexible and open approach.

4.2 Further Expanding High-Level Opening-Up

Further expanding high-level opening up, building a new open economic system at a higher level, and accelerating the establishment of a market rule system that is aligned with the international high-standard trade and investment rules will be the goal of comprehensively deepening reform, the necessary prerequisite for obtaining new globalization dividends, and the inherent requirement for making good use of the important strategic opportunity period of China's development during great transformations once in a century.

4.2.1 *The World Faces Great Transformations Never Seen in a Century*

Great transformations unseen in a century have shaped the basic context of China's medium and long-term opening up to the outside world. The basic meaning of a great change that has never happened in a hundred years lies in the ongoing trend of "ascending east and descending west" and the resulting competition and conflict between the East and the West. The "East" here means the eastern countries represented by China, or mainly developing economies, and the "West" refers to the western countries represented by the United States, or mainly developed economies. The great changes quietly took place when the comprehensive national strength of China has risen since the reform and opening-up in 1978. The changes became prominent in the current Sino-US trade frictions, and will further evolve and deepen.

Great transformations once in a century consist of many changes. First, the international architecture is evolving at a faster pace. Institutional competition is the most fundamental competition between two countries. Internationally, there are two international trends and forces that have entered a critical stage of comprehensive contest. China and the United States have gradually moved from cooperation and competition to a strategic stalemate stage. The two great powers may launch an all-round game in the fields of economic development, national capacity, science and technology, network security and global governance. Second, great changes have taken place in the global industrial development and division of labor under the background of new industrial revolution. The restructuring of global industrial chain and innovation chain by US-led developed economies will seriously affect the process and trend of China's industrial transformation and upgrading. The weakening of the comparative advantage of traditional labor force by automation and intelligent robots and the competition of emerging economies such as Vietnam in labor-intensive industries will directly undermine China's pivotal role for connecting developed economies and developing economies in the international economic and trade cycle. Third, the uncertainty in world economic development has increased. There are endless pessimistic arguments about the secular stagnation of the global economy. The headwind of global protectionism, together with the decline in the supply of labor factors and

the stagnation of production technology level, has led to the continuous decline in the potential growth rate of various countries, the gloomy prospect of international trade growth, the instability in international direct investment, the constantly rising global debts, the growing financial market risks in emerging economies, the diversified growth cycles of all economies, and the negative spillover of monetary policy in major developed economies.

The coming period is a critical period for China to enter the center of the world arena, and it is also a strategic opportunity period for China to participate in shaping the new global structure. Confronted with complex external environment, we must accelerate the development of a higher-level open economy, actively participate in the formulation of international economic and trade rules, promote the development of economic globalization towards a more open, inclusive, balanced and win-win direction, and contribute China's wisdom and strength to the building of an open world economic system. This is not only the need to expand China's own development space in line with the general trend, but also the need to actively demonstrate China's role as a major country in global economic governance.

4.2.2 Considerable Room for China to Integrate into the World Economy

After more than 40 years of reform and opening-up, China has been deeply integrated into the world economic system. The sharing of globalization dividends has boosted China's development. China's strong growth has also contributed more than one-third of the global GDP growth. In terms of economic volume, China has become one of the world's major countries; however, from the perspective of integration into the world economy, China has much work to do. This is why we need to open our economic sectors wider and deeper.

The space for China to get further integrated into globalization is mainly reflected in the following four aspects. First, China is laggard in the development of trade in services. China's global share of trade in services is less than that of trade in goods. In 2017, China accounted for 6.4% of the total global service trade, about half of the commodity trade (see Fig. 4.6), while globally, trade in services grew 60% faster than trade in goods. Second, the "going global" of enterprises is still in its infancy. Chinese companies' overseas revenues have increased, but even some global companies still account for less than 20% of their overseas revenues. In contrast, the average overseas revenue ratio of S&P 500 companies is as high as 44%. In addition, there was only one Chinese enterprise among the top 100 most valuable brands in the world in 2018. Third, the globalization of the financial system in China still has a long way to go. In 2018, foreign capital accounted for only about 2% in the Chinese banking system, about 2% in the bond market and about 6% in the stock market. In addition, China's total capital inflows and exports in 2017 (including foreign direct investment, loans, bonds, equity and reserves) were only about 30%

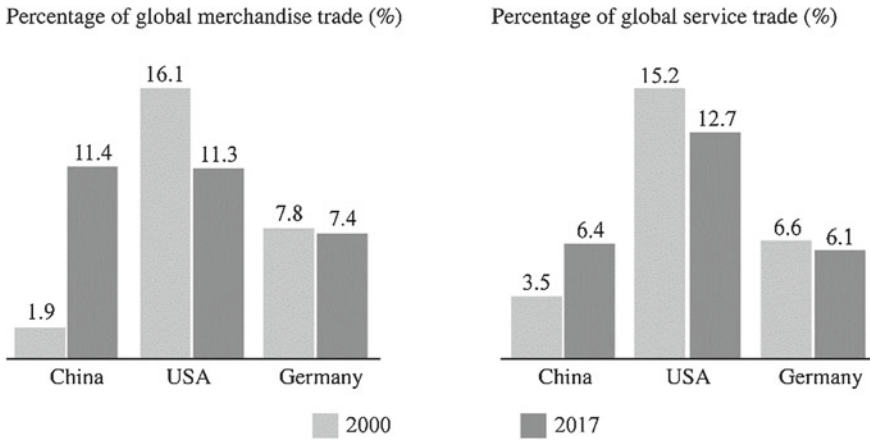


Fig. 4.6 Proportion of global trade in goods and services among China, the United States and Germany. *Source* McKinsey Global Institute (MGI) (2019)

of those of the United States.⁷ Fourth, China's voice in global governance remains feeble. In important international organizations such as the United Nations, WTO, World Bank, International Monetary Fund, APEC, G20, etc., China's influence has been rising in recent years, but on the whole, these international organizations and multilateral organizations are mainly dominated by developed economies in Europe and America, and China's integration and voice obviously weigh less. Because of this, it is an important task in the medium and long term for China to improve its integration with the world economy by opening wider to the outside world. However, in this deep integration process, we need to be sober-minded about how to control the pace of integration, structural choice and the risks brought by it. This includes over-reliance on global value chains, the bottlenecks that may be brought about by innovation chain, the security guarantee of overseas investment, the structural reform pressure brought about by compliance requirements, and the improvement of the national security review, anti-monopoly review, national technical security list management, unreliable entity list and other systems for foreign investment.

4.2.3 Opening All Economic Sectors Wider and Deeper to the Outside World

Further opening up means opening more economic sectors to the outside world. First, opening more economic sectors means optimizing the spatial layout of opening up to the outside world, including accelerating the construction of open highlands such as free trade pilot zones and free ports. Second, implementing wider opening-up means

⁷ McKinsey Global Institute (MGI) (2019).

that market access should be greatly released, including allowing foreign capital's holding or sole proprietorship in more fields. Third, implementing deeper opening-up is to promote trade and investment liberalization and facilitation, including improving the system of national treatment and negative list management before foreign investment access.

These new contents mean changing the focus of opening up, that is, changing from previous opening of goods and factors to the institutional opening up based on rules and related institutions, and highlighting the opening of rules, regulations, management and standards. This is a new requirement put forward by President Xi Jinping at the Central Economic Work Conference in 2018, and it is the core essence of deeper opening-up. The institutional opening up based on rules and related institutions inevitably requires vigorously promoting institutional reform and innovation, and modernizing national governance capacity and governance system in the field to be opened.

First, we will create an international business environment in accordance with market principles and rule of law. In October 2019, the World Bank's *Global Business Environment Report 2020* showed that the rank of China's business environment has greatly increased by 15 places, ranking 31st in the world, and it has been ranked among the top ten economies with the largest business environment optimization in the world for two consecutive years.⁸ The *Regulations on Optimizing Doing Business Environment* was promulgated and implemented on January 1, 2020. On the one hand, we will create a good business environment, further open market, improve the management system of pre-establishment national treatment and negative list, coordinate and strengthen intellectual property protection and property rights protection, and adjust government subsidies and environmental protection standards. We will also adapt to and meet the general trend of future changes in economic and trade rules such as zero tariffs, zero subsidies and zero barriers, and face up to issues such as tariff system and openness of government procurement. On the other hand, we will strengthen the fundamental position of competition policy to achieve new breakthroughs in market-oriented reform. Market-oriented means will be taken to comprehensively clean up industrial policies that hinder fair competition, establish the principle of competition neutrality, and deepen the reform of state-owned enterprises. We will see that industrial policies perform their due functionalities and are available to every enterprise. The oversight of the market will shift from general supervision of market behaviors to fair competition review.

Second, we will open wider and deeper to the outside world. Opening up is an inexhaustible motive force for China's economic development. To promote opening wider and deeper to the outside world in all respects, we will make efforts in three aspects: quantity, quality and institutional rules. (1) Opening wider to the outside world, we will continue to expand the trade in services and develop featured service trade. Proactive policies for import will be implemented by making good use of trade promotion platforms such as China International Import Expo so as to open up our market to the world, and expand Chinese imports of high-quality goods and services

⁸ World Bank (2019).

from other countries. (2) Improving the quality of opening to the outside world, we will steadily increase the added value of export commodities, and optimize the trade structure and mode of capital goods and consumer goods. The development of new trade forms, such as cross-border e-commerce, will be promoted to improve the digitalization of comprehensive foreign trade services. Service outsourcing will focus on high technology, high added value and high efficiency so as to facilitate the transformation and upgrading of service outsourcing. Foreign investment will be encouraged in the fields such as emerging industries, hi-tech industries and modern service industries. We will deepen trade cooperation with participating countries along the Belt and Road, and optimize the international market and domestic regional distribution of trade. Third, improving the system of opening to the outside world, we ensured the pilot free trade zone play its role in institutional innovation, and deepen the reform of the management system. By reducing tariffs and institutional costs, we have continued to downsize the negative list of foreign investment, and improve the level of trade and investment facilitation. We have improved the investment policies and service systems related to the “Belt and Road” initiative. Alignment with international rules and norms has been strengthened to establish a system of fair, reasonable and transparent international economic and trade rules, and promote the necessary reform of the World Trade Organization.

Third, promoting wider opening-up of the service industry, we should accelerate the full opening of the service market, strengthen the docking of internal and external standards and mutual recognition of qualifications in the service industry, and reduce the barriers within the service trade border. With focus on the integration of Central Europe, China, Japan and South Korea and the Asia–Pacific region, we have accelerated the building of bilateral and multilateral free trade networks for trade in services. We will steadily expand the opening of financial markets and institutions, accelerate the opening process in telecommunications, education, medical care, culture and other sectors, and ease restrictions on the shareholding ratio of foreign investors. Multinational companies are encouraged to set up regional headquarters, R&D centers, procurement centers, financial management centers and other functional institutions in China so as to jointly carry out technology R&D and promotion of industrialization with China’s scientific research institutions and enterprises.

Fourth, reshaping the global economic, trade and geopolitical structure in accordance with the “Belt and Road” Initiative, we has reinforced its aid to other developing members, especially least-developed country members along the Belt and Road, to bridge the South-North development gap. We will promote the integration of cooperation on production capacity and service trade along the Belt and Road. We will adopt a more market-oriented and institutionalized method to ensure and improve China’s investment security and investment yield in countries along the Belt and Road. Renminbi will be used more frequently for pricing and settlement during the building of the Belt and Road, so as to promote the regionalization and internationalization of Renminbi. To promote high-quality development of building the Belt and Road, we will strengthen effective alignment with relevant national development strategies, markets, industries and projects of countries and regions along the route, build comprehensive connectivity, and focus on key countries and key projects. In a

word, the implementation of the “Belt and Road Initiative” should be based on the principle of extensive consultation, joint contribution and shared benefits. We will promote policy coordination, facilities connectivity, unimpeded trade, financial integration, and people-to-people bond, so as to create a new platform for international cooperation. With these efforts, we will make a new open ground of linkage between land and sea and mutual assistance between east and west, and reshape the global economic, trade and geopolitical pattern.

Fifth, pilot free trade zones prepared for the reshaping of international rules, at present, China has signed 17 free trade agreements with 25 countries and regions in Asia, Latin America, Oceania, Europe and Africa. In 2019, 15 participating countries of the *Regional Comprehensive Economic Partnership (RCEP)* concluded overall negotiations. This marks a major breakthrough in building a free trade area that has the largest population, the most diverse membership, and the greatest development potential. The negative list was adopted for the first time in China-Japan-Korea Free Trade Area negotiations, ushering in a new era of “FTA negative list” with high standards. In alignment with international basic economic and trade rules, we will speed up efforts to build pilot free trade zones and free trade ports with Chinese characteristics, make new ground in opening up, and form a new layout of high-level opening of a new open country as soon as possible. To build pilot free trade zones with high standards and high quality, we will exert the exemplary and leading role of Shanghai Lingang New Area, and give more power to pilot free trade zones. Based on institutional innovation, we will continue to deepen the exploration of pioneering and differentiated reforms, strengthen the replication and promotion of pilot reform experience, and give full play to the role as a pilot ground for reform and opening-up. We will be quick to establish and improve policies and institutions for building a free trade port in Hainan in a step-by-step and phased manner, so as to speed up exploration of the development of free trade ports with distinct Chinese features, and create new horizons of higher-level opening up with better business environment and stronger ability to drive the development of surrounding areas. We will promote the process of establishing free trade zones with major economies in the world, continuously expand the coverage of the free trade zone network, and build a high-standard network of free trade zones that focuses on neighboring countries and regions, radiates out through the Belt and Road, and opens to the world.

Sixth, actively participating in the reform of global governance system, an open economy essentially requires the equality of rights and responsibilities, the transparency of international rules and the fairness of global governance. The international economic and trade rules and governance structure are in a critical period of reconstruction. China should prevent being excluded from the reconstruction of multilateral trading system and global rules, and actively participate in the reform and construction of global governance system. We should promote the improvement of international economic and trade rules, work with the international community to build a rules-based multilateral trading system, and safeguard the authority and effectiveness of the multilateral trading system. The key to supporting reform of the World Trade Organization is to uphold the core values and basic principles of the

World Trade Organization, such as openness, inclusiveness and non-discrimination, and safeguard the development interests and policy of developing countries.

4.2.4 Fostering a New, Dual-Circulation Development Architecture with the Domestic Circulation as the Mainstay and with Mutual Promotion of Domestic and International

At the beginning of reform and opening-up, China's economic circulation was integrated into the world's economic circulation. In fact, the process of China's reform and opening-up is measured by its integration into the world's greater economic circulation. However, the international financial crisis in 2008 and the outbreak of COVID-19 in 2020 have led to obvious trends of the backlash against globalization as well as the regionalization and localization of global value chains. China's opening to the outside world and its entry into the international circulation have fostered a new, dual-circulation development architecture with the domestic circulation as the mainstay and with domestic and mutual promotion of international development.

First of all, the domestic circulation has huge potential and broad space. We can be more proactive and do more in shaping the future growth drivers in the domestic circulation than in the international circulation. At present, the potential and energy of the domestic circulation have not been fully unleashed due to poor national economic circulation. Therefore, more efforts must be exerted to promote reforms and tap the potential of the domestic circulation. (1) To achieve smooth circulation of the real economy, we need to solidly promote market-oriented production factors, especially the reform of household registration system and land system, and facilitate free flow of production factors. We need also to remove administrative monopoly and local protection, and drive the formation of a national unified market with regional integration (such as Yangtze River Delta integration, etc.). More efforts will be exerted to improve the income distribution pattern, expand the scale of middle-income groups, expand consumption to promote production, and open up all links of production, circulation, distribution and consumption. (2) To achieve smooth circulation between finance and real economy, we are required to provide conditions for innovation activities of real economy and improve the profitability of real economy through market opening, relaxation of access and institutional loosening. In addition, we should weaken financial repression, improve the risk pricing level of financial institutions, and reduce the distortion of risk pricing. Coordination between financial risks and benefits need to be strengthened to improve the ability and efficiency of financial services to the real economy, reduce the idling of funds in the financial field, avoid the unreality of funds and promote smooth circulation between finance and the real economy.

Second, we will make the best of our competitive advantages so as to participate in the international circulation. Emphasis on domestic circulation is not to work

behind closed doors. Opening up is the only way towards prosperity and development. The great rejuvenation of the Chinese nation can only be finally realized in an open environment. It is therefore necessary for China to open up the international and domestic circulation and actively participate in the international circulation, so that the “open circulation” will bring prosperity and progress. At the beginning of reform and opening-up, based on the principle of comparative advantage, China introduced a large amount of foreign capital and boosted the development of labor-intensive industries; as a result, the advantage of China’s huge labor has been integrated into the international circulation. On the one hand, this has accelerated the transfer of rural surplus labor and brought into play the factor endowment; on the other hand, it helped accumulate a large amount of capital and technology, thus paving the way for domestic economic circulation through international trade. At present and in future several years, the “seed money” and confidence of China’s integration into the international circulation lie in: (1) relatively complete industrial chain, (2) relatively perfect infrastructure, (3) huge consumer market, (4) higher potential growth rate and future development opportunities, and (5) more open market and better business environment. All these constitute new advantages for China to participate in international cooperation and competition in the new period.

4.3 Expanding Middle-Income Groups

The scale of middle-income people will be expanded to form an olive-shaped distribution structure in which middle-income people account for the majority. On the one hand, this will promote the common prosperity of all members of society by improving the income distribution and optimizing the income distribution structure, and will ensure the fruits of economic growth benefit all the people more fairly. On the other hand, this will further increase the consumption demand of residents, effectively stimulate domestic demand, and ensure China moves towards a stable and high-income stage.

It is particularly noted that the middle-income group is a “social stabilizer”, and that the expansion of middle-income groups is an important way to cope with the proliferation of populist thoughts and promote social harmony and stability. Problems concerning income distribution and middle-income groups have been manifested by the Occupy Wall Street movement caused by the disappearance of the middle class in the United States, by the economic and social turmoil caused by the prevalence of populism in Latin America, and by the worldwide concerns aroused by the *Capital in the Twenty-First Century* in the world. In fact, they are serious problems about the long-term peace and order of a country.

4.3.1 Estimating the Size of Middle-Income Groups

Middle-income groups generally refer to groups whose income remains at the middle level of the whole society, whose employment is relatively stable and whose life is relatively affluent. Similar to the identification of poverty, there are absolute standards and relative standards for defining a middle-income group. In addition, the academic circles have extended the evaluation criteria from income to property, occupation, consumption and other categories. Therefore, there have emerged different estimates of the scale of middle-income groups. According to various estimation results, China's middle-income groups currently account for 20–30% of its total population, less than 1/3. Due to poor labor market and prominent problems such as discrimination and labor market segmentation in developing countries, it is very likely that some groups who can get middle income fail to reach the middle income level, but still wander in the ranks of low- and middle-income groups or even low-income groups. Therefore, the ability of labor force closely related to income is taken as an index to define a potential middle-income group. According to the research on the relationship between wages and individual characteristics of workers in labor economics, education is an important factor affecting workers' wage income, and workers with higher education level have higher labor productivity that can boost their returns in the labor market.⁹ In addition, from the perspective of "Leather Scrolls" effect, education has the function of identification and screening, which can identify people with high labor productivity.¹⁰ It can be seen that education is more suitable for the definition of potential middle-income groups. Besides education, occupation is also an important factor reflecting a laborer's capabilities. In accordance with the *Opinions of the State Council on the Implementation of Stimulating the Vitality of Key Groups and Promoting the Income Increase of Urban and Rural Residents (GuoFa [2016] No.56)*, six groups, including skilled talents, new professional farmers, scientific and technical personnel, small and micro entrepreneurs, enterprise managers and civil servants, were taken as potential middle-income groups for estimation of their scale.

Based on income distribution survey data in 2013, the weight of sample data was adjusted to calculate the proportion of six key income-increasing groups in the sample, including high-skilled workers, professional and technical personnel, small and medium-sized entrepreneurs, enterprise management personnel, public servants of government and social management departments, and new professional farmers. Then, the proportion of the six income-increasing groups was multiplied by the total population of Chinese mainland at the end of 2018 (1.39538 billion), so as to obtain the size of the six potential middle-income groups. For calculation results, see Table 4.1.

Table 4.1 shows that the six income-increasing groups account for 23.72% of total population. The six income-increasing groups account for 42.64% of the employed population. In terms of scale, there are 330.98 million people in the six major

⁹ Mincer (1974).

¹⁰ Spence (1973).

Table 4.1 Size and proportion of six income-increasing groups

Six income-increasing groups	Proportion of the total population (%)	Scale (10,000 persons)	Proportion of employed population (%)
Highly skilled workers	10.82	15,098	19.45
Professional and technical personnel	4.65	6489	8.36
Small and medium-sized entrepreneurs	5.68	7926	10.21
Enterprise management personnel	1.21	1688	2.18
Public servants of government and social management departments	1.04	1451	1.87
New professional farmers	0.32	447	0.58
Other employed persons			57.36
Totally	23.72	33,098	42.64

Source The author's calculation was based on China Statistical Yearbook (2019) and the survey data of income distribution of Chinese residents in 2013 (China Institute for Income Distribution, Beijing Normal University)

income-increasing groups, including 150.98 million high-skilled workers, 64.89 million professional and technical personnel, 79.26 million small and medium-sized entrepreneurs, 16.88 million enterprise management personnel, 14.51 million public servants and social management departments, and 4.47 million new professional farmers.

The above analysis shows that the existing middle-income groups, together with potential middle-income groups, have a considerable scale and account for a large proportion of Chinese residents. However, the proportion of middle-income groups in OECD countries is nearly 2/3, and that in emerging market economies is also between 1/3 and 1/2.¹¹ In comparison with OECD countries and emerging market economies, there is still much room for China to improve the scale of middle-income groups. On the one hand, we need to adjust the macro distribution structure in order to improve the absolute income level of each income group. On the other hand, we need to improve the relative income level of low-and middle-income people.

¹¹ OECD (2016).

4.3.2 *Policy Options for Expanding the Scale of Middle-Income Groups*

- (1) According to a research on increasing the proportion of labor remuneration and reinforcing efforts in income redistribution, the primary distribution effect of the labor market is decreasing

With the slowing transfer of agricultural surplus labor force, the expansion of urban and rural employment and the reallocation of resources are no longer carried out at the pace of violent storms as before, the comparative advantage of labor-intensive manufacturing industry is also weakening, and the international trade is less dominated by developed countries. Accordingly, the primary distribution of the labor market mechanism can no longer solve the income distribution problem alone, nor can it solve other problems in improving living standards.¹² To this end, we will increase the proportion of labor remuneration, and reinforce our effort in income redistribution. Efforts will be exerted to increase the proportion of labor remuneration in primary distribution so as to continue achieving the synchronization between the growth rate of residents' income and the speed of economic development, and between the increase of labor remuneration and the improvement of labor productivity. In the meantime, we will focus on balancing the distribution relationship between capital and labor, such as improving the factor market environment and mechanism, breaking market monopoly and price distortion, eliminating market segmentation and identity discrimination, and increasing fair opportunities and competition. In redistribution, we should improve the redistribution regulatory mechanism that is based on taxation, social security and transfer payment, strengthen the regulating function of revenue, improve the direct tax system and gradually increase its proportion. Relevant systems and policies will be improved to rationally adjust the distribution relationship among urban and rural areas, regions and different groups. International comparison shows that China's redistribution is less than that of OECD countries. Excluding Chile and Mexico, which have a large income gap in OECD countries, the reasonable income distribution in these high-income countries was actually formed after redistribution. For example, through taxes and transfer payments, the Gini coefficients in these countries dropped from an average of 0.473 to 0.306, down 35.3%. However, China's redistribution policy has only reduced the Gini coefficient of income gap by about 10%.¹³ Therefore, we must further increase efforts in adjustment of income redistribution.

- (2) Improving the development of capital market, and increasing residents' property income

The proportion of property income of Chinese residents is low, and the source of property income is single. As the development of China's capital market remains laggard, interest income has become the main source of property income for residents.

¹² Cai (2020).

¹³ Ibid.

At the same time, the decreasing interest rate (even lower than the inflation rate) has led to the possible shrinkage of residents' property. From the perspective of residents' income structure, the development of multi-level capital market will be improved to expand the channels for residents to obtain and increase property income. More importantly, we will speed up the implementation of farmers' land property rights for some farmers to enter middle-income groups. The biggest space for multiplication of middle-income groups lies in rural areas, while the biggest constraint lies in the failure to implement farmers' land property rights. It's not that farmers lack property, but that farmers have not yet made real right and capitalized their property such as homestead, contracted land and collective land, making it difficult to bring stable property income to farmers.

(3) Advancing industrialization and urbanization, and promoting free flow of labor Efforts will be taken to promote industrialization and urbanization so as to achieve the transition from dual economy to unitary economy, increase farmers' income, and realize the transformation from low-income people to middle-income people. The low-income group is composed largely of farmers. The main reason lies in the inconsistency of improved labor productivity between agriculture and industry caused by industrialization under the dual economy, which has widened the income gap between urban and rural areas in a short time. But in the long run, with the continuous advancement of industrialization and urbanization, low-income farmers will enter the industrial sector. As the number of agricultural employees decreases, the agricultural labor productivity will continue to improve, thus increasing farmers' income and transforming dual economy into unitary economy. The labor productivity of agricultural and industrial sectors will tend to strike a balance, and the urban-rural income gap will also narrow. In this process, it is necessary for China to reform the existing household registration system of urban-rural division, which hinders farmers' transfer to cities, and promote farmers' rational flow to industrial sectors and cities. In addition to promoting industrialization and urbanization and realizing the convergence of urban and rural labor productivity through rational labor flow, the rural vitalization strategy is a comprehensive strategy to actively narrow the urban-rural income gap. Since the implementation of the strategy for more than two years, the institutional framework and policy system have basically formulated, and some regions have also made progress in upholding the Party's management of rural areas, revitalizing rural industries, and cultivating rural talents.¹⁴ However, we are faced with the shortcomings in infrastructure, factor input, rural governance and farmers' enthusiasm for participation, especially including the poor effect of the rural vitalization strategy in improving farmers' income. All these require substantial breakthroughs and progress during implementation of the rural vitalization strategy. We will promote development of the labor market. A unified labor market will be created to allocate labor resources according to the principle of efficiency. Labor income is the main source of income for middle-income groups. From the perspective

¹⁴ Agriculture and Rural Committee of the National People's Congress, Investigation and Thinking on the Implementation of Rural Vitalization Strategy, *Qiushi*, No. 3, 2019.

of macro distribution structure, the fundamental measures to improve the proportion of labor remuneration in the primary distribution include expanding employment, deepening the reform of wage system, and promoting the reasonable increase of wages of low-and middle-income workers. From the perspective of residents' income distribution, building a unified labor market, allocating labor resources according to the principle of efficiency and encouraging free flow of labor force can not only improve efficiency, but also eliminate unfair income gap.

(4) Setting reasonable minimum wage standard to enhance income mobility

By setting a lower wage limit for workers, the minimum wage policy can ensure reasonable and effective growth of the wage income of low-wage groups. However, the realization of this role needs to be based on strict implementation of the minimum wage policy. This has been verified by our research. Pursuant to the internationally accepted definition of low wage, the low wage is defined as $2/3$ of the median wage. It is found that simply raising the minimum wage will not reduce the probability for workers to become low-wage workers. However, if the minimum wage policy can be strictly implemented, raising the minimum wage standard can significantly reduce the probability.

Reasonable income mobility reflects the economic vitality and fair opportunities of a society. On the contrary, in a society lacking income mobility, low-income people and high-income people will gradually solidify, and low-income people will be deprived of the opportunities to change their income status, thus indicating the decline of social and economic vitality and the loss of fair opportunities. For the middle and low income groups, a certain range of upward income mobility will help them jump to the middle income group.

Improving education level will also help boost income mobility. Breaking occupational segregation, promoting occupational mobility and establishing a career promotion channel for employed people are also important means to promote and improve income mobility. Non-state-owned sector is the main channel to absorb employment, and it is also the main source of employment and income for most ordinary people. Breaking trade monopolies, opening market and promoting the development of non-state-owned sectors are conducive to promoting income growth and upward income mobility of ordinary people.

(5) Meeting requirements of new technological revolution and improving the level of human capita

We need to change the mode of economic growth, promote the adjustment of industrial structure and the upgrading of employment structure with innovation, improve the level of human capital, and expand the proportion of middle-income groups. Middle-income groups are mainly white-collar workers with higher human capital level. To increase the proportion of middle-income people, we must improve the human capital level and realize the transformation of employment structure, so as to create more jobs for labor force with higher human capital level. This requires changing the current extensive economic growth mode which depends on the advantage of low labor cost. On the basis of improving the level of human capital through

skills training and improving the education system, innovation should drive the adjustment of industrial structure and promote the optimization and upgrading of employment structure.

The new technological revolution not only improves labor productivity and promotes economic growth, but also has an impact on middle-income groups. The new technological revolution and high skills are complementary, and the skill-biased technological progress has greatly improved the labor productivity of high-skilled high-income groups. The physical labor of low-income groups is usually not routine, and it is difficult to be replaced by mechanization and automation due to new technological revolution. In contrast, middle-income groups are mostly engaged in routine work and are easily replaced by machines. Although the supply side of the labor market will gradually adapt to changes in the demand of labor market caused by new technological revolution through automatic adjustment, this adjustment process is usually not completed instantaneously. In this adjustment process, the income level of middle-income groups is often negatively impacted by new technological revolution. Therefore, we will improve the education level of middle-income groups, upgrade their human capital, help them cope with the challenges posed by new technological revolution, and prevent them from being marginalized in the process of “polarization” of the labor market; that is, the employment demand is biased towards the high-end and low-end poles, thus leading to the deterioration of income distribution.

4.4 Government Administration by the Rule of Law: the Core of the Law-Based Market Economy

The rule of law is the basic way of governing the country and provides potent support for the state governance system and capacity. The rule of law is an indispensable and important aspect in modernizing state governance, and is also the meaning of transforming China’s institutional advantages into state governance efficiency. Over the past 40 years, outstanding achievements have been made in the market-oriented reforms, contributing to the development and improvement of the socialist market economic system with Chinese characteristics. However, the promotion of marketization, especially the “barbaric growth” of market economy, has also brought a number of problems, many of which were caused by the lack of rule of law and imperfect systems. The strategic goal of high-quality development requires substantial progress in the legalization of market economy. Legalization is here focused on correctly handling the relationship between government and market, especially by means of legalization, so as to guarantee “fully leveraging the decisive role of the market in allocating resources and giving better play to the role of government”. Law-based market economy depends on the rule of law.

4.4.1 *From the “Barbaric Growth of Market Economy” to Law-Based Economy*

“Barbaric growth” is an inevitable stage in the development history of market economy for hundreds of years. The barbaric growth of the “Gilded Age” in the United States (from the 1870s to the end of the 19th century and the beginning of the 20th century), on the one hand, brought about rapid economic development, which became a key period for the American economy to catch up with Britain, and on the other hand, it also gave birth to a large number of monopolistic enterprises with international influence and social corruption. Therefore, it was argued that “the inevitable conflict between economic concentration and social anomie and between the emergence of large enterprises and the decline of small enterprises was accompanied by most major regulatory and legal changes in the late 19th century”.¹⁵

The rule of law is the institutional guarantee for effective operation of modern market economy, which performs its functions through two channels. The first channel is restraining the public power, i.e. restraining the government’s arbitrary intervention in economic activities. The second channel is restraining private rights, that is, standardizing the behavior of economic players, including definition and protection of property rights, implementation of contracts and laws, fair judgment, and maintenance of market competition. This usually operates when the government participates as a third party in economic transactions without directly interfering with economic activities, and plays its role in supporting and promoting market. Without these two channels as institutional guarantee, there will be no safe property rights, independence of enterprises, or competitive environment and efficient operation of market, and nor will there be sustainable economic development.¹⁶

It was stated in the *Resolution of the Central Committee of the Communist Party of China on Major Issues Concerning Comprehensively Advancing the Rule of Law* at the Fourth Plenary Session of the Eighteenth Central Committee of the Communist Party of China that “the socialist market economy is essentially a law-based economy. To make the market play a decisive role in resource allocation and give full play to the role of the government, we must take protecting property rights, maintaining contracts, unifying market, equal exchange, fair competition and effective supervision as the basic guidance”, and require the whole society to “strengthen the awareness of rules and advocate the spirit of contracts”.

Whether there is legal protection is an important criterion to distinguish a good market economy from a bad one. The disadvantages of the barbaric growth period of market economy include lack of property rights protection, prevalence of monopoly, rampant corruption, market manipulation, false advertising, product quality problems, food safety problems, and illegal sewage discharge problems. They also represent a bad market economy. In the final analysis, these problems are closely related to

¹⁵ Fishback et al. (2013).

¹⁶ Qian (2000).

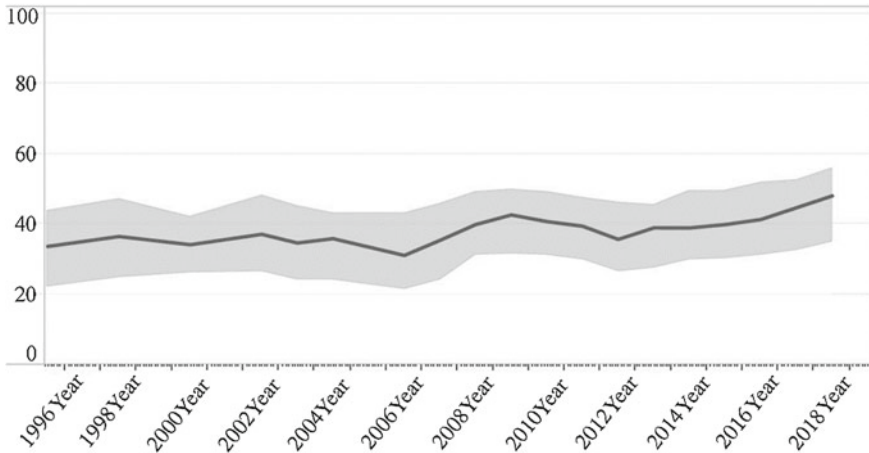


Fig. 4.7 Changes in the Ranking of China's Rule of Law Index (1996–2018). *Note* The solid line indicates the rule of law index in China, and the shadow indicates the error degree. *Source* Rule of law sub-item in the WCI (Worldwide Governance Index) database. <http://info.worldbank.org/governance/wgi/>

the imperfection of market regulation and rule of law. To address some of these problems, Chinese government departments have specially issued relevant documents and policies, but they have not yet implemented in legal texts and institutional guarantees. There are legal provisions in some aspects, but they have not been implemented in a proper manner. One example is the protection of non-public property. The imperfect rule of law reflects the government's deficiency in legal supply (as public goods). According to Fig. 4.7, China's rule of law index has generally shown an upward trend from 33.67 in 1996 to 48.08 in 2018 (the higher the index, the better the rule of law). Especially since 2012, China's rule of law index has maintained an upward trend. However, this index is still low in the global ranking,¹⁷ and there is still a long way to go in the building of the legal system in China.

4.4.2 *Legal Guarantee for Modern Market Economic System*

The transition from a “barbaric” market economy to a modern market economy requires building a modern market economy system and ensuring the decisive role of the market in resource allocation. The building of a modern market economy system must be based on legal protections, the most important of which are delimitation of property rights and promotion of fair competition.

¹⁷ The World Governance Index (WGI) is controversial, so the rule of law index may not be completely comparable.

First, protecting property rights according to law. To strengthen the protection of property rights requires comprehensively advancing the rule of law. The property right system serves as the cornerstone of socialist market economy, and protecting property rights is a prerequisite for upholding the basic socialist economic system. Our ancestors believe that only those who have a certain amount of property income have certain moral values and code of conduct. Effective protection and realization of property rights of economic players are essential to the sustainable and healthy development of economic society. Since the reform and opening-up, the reform of property rights system has been advanced in China to build a modern property rights system and a legal framework for property rights protection with clear ownership, clear rights and responsibilities, strict protection and smooth circulation. The awareness of property rights protection in the whole society has been continuously enhanced, and the protection strength has been continuously strengthened. However, there are still many problems in the protection of property rights. The relationship between owners and agents of state-owned property rights is not clear enough. Problems such as insider control and related party transactions, which may lead to the loss of state-owned assets, the use of public power to infringe on private property rights, and the illegal seizure, detention and freezing of private enterprise property, occurred from time to time. The intellectual property rights are not under sufficient protection, and infringement is prone to occur frequently. To solve these problems, we must improve the property rights protection system and effectively protect the property rights of economic organizations and citizens of various ownership systems according to law. Emphasis will be placed on promoting and improving the legal system of equal protection of property rights. We will take solid steps to implement the *Civil Code*, improve the legal systems related to property rights, contracts and intellectual property rights. We will also eliminate laws and regulations that violate fairness, and take equal protection as the basic principle for regulating property relations. We will improve the legal system of market entities based on the organizational form of enterprises, in which investors bear responsibilities. In addition, we will make overall plans to abolish some laws and administrative regulations of market entities formulated according to different types of ownership, carry out special clean-up of departmental rules and normative documents, and equally protect all kinds of market entities. We will increase efforts in penal protection of non-public property. Enhancing people's sense of security of property and wealth and boosting social confidence will help create good expectations among the public, motivate entrepreneurial innovation of various economic entities, safeguard social fairness and justice, and maintain sustainable and healthy economic and social development and long-term stability of the country. We will increase efforts in IPR protection, and achieve high-quality development driven by innovation. Therefore, how to protect intellectual property rights and stimulate the enthusiasm for innovation will be particularly critical. First, we will further improve the laws and regulations related to intellectual property protection, reasonably lower the threshold of conviction, and gradually establish a punitive compensation mechanism for intellectual property infringement, so as to deter and contain potential infringement, and improve compulsory remedial measures after infringement, including infringement injunction, damage compensation, destruction

of goods and other systems. Second, we will strengthen law enforcement to protect intellectual property rights. Relevant law enforcement departments should focus on establishing more transparent working procedures and norms, refining rules, and strictly preventing arbitrariness and selectivity in law enforcement. Third, we will minimize the government's simplistic intervention in patents or linking them with specific industrial policies or talent policies out of the kindness of promoting technological innovation, and gradually improve the market-oriented incentives for them, so that market forces become the main driving force for improving the quantity and quality of patents. Fourth, we will study the definition and protection of human capital property rights of scientific and technical personnel within the system, and formulate appropriate legal systems conducive to innovative development and enhancing national competitiveness, so as to release the innovation vitality of scientific and technical personnel.

Second, safeguarding fair competition. Fair competition is essential to market economy. The basic position of competition policy in the national policy system will be strengthened to improve the policy system and legal system for competition, and clarify the priority objectives of competition. The policy coordination mechanism will be established to advocate competition culture and promote effective implementation of competition policy.

First, we will implement competition policy by implementation of the anti-monopoly law. To address problems in China's anti-monopoly practice, efforts will be made to improve the normative system of anti-monopoly law from two aspects. (1) We will improve the norms of the *Anti-Monopoly Law of the People's Republic of China* (hereinafter the Anti-Monopoly Law), such as the controversial vertical monopoly agreements, exemptions, and penalties for concentration of operators in the implementation of the anti-monopoly law. (2) We will transform the competition policy that has achieved good response in practice into relevant contents of the *Anti-Monopoly Law*, consolidate its basic position in the *Anti-Monopoly Law*, and legalize the fair competition review system as an organic part of the *Anti-Monopoly Law* so as to enhance its practicality and standardization. (3) We will integrate law enforcement responsibilities and optimize the implementation of the *Anti-Monopoly Law*. *The Institutional Reform Plan of the State Council* promulgated in March 2018 has integrated the anti-monopoly law enforcement powers entitled to the former State Administration for Industry and Commerce, the National Development and Reform Commission and the Ministry of Commerce, and established the State Administration for Market Regulation to exercise the anti-monopoly law enforcement power. From the form of the organization, China's anti-monopoly law will be enforced solely by the State Administration for Market Regulation, but this does not mean that law enforcement can be effectively integrated to realize uniform law enforcement, i.e. internal institutional requirements, such as the consistent understanding and use of norms, and the consistent determination of the nature of the same behaviors. In fact, we need to do much to improve the enforcement of the *Anti-monopoly Law*. As far as its supporting system is concerned, the previous multi-agency law enforcement has led to inconsistent detailed rules for implementing one article in the law, so we need to stay patient in correcting these inconsistencies. Therefore, we should clarify

and optimize the assignment of responsibilities for the anti-monopoly law enforcement within the State Administration for Market Regulation as soon as possible, so as to coordinate and strengthen the drafting of supporting rules and guidelines and constantly improve the implementing mechanism of the anti-monopoly law.¹⁸

Second, we will implement the fair competition review system. The fair competition review system aims to address excessive and unreasonable government intervention that impairs competition, and ensure that all kinds of market players equally use production factors and fairly participate in market competition. It is a system in which the anti-monopoly law enforcement authority or other agencies analyze and evaluate the possible or existing impacts of public policies on competition, and put forward alternative solutions that do not hinder the realization of policy objectives but do the least harm to competition. According to the practice of mature market economies such as the European Union, most of these economies have established the basic principle of “competition policy preceding over other policies”, and on this basis, they have built a competition review system for legislation and related policies. If the object of review is detrimental to fair competition, it should be adjusted or abolished. Through years of practice in China, we have achieved good results by implementation of this system. The system can examine laws, administrative regulations, local regulations and departmental rules that have not yet been promulgated. It can also evaluate and adjust the possible effects of excluding and restricting competition produced by various economic policies, including industrial policies, so as to avoid their adverse effects on competition to the maximum extent and eliminate regional trade barriers, thus advancing comprehensive deepening of reforms.

Finally, the legalization of the fair competition review system will be combined with the revision of the *Anti-Monopoly Law*. The competition policy and the fair competition review system that acts as its practical mechanism will be written into the *Anti-Monopoly Law* and clearly defined as the basic rules of market economy in the article of General Provisions. Such combination will enhance the rigidity and coercive power of the fair competition review system and truly realize the policy function of maintaining fair competition.

4.4.3 Rule of Law for the Government is the Key to Legalization of Market Economy

“Giving better play to the role of government” is an important aspect of improving state governance, and requires joint support of state capacity and rule of law for the government. Lack of state capacity makes it difficult to promote state governance; if the state capacity is not restrained, it will erode the market and society. Therefore, the rule of law for the government will be used to restrain and balance the state capacity, advance modernization of state governance, and enhance the state governance efficiency.

¹⁸ Yong (2018).

First, the rule of law for the government is an organic unity of the “limited government” and “well-functioning government”. On the one hand, the government should perform its functions and exercise its powers within the statutory scope. Most importantly, the boundary of government powers must be defined. This is what a “limited government” requires. A “limited government” implies that the government is not an omnipotent government that has unlimited powers to intervene in everything. There must be a legal boundary for government activities, which is used to scientifically demarcate the dividing line between government and market, society and citizens. The power and authority of a government are granted by law, i.e. the lawful power and statutory authority. The activities of the government must be limited within the scope of law and under legal restrictions so as to avoid damaging public interests or infringe on the legitimate rights and interests of citizens, or disrupting the order of fair competition on market. On the other hand, the government must actively perform all of its duties without any negligence. This is what a “well-functioning government” requires. A “well-functioning government” means that the government must carry out sound control and management of all affairs within the purview of its power and authority. It should be active in performing its functions to improve efficiency, and provide high-quality and efficient services for the needs of the public. This includes providing public goods such as social fairness, justice and security, maintaining macroeconomic stability, strengthening and optimizing public services, ensuring fair competition, strengthening market regulation, safeguarding market order, facilitating sustainable development, promoting common prosperity and making up for market failures. These are the extent for the government to actively perform its duties, and also are the points that require no dereliction of duties.

Second, the building of a rule of law for the government and the transformation of government functions are complementing each other. Government functions are essential to government administrative activities. The organic unity of a “limited government” and a “well-functioning government” has put forward requirements for transforming government functions. To “confine the exercise of power within the institutional cage and keep government operating on the basis of law”, we should transform government functions and urge the government to do the right thing according to law and do anything in a proper manner. The transformation of government functions has been prioritized in previous institutional reforms since the reform and opening-up. Despite some achievements, there are several problems that have not yet been solved, including: (1) the government has placed more emphasis on specific issues than on macroscopic ones, on approval than on oversight of new companies, and on management than on providing services for enterprises; (2) the government has not yet rationalized its relationship market and the public; (3) the government exceeds its authority to perform its functions, or failed to play its role or abused its powers and authority; and (4) the government has not yet integrated, coordinated or improved the efficiency of reforms. In brief, it is not easy job to transform government functions in a short term. Therefore, “the rule of law will move towards wherever the government functions are transformed. To give full play to the guiding and normative role of law in transforming government functions, we

should stay focused on consolidating the achievements made during the transformation of government functions by formulating new laws and regulations to guide and promote the next step of such transformation. We should remove obstacles hindering the transformation of government functions by amending or abolishing inappropriate existing laws and regulations”.¹⁹

Third, the building of a rule of law for the government should be preconditioned by standardizing major administrative decision-making procedures. At the first meeting of the Commission for Law-based Governance under the CPC Central Committee, President Xi Jinping emphasized that we should promote law-based government administration and improve the decision-making mechanism according to law. In the process of modernizing the state governance system and capacity, keeping major decisions of administrative organs operating in a normative and law-based manner will effectively enhance law-based government administration, and enable the whole society to enjoy the high-quality social governance and development achievements brought about by scientific and democratic decision-making according to law. First of all, standardizing major administrative decision-making procedures is an urgent need to enhance law-based government administration. Administrative decision-making is the starting point of the operation of administrative power. Standardizing administrative decision-making behaviors is the first step in promoting law-based governance and the focus of standardizing administrative power. Second, standardizing major administrative decision-making procedures is an inevitable requirement for promoting scientific, democratic and legal decision-making. We will promote scientific, democratic and law-based decisions made by administrative organizations. We will speed up the need to standardize major administrative decision-making procedures, clarify major problems concerning administrative decision-making, decision makers, authority, procedures and responsibilities. We will stay focused on promoting the legalization of major administrative decisions so as to restrict and standardize decision-making behaviors with scientific and rigid decision-making systems, strive to control decision-making risks, correct illegal and improper decisions in time, and effectively improve decision-making quality. Finally, standardizing procedures for major administrative decision-making is an important guarantee for safeguarding the legitimate rights and interests of the people and for promoting social fairness and justice. With a great impact on economic and social development, a major administrative decision often involves major public interests or vital interests of the public, and may affect the stability of reform and development. Therefore, the decision-making organizations are required to properly handle the interests of all parties in decision-making, give priority to safeguarding the legitimate rights and interests of the people and promoting social fairness and justice, and ensure that decision-making can be widely recognized and supported by the people and that the achievements of reform and development can benefit all people fairly.

¹⁹ Xi (2016).

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Chapter 5

Research on Goals and Indicators of Mid-to-Long-Term Economic and Social Development



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In the next 15 years, China's economy will increase significantly in scale, but also and change significantly in structure. The decreasing total fertility rate and the aging trend of the population will have a direct negative impact on the supply-side production factors, and will eventually lead to a slowdown in the potential growth rate. Considering the domestic and international environment at the end of the 13th Five-Year Plan and in accordance with the goal of embarking on a new journey of basically realizing socialist modernization, the objectives of China's economic and social development for some time in the future should cover: promoting innovation-driven development, upgrading industries, enhancing domestic market, opening wider to the outside world, heightening living standards, making remarkable progress in green development, and perfecting the state governance system. Based on these main targets and the forecast on China's future economic growth potential, and with reference to national mid-to-long-term special plans, this chapter gives specific suggestions on the selection of main indicators and the setting of targets for some time in the future.

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5.1 Forecast on China's Economic Growth Potential in 2050

Historical experience shows that some countries are usually entitled to “demographic dividend” at a specific stage of economic development.¹ In particular, the “demographic dividend” is essential to the economic growth of East Asian countries, and it has generated one third of the “economic miracles”.² However, the population structure is dynamically changing. The disappearance of “demographic dividend” may also lead to “demographic debt”. In recent years, China's population structure has changed more than expected, and the effect of two relaxation of the birth policy did not last. The universal “two-child” policy was implemented in 2016. However, the policy effect has been decreasing year by year, and the total fertility rate is even difficult to reach 1.6, and there is a further downward trend. Apparently, this trend has accelerated the disappearance of “demographic dividend”, and even gradually generated “demographic debt”. This has put pressure on China's future economic growth potential.

5.1.1 Key Mechanism for Predicting Potential Growth Rate

The prediction of future economic growth potential is usually based on certain methods.³ In the literature, the trend extrapolation method or the method of returning to the average value are often used. Eichengreen et al.⁴ identified the relationship between per capita income and economic growth rate of various countries by means of multi-country panel data, and finally found that high-speed growth would inevitably end at a specific per capita GDP level. This is the right stage of China's economic development. In essence, all similar analysis methods are used to get general laws through statistical phenomena, but they have overlooked the changes of factor endowments unique to a country (e.g. the changes of long-term factor supply potential caused by changes in population structure); as a result, they cannot analyze the future growth potential from the changes of supply-side factors.

From the perspective of supply side, the potential growth rate in the future is predicted based on the change of population structure. This method itself has abandoned demand-side factors and just taken into consideration the changes of factor endowments of a country, such as labor force, capital stock, human capital and total factor productivity. These four factors are more or less related to population factors. Based on the population forecast data, we can estimate the future trend of production factors on each supply side and the corresponding economic growth potential. Although the short-term real economic growth rate may be higher or lower than the potential growth rate, in the long run, the economic growth rate will tend to be

¹ Growth Williamson (1997).

² Bloom and Williamson (1998).

³ Lucas (2009), Huang and Liu (2014), Zhang et al. (2016), Bai and Zhang (2017).

⁴ Eichengreen et al. (2011).

consistent with the potential economic growth rate. The potential growth rate estimated based on this method can help China to formulate more reasonable economic growth targets and related development goals. The long-term relationship between the change of population structure and the supply of various factors of production is as follows.

First, the potential employment can be regarded as a function of working-age population, labor participation rate and natural unemployment rate.⁵ The change of working-age population, labor participation rate and natural unemployment rate will directly affect the potential employment. The number of working-age population has nothing to do with the current birth rate, but it will affect labor supply 15 years later. The age distribution of labor participation rate is of an inverted U-shape. With the aging of the population, the labor participation rate will decline. In 2015, China's male labor participation rate was 73.9%, about 4% points lower than 78.0% in 2010. The female labor participation rate saw a more obvious decline from 63.6% in 2010 to 56.0% in 2015, a decrease of 7.6% points. Potential changes in employment can be calculated based on labor participation and unemployment rates by age and sex in 2015 as well as future population projections. Theoretically, China's aging trend will naturally lead to a decrease in labor supply year by year. According to estimates, the potential employment in China will be less than 700 million after 2022. Of course, the potential employment will not drop rapidly, and it will be less than 600 million after 2046. This figure will be 690 million in 2025 and 640 million in 2035.

Second, the capital stock depends on the capital stock in the previous period and new investment in the current period. Investment is directly related to savings. According to the life cycle theory, the amount of one's savings in a life keeps changing. Generally speaking, children under 15 have neither jobs nor savings. As they enter the working age, all the income from work will not be used for consumption, and savings will gradually increase. Especially when they are in their 40s, their savings will reach a peak. Also, when they retire, their savings will begin to decrease again. Therefore, the aging has a negative effect on savings, and it also affects the accumulation of investment and capital stock. Of course, other institutional factors in a society also affect savings, but obviously aging is the most important factor. By establishing the relationship between capital formation rate and population dependency ratio, we can predict new capital and capital stock every year in the future. The data of return on investment were provided by BaiZhongen and Zhang Qiong.⁶

Third, human capital is often overlooked in the theory of "demographic dividend". When a country's demographic transition begins, low fertility often means a surge of "small families". Parents will invest more in their children, and natural human capital will increase rapidly. The emergence of "demographic dividend" often coincides with the rapid accumulation of a country's human capital. According to the current development trend of human capital in China, by 2030, the average schooling year of China will reach that of Japan in 2010. The Penn World Table provides indicators of human capital for each country, and it acquires its raw data from Barro and Lee's

⁵ Lu and Cai (2016).

⁶ Bai and Zhang (2017).

estimates.⁷ Barro and Lee respectively estimated the average schooling year of people over 15 years old in different age groups (every five years) in different countries of the world, and gave the average schooling year of each age group. With these data, we can predict the average schooling year in China by 2050.

Fourthly, compared with the above three influencing mechanisms, the relationship between total factor productivity and population factors is not obvious and mainly depends on institutional factors and technological progress. However, with the narrowing of the per capita income gap and technology gap between China and developed countries, the growth rate of total factor productivity will gradually decrease. At the same time, the improvement of resource allocation efficiency and the improvement of total factor productivity brought about by the migration of rural population to cities have gradually weakened. The combined effect of these two factors made the decline rate of total factor productivity exceed the previous expectation, and has not been improved in recent years.

5.1.2 Forecast on Potential Growth Rate of China's Economy from 2021 to 2050

According to the above influencing mechanism, it is clear that the decreasing total fertility rate and the aging trend will have a direct negative impact on the supply-side production factors, and will eventually lead to a slowdown in the potential growth rate. Based on the population forecast data made by Wang Guangzhou from the Institute of Population and Labor Economics, Chinese Academy of Social Sciences in 2019 and the small census data in 2015, and according to the models of Lu and Cai,⁸ this section estimates the changing trend of potential employment and potential economic growth rate in China in the future (see Tables 5.1 and 5.2).

The table clearly shows that the potential growth rate of China's economy will fall below 6% after 2021, and below 5.3% in 2025. After 2027, the figure will be below 5%, and about 4.2% in 2035. According to further calculations, the potential growth rate of China's economy will drop to about 2.4% by 2050.

It is a common phenomenon that the disappearance of "demographic dividend" leads to the slowdown of potential growth rate. Even if China's potential growth rate

Table 5.1 Forecast on potential growth rates of China's economy from 2021 to 2025

	2021	2022	2023	2024	2025
Potential growth rate (%)	5.87	5.62	5.46	5.37	5.25
Potential employment (per 100 million people)	7.02	6.99	6.96	6.93	6.90

Source The author's calculation (applicable to all tables in this chapter)

⁷ Barro and Lee (2013).

⁸ Lu and Cai (2013).

Table 5.2 Forecast on potential growth rates of china’s economy from 2026 to 2050 (Unit: %)

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Potential growth rate	5.17	4.97	4.82	4.77	4.65	4.57	4.45	4.32	4.28	4.21
	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Potential growth rate	4.15	4.02	3.91	3.81	3.70	3.56	3.43	3.29	3.16	3.06
	2046	2047	2048	2049	2050					
Potential growth rate	2.91	2.77	2.68	2.55	2.43					

is no longer above 6%, however, according to the economic growth rate of more than 5%, China’s per capita income level will continue to increase, and China will probably enter the ranks of high-income countries under the World Bank standards around 2025.

5.2 Forecast on Scenarios of China’s Economic Growth and Structural Change in 2035

5.2.1 Forecast of China’s Economic Growth Scenario from 2021 to 2035

Based on the structural model,⁹ in scenario prediction of this section, the impact of capacity utilization rate and investment in environmental pollution control that cannot increase effective production capacity on the actually utilized capital stock is considered. The specific ideas are as follows. First, according to Robert Solow’s economic growth model:

$$y_t = a_t + \beta k_t + \gamma l_t$$

where y_t is the actual economic growth rate in t period, k_t is the growth rate of actual capital stock in t period, l_t is the growth rate of labor force in t period, β is the elasticity coefficient of capital, γ is the elasticity coefficient of labor force, and a_t is Solow residual value, i.e. the rate of technological progress.

Assuming that u_t is the capacity utilization rate of period t (estimated by Peak-Peak method) and K_t is the capital stock of period t (constant price), the growth rate k_t of the actually utilized capital stock of period t is:

$$k_t = \left(\frac{u_t K_t}{u_{t-1} K_{t-1}} - 1 \right) \times 100\%$$

where the calculation formula of capital stock K_t is as follows:

⁹ Li et al. (2016a).

$$K_t = (1 - \delta)K_{t-1} + (1 - \xi_t)INV_t$$

where INV_t is the capital formation amount (constant price) of period t ; δ is the capital depreciation coefficient; $IENV$ take a value of 0.05; ξ_t is the capital stock reduction factor, $\xi_t = \frac{IENV_t}{IALL_t}$, where $IENV_t$ is the total investment in environmental pollution control that cannot increase effective production capacity in t period, and $IALL_t$ is the total investment in fixed assets in t period, which is used to reflect the restriction of environmental pollution control cost on economic growth.

According to the law of development economics, when an economy encounters serious overcapacity and transition of labor market, the elasticity of capital output will generally decline slowly, while the elasticity of labor output will rise gently. According to relevant literature, when predicting the economic growth rate from 2021 to 2035, we treated the capital elasticity coefficient and labor elasticity coefficient in the production function as variable coefficients, so that the value of capital elasticity coefficient gradually decreases from 0.55 in 2021 to 0.4 in 2035, and the value of labor elasticity coefficient gradually increases from 0.45 in 2021 to 0.6 in 2035. With above economic growth mechanism and China's macroeconomic annual prediction model,¹⁰ Table 5.3 gives the scenario forecast of China's economic growth from 2021 to 2035. It is clear that China's economy as a whole can still maintain a steady and rapid development trend, despite the growth rate will gradually decline.

Under the benchmark scenario, the average annual GDP growth rates will be 5.5%, 4.8% and 4.3% respectively in 2021–2025, 2026–2030 and 2031–2035 periods. In scenarios of slow growth rates, the average annual growth rate of China's GDP will be 5.1%, 4.3% and 3.6% respectively in 2021–2025, 2026–2030 and 2031–2035 periods. Judging from the annual GDP growth data of 215 countries and regions from 1960 to 2013, these two scenarios of China's economic growth in the next 15 years are in the range of medium–high speed or medium–low speed growth, and even not “slow” in scenarios of slow growth rates. According to these hypothetical scenarios, if there is no catastrophic economic crisis, China's economy can avoid the middle-income trap and smoothly enter the ranks of high-income countries.

In the above benchmark scenario, the contribution rate and contribution of China's actual capital stock, labor force and total factor productivity to GDP growth in the next 15 years are shown in Table 5.4. Among them, the actual capital stock takes into account the impact of capacity utilization rate and environmental pollution control investment that cannot increase effective production capacity.

Table 5.4 shows that in the next 15 years, the contribution rate of the actually utilized capital stock and labor force to economic growth will gradually decrease, while the contribution rate of total factor productivity to economic growth will continue to increase, indicating that the future economic growth will become increasingly dependent on scientific and technological innovation, at the same time, it is also an inevitable requirement for the high-quality development of Chinese economy.

¹⁰ Li et al. (2016b).

Table 5.3 Forecast on scenarios of china's economic growth rate from 2021 to 2035 (Unit: %)

	Benchmark scenario	Scenarios of slow growth rate
2021	5.8	5.6
2022	5.6	5.3
2023	5.4	5.1
2024	5.3	4.9
2025	5.2	4.8
Average (2021–2025)	5.5	5.1
2026	5.1	4.6
2027	4.9	4.4
2028	4.8	4.2
2029	4.7	4.1
2030	4.6	4.0
Average (2026–2030)	4.8	4.3
2031	4.5	3.9
2032	4.4	3.7
2033	4.3	3.6
2034	4.3	3.5
2035	4.2	3.5
Average (2031–2035)	4.3	3.6

5.2.2 Forecast of China's Industrial Structure Changes from 2021 to 2035

In the next 15 years, China's economy will expand and its economic structure will change significant, which is the result of long-term accumulation from quantitative change to qualitative change at different growth rates of the added value of three industries. The changing trends of three industrial structures from 2021 to 2035 are shown in Table 5.5.

From the perspective of industrial structure, the proportion of three industries in GDP shows a steady changing trend, in which the proportion of the primary industry and the secondary industry descends year by year, while the proportion of the tertiary industry ascends year by year. In the next 15 years, the proportion of the primary industry's added value to GDP will drop by more than 2% points, and the proportion of the secondary industry's added value to GDP will drop by about 6.6% points. The tertiary industry continues to maintain its largest share in the national economy, and its proportion will exceed 60% in 2030. It is predicted that the added value of three

Table 5.4 Breakdown of potential growth rate of china's economy in the next 15 years under the benchmark scenario

	GDP growth rate (%)	Capital stock utilized		Labor force		Total factor productivity	
		Contribution rate (%)	Contribution	Contribution rate (%)	Contribution	Contribution (%)	Contribution
2021	5.83	73.74	4.30	-0.52	-0.03	26.80	1.56
2022	5.58	73.41	4.10	-0.69	-0.04	27.30	1.52
2023	5.42	73.01	3.96	-0.84	-0.05	27.80	1.51
2024	5.33	72.55	3.87	-0.98	-0.05	28.40	1.52
2025	5.21	72.05	3.75	-1.11	-0.06	29.10	1.51
2021-2025	5.47	72.95	3.99	-0.83	-0.05	27.88	1.52
2026	5.13	71.49	3.67	-1.23	-0.06	29.70	1.53
2027	4.94	70.88	3.50	-1.35	-0.07	30.50	1.51
2028	4.78	70.22	3.36	-1.46	-0.07	31.20	1.49
2029	4.74	69.51	3.29	-1.56	-0.07	32.10	1.52
2030	4.62	8.75	3.18	-1.66	-0.08	32.90	1.52
2026-2030	4.84	70.17	3.40	-1.45	-0.07	31.28	1.51
2031	4.53	67.94	3.08	-1.75	-0.08	33.80	1.53
2032	4.42	67.08	2.92	-1.84	-0.08	34.80	1.54
2033	4.29	66.18	2.84	-1.92	-0.08	35.70	1.53
2034	4.25	65.22	2.77	-2.00	-0.09	36.80	1.56
2035	4.18	64.22	2.68	-2.08	-0.09	37.90	1.58
2031-2035	4.33	66.13	2.87	-1.92	-0.08	35.79	1.55

Table 5.5 Forecast of china's industrial structure changes from 2021 to 2035 (Unit: %)

	GDP growth rate	Proportion of the added value of the primary industry	Proportion of the added value of the secondary industry	Proportion of the added value of the tertiary industry
2021	5.83	6.91	38.24	54.85
2022	5.58	6.76	37.57	55.67
2023	5.42	6.60	37.02	56.38
2024	5.33	6.46	36.559	56.99
2025	5.21	6.31	36.09	57.60
2026	5.13	6.17	35.51	58.32
2027	4.94	6.02	35.09	58.89
2028	4.78	5.86	34.71	59.43
2029	4.74	5.72	34.30	59.98
2030	4.62	5.58	33.87	60.55
2031	4.53	5.42	33.42	61.16
2032	4.42	5.26	32.97	61.77
2033	4.29	5.11	32.53	62.36
2034	4.25	4.95	32.14	62.91
2035	4.18	4.82	31.69	63.49

industries will account for 4.8%, 31.7% and 63.5% of the national economy in 2035, respectively.

Under the benchmark scenario, the prediction results of the proportion of the manufacturing added value to GDP and the urbanization rate of permanent residents from 2020 to 2035 are shown in Table 5.6. By 2035, the proportion of the manufacturing added value to GDP will gradually drop to 23.1%, about 4% points lower than that in 2019. Manufacturing industry plays a pivotal role in modern economy. Many economic activities of the service industry depend on manufacturing industry. The improvement of agricultural production efficiency and the quality of agricultural and sideline products are also highly dependent on the development of manufacturing industry. For some time in the future, under the external pressure of the United States and some European countries calling for “reshoring the manufacturing sector”, how to maintain the manufacturing fundamentals, promote transformation and upgrading of the manufacturing sector, avoid rapid decline of the proportion of manufacturing industry in the economy and prevent “premature deindustrialization” will become a basic principle that needs to be firmly observed in the process of China’s economic development. By 2035, the urbanization rate of China’s permanent population will rise to 72.6%, about 12% points higher than that in 2019. In other words, China will basically realize the transition from the middle stage to the middle and late stage of urbanization in the next 15 years. The increase of average annual urbanization rate up to 0.75% points not only means the potential of economic development, but also puts

Table 5.6 Proportion of the added value of china's manufacturing and forecast of urbanization rates from 2020 to 2035 (unit: %)

	Proportion of the manufacturing added value to CDP	Urbanization rate of resident population
2020	27.21	61.50
2021	27.05	62.42
2022	26.82	63.31
2023	26.61	64.18
2024	26.42	65.02
2025	26.16	65.85
2026	25.87	66.66
2027	25.55	67.44
2028	25.23	68.20
2029	24.91	68.93
2030	24.60	69.64
2031	24.29	70.31
2032	23.98	70.95
2033	23.69	71.55
2034	23.38	72.10
2035	23.05	72.62

forward higher requirements for urban layout, municipal infrastructure construction and public service supply.

5.3 Basic Principles and Medium-Term Objectives for Promoting Economic and Social Development

5.3.1 Basic Principles for Promoting Economic and Social Development

For some time in the future, we will observe the following basic principles to promote the sustained and healthy development of China's economy and society.

(1) Pursuing high-quality development

We will further consolidate the modern economic system and promote the balance and coordination of major economic indicators. The spatial structure of regional economy will be optimized to improve investment efficiency and enterprise production efficiency. We will promote agricultural modernization and move faster to grant permanent urban residency to people who move to cities from rural areas. We will improve the integration of industrialization with

IT application, accelerate the development of advanced manufacturing industries with core technologies, and promote the continuous growth of high-end service industries. The industrial chain and supply chain will be upgraded and optimized. We will gradually increase the contribution of domestic demand, especially consumption, to economic growth, continue to improve the ecological environment, effectively control macro financial risks, and improve economic security and development resilience.

(2) Pursuing innovation-driven development

Innovation is the first driving force for development and the strategic support for building a modern economic system. As the coming period is a critical stage for China to overstep the threshold of high-income countries, we will focus on innovation-driven development and regard innovation as the fundamental driving force to promote economic growth, so as to promote the economy from factor accumulation growth to innovation-driven development, and improve the contribution of total factor productivity to economic growth.

(3) Comprehensively deepening reform remains the impetus for development

Efforts to deepen reform across the board will unleash new drivers of growth. We will accelerate the improvement of the socialist market economic system with Chinese characteristics, and see to it that the market plays a decisive role and the government plays a better role in resource allocation. The national governance system and the institutional system of modernization of governance capacity will be established and improved to stimulate the power and vitality of the whole society, and highlight the advantages of the socialist system.

(4) Focusing on higher-standard opening up

With efforts to open wider to the outside world, we will build a new open economic system at a higher standard, create an international advanced business environment, and continuously enhance global competitiveness. We will build an open system for win-win cooperation and inclusive development, and make more contribution to global economic governance.¹¹ A high-standard security mechanism will be established to provide stronger guarantee for national security and development interests.

(5) Pursuing a people-centered approach to development

The wellbeing of the people is the fundamental goal of development. We must do more to improve the lives and address the concerns of the people in order to satisfy the yearning of people for a better life. Every effort will be made to increase residents' income, optimize the income distribution structure, expand the size of middle-income groups, and promote common prosperity. We will advance the development of social undertakings, enhance social harmony and stability, and making people have much stronger senses of fulfillment, security and happiness. Continuous efforts will be exerted to promote democracy and the rule of law, and improve the social governance mechanism for public contribution, joint participation, common interests and development so as to continuously facilitate well-rounded human development.

¹¹ Research Group of Development Research Center of the State Council (2020).

5.3.2 Major Medium-Term Goals of Promoting Economic and Social Development

Based on the domestic and international environment at the end of the 13th Five-Year Plan, and in accordance with the goal of embarking on a new journey to basically realize the socialist modernization, the main goals of China's economic and social development for some time in the future should cover the following aspects.

- (1) **Achieving significant progress in innovation-drive development**
We will make major breakthroughs in core technologies in key areas, enhance the capability of independent innovation, deal with technological bottlenecks, and make it possible to go from following behind, and running with the crowd to taking the lead in order to create a coordinated, high-efficiency and modern national innovation system with Chinese characteristics. We will increase R&D investment, especially bolster the support for basic research. We will raise the number of invention patents per 10,000 people, especially the number of high-tech invention patents. The science and technology will be further integrated with economy and society to improve the contribution of scientific and technological progress to economic growth.
- (2) **Achieving significant results in industrial upgrading**
We will speed up effort to build a new industrial system that meets the comparative advantages in the new stage, satisfy the requirements of high-quality development and has strong international competitiveness. A reasonable industrial structure will be maintained to prevent the proportion of manufacturing industry in GDP from falling too fast. We will guide rational distribution of various factor resources from a macro perspective so as to establish an institutional mechanism linking industrial upgrading with factor allocation, optimize the structure of factor allocation, ensure investment, production and circulation in real economy rather than in virtual economy, and prevent excessively finance-oriented economic development. We will bolster efforts to promote transformation and upgrading of traditional industries, facilitate intelligent, green and service-oriented transformation of manufacturing industry, promote high-quality development of agriculture, manufacturing industry and service industry, and push forward the integration and development of advanced manufacturing industry and modern service industry. We will make good use of the opportunity of the new round of technological revolution to focus on the development of digital economy, and form a virtuous circle of two-way interaction between industrial chain and innovation chain. We will step up efforts to improve the basic industrial capacity and modernization of the industrial chain, and improve the safety level of the industrial chain and supply chain, thus making some leading industries enter the high-end global value chain.
- (3) **Expanding domestic market**
We will expand domestic demand in the process of population urbanization, and maintain sufficient infrastructure investment and public services such as education and medical care in areas with population inflow, so as to further

expand Chinese market. We will make full advantage of Chinese market's enormous size, sufficient potential, strong resilience and rapid growth to boost the development of service industries such as education, child care, old-age care, medical care, culture and tourism. The demand for consumption upgrading has urged market players to increase investment in weak links so as to advance the construction of new infrastructures such as 5G, big data, artificial intelligence, Internet of Things and industrial Internet. We have perfected the unified, open and competitive market system and the investor and consumer protection system. The quality of domestic consumer goods has obviously improved, and the consumer goods market has become more diversified.

(4) Advancing higher-standard opening to the outside world

We will build a new open economic system at a higher level to extend opening from manufacturing to all industrial sectors, and promote the transition from opening of commodity and factor mobility to opening of institutional systems such as rules, regulations, management and standards. The institutional and structural arrangements will be reinforced in order to build a high-standard market economy, and participate in higher-level international cooperation and competition. An internationally advanced business environment will be created to realize the transformation from cost advantage to comprehensive competitive advantages in terms of talents, capital, infrastructure, technology, service and brand. We will uphold the vision of building a global community of a shared future and promote the transformation of the "Belt and Road" Initiative to high-quality development. Our efforts will aim to uphold multilateralism, safeguard the multilateral trading system and trade liberalization, stand up for international fairness and justice, and promote more just and rational development of the global governance system and mechanism. A high-standard security mechanism will be built to protect the safety of major overseas projects and personnel, and provide a strong guarantee for national security and development interests.

(5) Improving living standards

We will give high priority to employment, pursue a proactive employment policy, and strive to achieve the primary goals of macro policy including fuller employment and better quality jobs. We will open up more channels to increase urban and rural incomes, narrow the income gap between urban and rural areas, and scale up the proportion of middle-income people. Efforts to redistribute incomes will be enhanced to equalize basic public services, add more entries onto the list of national basic public service items, improve living standards, make up for social weaknesses and promote common prosperity. The fruits of poverty alleviation will be consolidated to expand industries that can make people better-off, and establish a long-term mechanism for sustained income growth of low-income groups. We will actively promote the modernization of education. The schooling years of the working-age population will continue to increase and the proportion of new members of labor force who have received higher education will continue to increase. The healthy China strategy will be implemented to lengthen people's average life span and health span, and further improve the accessibility of basic medical and health services. Our efforts are aimed to

enhance the fairness and sustainability of the social security system. We will work faster to promote cultural and sports undertakings, and advance the development of philosophy and social sciences. We will improve the socialist democracy and legal system, and safeguard the people's rights and interests. We will perfect the social management system and make the society more harmonious and orderly.

(6) Achieving remarkable progress in green development

We will step up efforts to promote environmental pollution control and ecological protection. We will never cross the red line for the protection of cultivated land. A unified management mechanism of nature reserves will be improved, and the national park system will be formally established. By minimizing and recycling wastes, we will focus on developing circular economy to make rational and efficient use of various resources. We will work faster to transform the mode of energy production and consumption and develop clean energy industries so as to increase the proportion of non-fossil energy in primary energy consumption. A dual control system for total consumption and intensity of energy, water resources and land for construction will be in place to promote land resource conservation, intensive use and spatial planning, and ensure a constant decline in energy consumption, water consumption and land consumption per unit GDP. We will reduce the carbon dioxide emissions per unit GDP, and improve the carbon emissions trading mechanism. We will implement action plans for prevention and control of air, water and soil pollution. Efforts will focus on ecological protection and restoration to improve air quality, reduce the concentration of fine particles in the air, purify surface water, and make breakthrough progress in soil pollution control. We will enhance the biosafety governance capacity, foster green production and consumption of biofuels, and perfect the environmental risk prevention system. The forest coverage rate will be improved, and the environmental capacity and ecological space will be further expanded.

(7) Improving the state governance system

We will uphold and improve socialism with Chinese characteristics and modernize the state governance system and capacity. We will firmly uphold the authority and improve the systems of centralized and unified leadership of the CPC Central Committee, and improve the overall leadership system of the Party. We will uphold and improve the basic socialist economic system and the rule of law under socialism with Chinese characteristics so as to enhance the CPC's capacity as the ruling party to pursue law-based governance. We will uphold and improve the administrative system under socialism with Chinese characteristics and build a law-based administration system that ensures clearly defined duties and responsibilities so as to improve the rural governance system, the community governance system and the urban governance system. We will rationalize the division of labor and coordination between the Central and local governments and between governments and society, and enhance the capability of responding to major public health emergencies.

5.3.3 Main Indicators of Economic and Social Development for Some Time in the Future

In accordance with the following three principles and the 12th Five-Year Plan and the 13th Five-Year Plan, we have adjusted and improved the major objectives and basic principles to be followed in promoting economic and social development for some time in the future, and obtained the main indicators system of national economic and social development in the coming period. First, we deleted indicators that do not meet the needs of high-quality development in the new era or have little room for improvement. Second, we added indicators that reflect the needs of high-quality development in the new era and help resolve the contradiction between the people's growing needs for a better life and unbalanced and insufficient development. Third, we adjusted and optimized some indicators according to the changes of economic development and the improvement of statistical technology.

Considering some qualitative objectives, we have not set quantitative indicators separately. Therefore, the framework of the 12th Five-Year Plan and 13th Five-Year Plan can be used for the main indicator system of national economic and social development for some time in the future. On this basis, we have made some deletions, additions and adjustments according to the new conditions and new trends of economic and social development. After adjustment, these objectives are generally categorized into economic development, innovation-driven development, well-being of the people, and green development. The indicators are divided into anticipatory indicators and obligatory indicators.

Based on main objectives and the forecast on China's future economic growth potential and with reference to the national mid-to-long-term special plans, specific suggestions are given for the selection and setting of main objectives for some time in the future, as shown in Table 5.7.

It is noted that the COVID-19 epidemic has brought great impact to the global and Chinese economies, and there are still great uncertainties in its future development. In extreme cases, the epidemic may lead to the shrinkage of China's external market, so it is not excluded that the actual economic growth rate is lower than the potential growth rate.

5.3.4 Indicators for Economic Development

Under the category of "Economic Development", the 13th Five-Year Plan lists four indicators: gross domestic product, overall labor productivity, urbanization rate (including urbanization rates of resident population and registered population), and the proportion of added value of service industry. On this basis, the future mid-to-long-term planning can be adjusted as follows.

"The proportion of added value of service industry" is changed to "the proportion of added value of manufacturing industry" as an obligatory indicator. Here is

Table 5.7 Suggestions on selection and setting of main indicators for some time for some time in the future

		2015	Anticipatory objectives in 2020		Anticipatory objectives in 2025		Attribute
			2020	Average annual growth rate (%) ^①	2025	Average annual growth rate (%)	
<i>1. Economic development</i>							
(1) GDP (trillion yuan)		68.9	> 92.7	> 6.5	130.2 ^②	5.0	Anticipatory
(2) Overall labor productivity (10,000 yuan/person)		8.9	> 12.0	> 6.6	> 16.9 ^③	5.1	Anticipatory
(3) Urbanization rate	Urbanization rate of resident population (%)	56.1	60.0	[3.9]	65.5	[4.0]	Anticipatory
	Urbanization rate of registered population (%)	39.9	45.0	[5.1]	50.0	[5.0]	Anticipatory
(4) Proportion of the added value of manufacturing industry (%)		29.5	–	–	> 25.0	–	Obligatory
<i>2. Innovation-driven development</i>							
(1) R&D investment	R&D expenditure input intensity (%)	2.06	2.5	[0.4]	2.4	[0.2]	Anticipatory
	Proportion of basic research funds in R&D expenditure (%)	5.1			9.0	[4]	Anticipatory
(2) Invention patent ownership per 10,000 people (pieces)		6.3	12.0	[5.7]	23.0	[8]	Anticipatory
(3) Contribution rate of scientific and technological progress (%)		55.3	60.0	[4.7]	65.0	[5]	Anticipatory
<i>3. People's well-being</i>							

(continued)

Table 5.7 (continued)

	2015	Anticipatory objectives in 2020		Anticipatory objectives in 2025		Attribute
		2020	Average annual growth rate (%) ^①	2025	Average annual growth rate (%)	
(1) Growth of per capita disposable income of residents (%)	–	–	> 6.5	5.0	–	Anticipatory
(2) Surveyed urban unemployment rate (%)	–	–	–		5.5	Anticipatory
(3) Average schooling years of working-age population (years)	10.2	10.8	[0. 6]	11.3	[0.5]	Obligatory
(4) Number of practicing (assistant) physicians per thousand population (person)	–	–	–	2.8 ^④	[0.2]	Anticipatory
(5) Number of nursing beds for the elderly (bed)	–	–	–	45.0	[15.0]	Anticipatory
(6) Average life expectancy (years)	76.3	–	[1. 0]	78.6	[1.0] ^⑤	Anticipatory
<i>4. Green development</i>						
(1) Total amount of cultivated land (100 million mu)	18.7	18.7	[0]	18.5 ^⑥	[–0.2]	Obligatory
(2) Decrease of water consumption per 10,000 yuan of GDP (%)	–	–	[23.0]	–	[23.0] ^⑦	Obligatory
(3) Decrease of energy consumption per unit GDP (%)	–	–	[15. 0]	–	[15.0]	Obligatory
(4) Decrease of carbon dioxide emissions per unit GDP (%)	–	–	[18.0]	–	[18.0]	Obligatory
(5) Proportion of non-fossil energy in primary energy consumption (%)	12.0	15.0	[3.0]	18.0	[3.0]	Obligatory
(6) National forest coverage rate (%)	21.7	23.0	[1.4]	24.4 ^⑧	[1.4]	Obligatory
(7) Decrease of fine particulate matter (PM25) concentration in key cities (%)	–	–	[18.0]	–	[12.0] ^⑨	Obligatory

(continued)

Table 5.7 (continued)

	2015	Anticipatory objectives in 2020		Anticipatory objectives in 2025		Attribute
		2020	Average annual growth rate (%) ^①	2025	Average annual growth rate (%)	
(8) Proportion of surface water reaching or better than Class I water body (%)	66.0	> 70.0	–	> 80.0	–	Obligatory

Note ^① The number in [] is the expected 5-year cumulative number. ^② GDP priced at 2019 prices. ^③ It is GDP denominated at 2019 prices. ^④ The number of practicing (assistant) physicians per 1,000 population is expected to be no less than 3.0 in 2030 in the medium and long term. ^⑤ According to the Healthy China Action (2019–2030), the health span is expected to reach 77.7 years in 2022 and 79 years in 2030. Considering the actual situation nationwide and the situation of some cities (such as Beijing and Nanjing, where the health span is over 82 years), it may be better than the expectations in the Healthy China Action (2019–2030). ^⑥ The National Land Planning Outline (2016–2030) predicts that the amount of cultivated land in 2030 will not be less than 1.825 billion mu. ^⑦ According to China Water Resources Bulletin 2018, the water consumption per 10,000 yuan of GDP (current price) is 66.8 cubic meters, 6.6% lower than that in 2017 if calculated at comparable price. According to the National Comprehensive Planning for Water Resources, by 2030, the water consumption per 10,000 yuan of GDP will be reduced by about 40%, compared with 2020. During the 13th Five-Year Plan (2016–2020), the water consumption per 10,000 yuan of GDP reduced by 23%. With the increase of comprehensive utilization of water resources, this target will continue in the five years from 2021 to 2025. ^⑧ The United Nations Strategic Planning for Forests (2017–2030) suggests that the forest area should be increased by 3%. ^⑨ “Key cities” refer to cities where the concentration of fine particles in the air was not up to standard at the end of the 13th Five-Year Plan period

the reason for this change. In 2019, the added value of China’s service industry accounted for 53.9% of GDP, still lower than the average level of developed countries. However, if the proportion of service industry grows too fast and the proportion of manufacturing industry declines too fast, there may appear the risk of premature “deindustrialization”. Especially under the background that the United States and other major developed countries advocate the comeback of manufacturing, it is not appropriate to simply pursue the proportion of service industry as a development goal for some time in the future. On the contrary, the too fast decline of the proportion of manufacturing industry will easily lead to the hollowing-out of the industry, which is not conducive to sustainable economic development and social stability. Compared with other major economies, the proportion of manufacturing industry in China’s economy is still relatively high; however, the trend of continuous decline in recent years should arouse vigilance. Therefore, it is suggested that “the proportion of manufacturing added value” should be listed as an obligatory indicator in the future, and that the lower limit of manufacturing proportion should be established to prevent the proportion of manufacturing from falling too fast.

After adjustment, the following four indicators under the category of “economic development” can be set in the future medium and long-term planning: gross domestic

product, overall labor productivity, urbanization rate (including urbanization rates of resident population and registered population) and the proportion of added value of manufacturing industry.

5.3.5 Indicators for Innovation-Driven Development

Under the category of “innovation-driven development”, the 13th Five-Year Plan lists four indicators: R&D expenditure input intensity, invention patent ownership per 10,000 people, contribution of scientific and technological progress and Internet penetration rate (including fixed broadband household penetration rate and mobile broadband user penetration rate). On this basis, the future mid-to-long-term planning can be adjusted in the following two aspects.

- (1) In addition to “R&D expenditure input intensity”, the index of “proportion of basic research funds in R&D funds” is added, and both are listed under “R&D spending” and set as anticipatory targets. On the one hand, basic scientific research plays a special and important role in the scientific and technological innovation system, and is the premise of applied science and engineering technology progress; nevertheless, it is a weak link in China’s current scientific and technological innovation system. On the other hand, compared with general research and development, basic scientific research has stronger positive externalities and should be encouraged and supported by the government. In addition to the R&D expenditure input intensity, the new index of “the proportion of basic research funds in R&D funds” helps encourage the development of basic scientific research.
- (2) The “Internet penetration rate” index is deleted. This is because this target has been achieved ahead of schedule by the end of 2018. At the end of 2018, the penetration rate of fixed broadband households in China reached 86.1%, and that of mobile broadband users reached 93.6%, both of which exceeded the expected target of 2020 set in the 13th Five-Year Plan. Considering that the penetration rate of fixed broadband and mobile broadband has reached a high level, and the space for further improvement is limited, it is suggested that it should not be listed as a development goal in the future.

After adjustment, under the category of “innovation-driven development”, the following three indicators can be set in the future mid-to-long-term planning: R&D spending (including R&D expenditure input intensity and the proportion of basic research funds in R&D funds), invention patent ownership per 10,000 people and the contribution of scientific and technological progress.

5.3.6 Indicators for Public Well-Being

Under the category of “public well-being”, the 13th Five-Year Plan lists seven indicators: the growth of per capita disposable income of residents, the average schooling years of working-age population, the number of new jobs created in cities and towns, the number of rural residents lifted out of poverty, the coverage of basic old-age insurance, the housing units rebuilt in run-down urban areas, and the average life expectancy. On this basis, the future medium and long-term planning can be adjusted in the following four aspects.

- (1) The “number of new jobs created in cities and towns” index is changed to “surveyed urban unemployment rate”. Employment is of paramount importance for public well-being. The new job-hopping person-times are included into the number of new jobs created in cities and towns, but the number of jobs lost due to job-hopping is not counted, so it is difficult to accurately judge the real situation of employment. The surveyed unemployment rate is an index designed and implemented according to the norms and standards of the International Labor Organization; therefore, it is internationally comparable and more objective, and is an effective index for judging and regulating macro-economy. Since 2013, China has gradually published the surveyed unemployment rates by cities and towns. Since 2018, the surveyed unemployment rate has been published month by month as a regular indicator of employment statistics. This indicates that China has fully met the conditions for carrying out and publishing the surveyed unemployment rate. Defining it as an anticipatory indicator is conducive to the formation of a social atmosphere that pays more attention to employment, and also helps better carry out the management of objectives of macroeconomic regulation and control.¹²
- (2) “The number of practicing (assistant) physicians per thousand populations” is added and set as an anticipatory indicator. To effectively meet people’s medical needs, we must have abundant professional human resources in addition to good hardware conditions. At present, the average number of practicing (assistant) physicians per 1000 people in China is less than 3, and there is a very obvious regional gap. The addition of this anticipatory indicator will place more emphasis on the “human” factor in the process of improving medical level so as to build a stronger professional team.
- (3) “The number of nursing beds for every 1000 elderly people” is added and set as an anticipatory indicator. With the advent of an aging society, the demand for social elder security has been released. Adding this anticipatory indicator is helpful to dynamically understanding the satisfaction of hardware facilities of the elderly care institutions relative to the size of the elderly population. It will also help provide specific social management.
- (4) The original three indicators, such as the “number of rural residents lifted out of poverty”, “coverage of basic old-age insurance” and “housing units rebuilt in run-down urban areas” are deleted. This is because the three indicators have been

¹² Lu et al. (2015).

basically completed and need to be consolidated, though the work in relation to these indicators is extremely important. The main task in the next stage is to maintain a stable existing state rather than a significant improve the quantity. In special planning or regional planning, whether or not the above indicators will be assessed depends on the actual conditions in each region.

After adjustment, under the category of “public well-being”, the following six indicators can be set in the future medium and long-term planning: the growth of per capita disposable income of residents, the surveyed urban unemployment rate, the average years of schooling of the working-age population, the number of practicing (assistant) physicians per 1000 population, the number of nursing beds for every 1000 elderly people, and the average life expectancy.

5.3.7 Indicators for Green Development

The 13th Five-Year Plan lists 10 indicators under the category of “resources and environment”, including: total amount of cultivated land, area of new construction land, decline of water consumption per 10,000 yuan GDP, decline of energy consumption per unit GDP, proportion of non-fossil energy in primary energy consumption, decline of carbon dioxide emissions per unit GDP, forest development (including forest coverage and forest stock), air quality (including the proportion of days with good air quality and fine particulate matter in prefecture-level cities and above (PM_{2.5})), surface water quality (including two sub-items reaching or better than Class I water body and inferior to Class V water body), and total emission reduction of major pollutants (including four sub-items: chemical oxygen demand, ammonia nitrogen, sulfur dioxide and nitrogen oxides). On this basis, the future medium and long-term planning can be adjusted in the following three aspects.

- (1) The obligatory indicator—“area of new construction land”—is deleted. According to the implementation of the 13th Five-Year Plan, it is still difficult to complete the established obligatory targets under the condition that the procedures for adding new construction land are quite strict, the reason for which is structural contradictions or insufficient preliminary evaluation. For some time in the future, we will focus on perfecting the land supply mechanism of construction land to improve the construction land efficiency, and align the construction land with the increase of resident population and economic activities in a region. We will continue with strict control of the size and intensity of construction land, and will no longer list obligatory indicators, so as to improve the flexibility of yearly and regional allocation of indicators, and not take a one-size-fits-all approach to major projects and infrastructure projects related to improving people’s living standards just because of the obligatory indicators. Deleting this indicator does not mean that the overall control is weakened.

- (2) The sub-item “forest growing stock” under the “forest development” is deleted, and the obligatory indicator “forest coverage” is retained. From the existing experience learnt during the 13th Five-Year Plan, it is not difficult to achieve the target of forest growing stock under the premise of improving forest coverage and scientific logging, so it can be maintained or set slightly higher than the existing level in the future without the need to list it separately. In addition, the forest growing stock mainly reflects the resource and economic characteristics of forestry rather than the environmental protection characteristics. The simple and intuitive use of forest coverage to reflect the forest development¹³ is convenient for management and comparison and for explaining the problems.
- (3) Three sub-item indicators related to environmental quality can be revised as follows. Under the item of air quality, delete “the proportion of days with good air quality in prefecture-level cities and above”, and retain “the concentration of fine particulate matter (PM_{2.5}) not up to standard in prefecture-level cities and above”. Under the item of surface water quality, delete “inferior Class V water body”, and retain “reaching or better than Class I water body”. The “reduction of total discharge of major pollutants” is no longer listed separately. With efforts to make our skies blue again, the proportion of days with good air in cities above prefecture level has gradually increased to over 80%. In the future, we will maintain a higher level of stability and continue to improve air quality, and will no longer list the air quality improvement as a separate target of the plan management. However, there are still many cities at prefecture level and above where the concentration of fine particulate matter (PM_{2.5}) is not up to standard, so it is necessary to step up efforts to reduce the concentration of fine particulate matter in these cities. At the end of the 13th Five-Year Plan period, the proportion of inferior Class V water bodies (wastewater) is expected to be reduced to less than 5%, and may be basically eliminated for some time in the future. Therefore, the key task is to keep the treatment intensity of these water bodies, without the need to list specific target values. Significantly increasing the proportion of “good-quality water” in surface water is intuitively more meaningful for improving living standards. At the same time, it will objectively reduce the proportion of “waste water”. So, we will maintain “the proportion of surface water reaching or better than Class 1 water body”. On the premise of upholding green development and strengthening environmental protection, the environmental cost per unit output will inevitably be significantly reduced, so it is not necessary to separately list the reduction of total discharge of major pollutants in our overall planning.

After adjustment, under the category of “green development”, the following eight indicators can be set in the future medium and long-term planning: total amount of cultivated land, decline of water consumption per 10,000 yuan of GDP, decline of energy consumption per unit GDP, decline of carbon dioxide emissions per unit GDP,

¹³ Guo and Zhang (2019).

proportion of non-fossil energy in primary energy consumption, forest coverage, reduction of the concentration of fine particulate matter (PM_{2.5}) in prefecture-level cities and above, and proportion of surface water reaching or better than Class II water bodies.

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Chapter 6

Research on Rural Vitalization and Anti-Poverty Strategy and Policy



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The rural vitalization and anti-poverty strategy is an important part of China's strategies for mid-to-long-term economic and social development. The 14th Five-Year Plan period is the launching period of rural vitalization strategy, and the transitional period of anti-poverty strategy. With the realization of the goals of the fight against poverty, China's anti-poverty policy will change from hypernormal poverty alleviation to conventional poverty governance, and the focus of the national work related to "agriculture, rural areas and farmers" will also shift from poverty alleviation to the full implementation of the rural vitalization strategy. For a long time to come, China's rural vitalization and anti-poverty efforts will aim to comprehensively deepen reforms, stimulate the internal driving force of rural development, and gradually establish a long-term mechanism for farmers to increase their income and reduce relative poverty, so as to lay a solid foundation for basically realizing agricultural and rural modernization in 2035.

6.1 Overall Evaluation of the Rural Vitalization Strategy and the Fight Against Poverty

6.1.1 *Progress and Shortcomings in the Implementation of the Rural Vitalization Strategy*

In October 2017, the implementation of the rural vitalization strategy was first proposed in the report of the 19th CPC National Congress. On January 2, 2018, the Central Committee of the Communist Party of China and the State Council

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issued the *Opinions on Implementing the Rural Vitalization Strategy*, which provides a top-level design of the objectives, tasks and paths of the rural vitalization strategy, and makes it clear that important progress will be made in rural vitalization by 2020, and that the institutional framework and policy system will be basically formulated. In June 2018, the Central Committee of the Communist Party of China and the State Council officially issued the *Strategic Plan for Rural Revitalization (2018–2022)*, which further clarified the objectives, key tasks and paths of implementing the rural vitalization strategy, and put forward a series of major projects, plans and actions.

On January 3, 2019, the Central Committee of the Communist Party of China and the State Council issued the *Several Opinions on Prioritizing the Development of Agriculture and Rural Areas and Addressing Issues Related to Agriculture, Rural Areas and Farmers*, which made overall arrangements for addressing issues relating to agriculture, rural areas and farmers while implementing the general policy of prioritizing the development of agriculture and rural areas and implementing the rural vitalization strategy. On April 15th, the Central Committee of the Communist Party of China and the State Council issued the *Opinions on Establishing and Improving Sound Systems, Mechanisms and Policies for Integrated Urban–rural Development*, making comprehensive arrangements for the institutional guarantee for the implementation of the rural vitalization strategy. On June 24th, the Political Bureau of the CPC Central Committee deliberated and approved the *Regulations of the Communist Party of China on Rural Work*, which clarified the general thinking, basic principles, organizational leadership, main tasks, team building, safeguard measures, assessment and supervision of the Party's rural work. The Standing Committee of the 13th National People's Congress revised the *Law of Land Contract in Rural Areas* and the *Law of Land Administration*. The *Law on the Promotion of Revitalization of Rural Areas* is also being formulated.

Under the guidance of two No. 1 Documents of the Central Committee in 2018 and 2019 and the *Strategic Plan for Rural Vitalization (2018–2022)*, all ministries and commissions have successively issued a series of policy documents and programs to guide the implementation of the rural vitalization strategy, carried out pilot reforms and refined support policies to promote the implementation of the strategic plan for rural vitalization as soon as possible. All provinces (autonomous regions and municipalities directly under the Central Government) as well as cities and counties have also successively issued strategic plans for rural vitalization and their guiding opinions, and clarified the objectives, key tasks and implementation paths of rural vitalization strategies in various places. They also issued corresponding policies and measures. It thus clear that the rural vitalization strategy has made important progress since its implementation for more than two years, and its institutional framework and policy system have been basically established. On this basis, some pilot reform and major action plans are also being actively and orderly promoted, laying a solid foundation for the full implementation of the rural vitalization strategy in the next step. However, the current institutional framework and policy system have basically taken shape, but long-term unremitting efforts are needed to effectively implement the planning and policies. For some time in the future, we will stay focused on addressing

inadequacies and shoring up points of weakness according to the strategic plan for rural vitalization. These inadequacies and weak areas include:

(1) Inadequacies in rural infrastructure.

Remarkable results have been achieved in China's rural infrastructure construction, but there is still a distance to achieving the goal of the rural vitalization strategy, which is an inadequacy in rural revitalization.

First, poor management and protection of rural infrastructure.

In recent years, rural infrastructure projects including water supply, electricity supply and road network have been improved, but they remain in poor management and maintenance. First, more emphasis is placed on construction than on management and maintenance of projects. There is a universal phenomenon that local government tends to pay more attention to short-term construction of projects than to long-term effect gained through project maintenance. Upon completion, a project is not clarified with "who will manage and maintain it", because the village-level government can see it, but is not authorized to manage it while the district-level government is authorized to do so, but cannot see it. Second, the technical standards for project management and maintenance are not in place. In some areas, specific management and maintenance technologies for roads and river courses are less normative and in lack of uniform standards. Third, the management and maintenance team is not highly qualified. The existing staff of rural infrastructure management and maintenance team is too old and unskilled to provide effective management and maintenance of projects. In addition, low wage standards are not magnetic to talented people and will not provide potent support for local economic development.

Second, low quality of traffic facilities construction in rural areas.

Traffic facility is the most important infrastructure in rural areas. In recent years, with the promotion of new countryside construction and rural vitalization strategy, the rural road network has become more reasonable in structure, and the number of half-completed and impassable roads has diminished. However, the quality and level of rural transportation facilities generally remain low. First, more emphasis is placed on construction progress than on project quality. For many rural transportation projects, the construction progress is taken as the primary index, so that construction standards are overlooked in order to meet the project schedule. Second, more emphasis is placed on construction than on maintenance of project. Local governments pay more attention to the construction than to the maintenance of rural transportation facilities, resulting in serious loss of rural transportation facilities.

Third, low level of the gas supply and sanitation facilities in rural areas.

The water and gas supply facilities in rural areas are much poorer than those in urban areas. In 2018, the coverage rate of water supply in villages throughout the country was 77.69%, 20.67 percentage points lower than that in urban areas; however, the gas coverage rate in villages was only 28.59%, while that in cities reached 96.70%. More importantly, the level of rural sanitation facilities remains low and varies much from one region to another. In recent years, the garbage treatment and toilet renovation have been promoted rapidly during campaigns to improve rural living environments, but the sewage treatment has not raised high concerns. In 2017, the coverage rate of

sanitary toilets in rural areas reached 81.7%; in 2018, the sewage treatment rate of townships was only 18.75%, among which the centralized treatment rate of sewage plants was only 11.12%. In the same year, although the domestic garbage treatment rate of townships reached 73.18%, the harmless treatment rate was only 32.18%.

Forth, big gap between urban and rural IT applications.

In recent years, remarkable results have been achieved in China's rural IT applications, with great improvement made in the information infrastructure and the number of rural netizens increasing rapidly. By the end of 2018, 96% of China's administrative villages had access to optical network, and 95% of administrative villages were covered by 4G networks. However, there is a big gap between urban and rural IT applications. In 2018, the national rural Internet penetration was 38.4%,¹ far below the city and national averages. According to the 44th *Statistical Report on Internet Development in China*, as of June 2019, there were 225 million rural Internet users in China, accounting for only 26.3% of the total number of Internet users. However, the number of rural non-netizens accounted for 62.8% of the national total, indicating that there were more non-netizens in rural areas. According to the third national agricultural census data, only 47.8% of farmers used Internet mobile phones. Lack of using skills, limited education and low income level are the main reasons affecting the popularity of Internet in rural areas.

(2) Inadequacies in rural public services.

First, insufficient supply of rural public services.

Over the years, due to unitary source of supply and insufficient fund input, public services such as rural education, medical and health care, old-age care, culture and sports have been in short supply. In terms of education, in recent years, urban and rural compulsory education in counties has been rapidly promoted. By the beginning of 2019, 2,717 counties (accounting for 92.7%) in China had achieved basically balanced development of compulsory education, but the development of rural preschool education lagged far behind urban areas, showing the phenomenon of urban–rural polarization. In terms of medical and health care, 80% of the country's medical service resources were concentrated in cities, and the rural medical and health service system was not sufficient to benefit all farmers. There is still a certain gap between farmers' economic burden for medical advice and China's health development goal that "everyone has access to basic medical and health service" in 2020. In terms of old-age support, the rural old-age service mode remains unitary and short of service facilities and talents, and the social and cultural services in rural areas lag far behind. The coverage of nursing homes in rural communities is only 1/2 of that in cities, and that of retirement homes or daycare centers for the elderly is only 1/5 of those in cities.² In terms of culture, the rural public culture facilities receive less fund input, attract few talented persons, are in lack of activity venues and equipment, and are used less frequently or left unused. Moreover, the rural cultural work lacks original ideas, and the rural residents are less interested in cultural consumption. In the

¹ Wei and Du (2019). <http://www.scs.moa.gov.cn/gzdt/201911/p020191119505821675490.pdf>.

² Du and Wang (2019).

era of network and empty nest, the shortage and insufficient use of cultural facilities and the mismatch of resource space are the key problems facing the development of rural culture.

Second, low standard and level of social security in rural areas.

In 2014, medical insurance programs for China's rural residents and urban unemployed were merged into a single basic health insurance plan. However, due to the limited income level of farmers and their weak awareness of insurance, most of them are only willing to choose low-grade insurance, resulting in insufficient accumulation of personal account funds, limited payment amount and low-level security. Due to farmers' weak awareness of social security and indifference to get insurance, family security is currently the most important way of old-age insurance in rural areas, i.e. a family based on blood ties is still the strongest guarantee. However, as children are moving to cities, there is a phenomenon of vacant members in rural families, which has led to a serious problem that the elderly are left unattended. Some problems have not yet been fundamentally solved, such as the low level of rural medical security and service, and the difficulty and high cost for farmers to get medical treatment. In terms of social assistance, the subsistence allowance for rural residents is still not in place in most areas, and the assistance funds granted to rural recipients and people living dire poverty are far lower than allowances received by urban residents. In 2018, the average standard for rural minimum living guarantee was 402.8 yuan per person per month, 30.5% lower than that for urban residents; besides, the assistance fund granted to rural people living in dire poverty amounted to 6745.1 yuan, 36.7% lower than that granted to urban residents.

Third, fewer fund input in rural public services.

At present, nearly 40% of China's population still lives in rural areas. The fund input in rural public services such as science and technology education, medical care and public health, culture and sports, and environmental governance is much lower than that in urban public services. For example, insufficient funds for rural medical care and health have led to inadequate rural health resources, unreasonable structure of health resources allocation, and unbalanced development between urban and rural areas, which is difficult to meet the growing needs of rural residents for health services. The government grants more assistance funds to rural residents with disabilities and childless infirm rural residents receiving guarantees of food, clothing, medical care, housing and burial expenses; in the meantime, the insufficient input by the government in inclusive policy, rural old-age care and activity space construction has led to the shortage of old-age care services for the disabled and empty nesters. If population is taken as a reference, the per capita public service funds for rural residents are far lower than funds for urban residents. In 2016, the per capita health expenditure in rural areas was only 41.3% of that in urban areas. In 2018, the per capita investment in drainage facilities in villages across the country (calculated according to resident population) was only 15.7% of that in cities (calculated according to urban population), and the per capita investment in sewage treatment facilities was only 17.5% of that in cities.

(3) Shortage of science and technology and talents in rural areas.

The imperfect rural science and technology service system and the inadequate talent team are the key factors restricting rural vitalization. At present, the implementation of the rural vitalization strategy is faced with the shortage of talents. First, rural residents' scientific and cultural qualities remain low. In 2018, the rural illiterate population accounted for 8.07% of total population aged 15 and above, 12.17% of which were women, showing a slight uptrend. According to the third national agricultural census data, 91.7% of agricultural production and management personnel have received junior high school education or below, and 43.4% received primary school education or below. Second, serious shortage of countryside construction talents at all levels. At present, there is a serious shortage of practical talents in rural areas in China. Although the number of new-type professional farmers has grown rapidly in recent years, they account for a small proportion in rural employment and personnel. The insufficient supply of agricultural scientific and technical personnel and unreasonable professional skills and age structure, which are mostly found in county (districts) and township organization, have led to the fact that the establishment of rural public service team has lagged far behind, and that rural areas are short of middle and senior technical talents. In 2018, only 0.7% of the village clinic staff in China earned a bachelor degree or above, and only 0.6% obtained middle and senior professional and technical qualifications, 23.7% of whom were aged 60 and above. Rural old-age services are in serious shortage of medical, nursing, psychological counseling, social workers, management and other talents. Third, there are few efforts in cultivation of rural talents. At present, the training of rural talents mainly is focused on planting and breeding technology and operation management, which is difficult to meet the need of rural vitalization for diversified talents. At the same time, due to lack of platform, development opportunities and promotion channels, it is difficult for village government to recruit and retain competent personnel. Rural teachers, especially excellent teachers, are losing seriously, and rural doctors who gave up practicing medicine because of low income, high risk of practicing medicine and insecure old-age care.

(4) Inadequacies in rural environmental governance.

With the advancement of industrialization and urbanization, rural environmental problems represented by agricultural diffused pollution and poor rural living environment have become increasingly prominent. From the perspective of agricultural diffused pollution, China's agricultural products, especially grain products, are highly dependent on agricultural chemicals such as chemical fertilizers and pesticides. Long-term excessive use of pesticides and chemical fertilizers, large-scale use of plastic films and large-scale livestock and poultry breeding have led to serious problems such as cultivated land hardening, soil acidification and environmental pollution. Driven by national policies in recent years, the use of pesticides and fertilizers per hectare of cultivated land in China has begun to decline, and the level of resource utilization of agricultural wastes has also increased. However, the use of chemical fertilizers and pesticides per hectare of cultivated land is still far higher than the

world average, and it is not optimistic for China to contain agricultural diffused pollution. From the perspective of rural living environment, the ambient ugliness in rural areas has been initially solved in recent years, but the rural living environment is still unsatisfactory due to the long-term shortage of investment in rural construction. There is still much room for improvement in harmless treatment of rural domestic garbage and coverage rate of harmless toilets. Most farmers are using firewood and coal as energy, which cannot meet the growing needs of rural residents for a better life, compared with living conditions in urban areas.

6.1.2 Evaluation of the Agricultural and Rural Modernization Process in China

President Xi Jinping once said that “the modernization of agriculture and rural areas is the general goal of the rural vitalization strategy”. Implementing the rural vitalization strategy and accelerating the modernization of agriculture and rural areas are important strategic tasks related to the great rejuvenation of the Chinese nation and building China into a strong, modern socialist country. In response to phased objectives of the rural vitalization strategy and in accordance with the *National Strategic Plan for Rural Vitalization (2018–2022)* issued by the CPC Central Committee and the State Council and the general requirement of the rural vitalization strategy for “building rural areas with thriving businesses, pleasant living environment, social etiquette and civility, effective governance, and prosperity”, the goals of agricultural and rural modernization are divided into the goal of basically realizing agricultural and rural modernization by the year 2035 (hereinafter the “2035 goal”) and the goal of fully realizing agricultural and rural modernization by the year 2050 (hereinafter the “2050 goal”). Standards for assessing five primary indicators and 30 secondary indicators (see Table 6.1) of rural industrial modernization, farmers’ life modernization, rural ecological modernization, rural cultural modernization and rural governance modernization will be established to assess the process of agricultural and rural modernization in China from 2010 to 2018. For the convenience of evaluation, the process of China’s agricultural and rural modernization is divided into three stages: the initial stage with the degree of agricultural and rural modernization below 50%, the middle stage with the degree of modernization ranging between 50 and 80%, and the late stage with the degree of modernization exceeding 80%.

- (1) Evaluation of the realization degree of China’s agricultural and rural modernization.

First, the overall realization degree of agricultural and rural modernization is expected to reach goals 2035 and goals 2050 as a whole according to the current pace of advancement.

To align with the 2035 goal or 2050 goal, the overall level of China’s agricultural and rural modernization has entered the middle stage. According to target values

Table 6.1 Standards for assessing indicators for agricultural and rural modernization in China

Primary indicators	Secondary indicators	Unit	Target value of basically realizing agricultural and rural modernization	Target value of fully realizing agricultural and rural modernization
I. Modernization of rural industries	1. Overall grain output	100 million tons	≥ 6.5	≥ 7
	2. Agricultural labor productivity	10,000 yuan/person	≥ 6.5	≥ 8
	3. Contribution of technological advances to growth in agricultural production	%	≥ 70	≥ 80
	4. Rate of mechanization in the plowing, sowing, and harvesting of major crops	%	≥ 85	≥ 95
	5. Proportion of aquaculture output value in total output value of agriculture, forestry, animal husbandry and fishery	%	≥ 50	≥ 65
	6. Effective coefficient of irrigative water utilization	1	≥ 0.75	≥ 0.9
	7. Proportion of the added value of agriculture, forestry, animal husbandry and fishery services in the added value of agriculture, forestry, animal husbandry and fishery	%	≥ 6.5	≥ 8

(continued)

Table 6.1 (continued)

Primary indicators	Secondary indicators	Unit	Target value of basically realizing agricultural and rural modernization	Target value of fully realizing agricultural and rural modernization
	8. Degree of integration of the primary, secondary and tertiary industries ¹	%	90	100
II. Modernization of farmers' lives	1. Per capita disposable income of rural residents	yuan	≥ 25,000	≥ 40,000
	2. Engel coefficient of rural residents	%	≤ 25	≤ 20
	3. Income ratio of urban and rural residents	In rural areas: 1 KWh/person	≤ 1.8	1
	4. Per capita electricity consumption of rural residents		≥ 3000	≥ 4000
	5. Penetration of rural Internet access	%	≥ 80	100
	6. Coverage rate of rural fuel gas	%	≥ 85	100
	7. Coverage rate of water supply in rural areas	%	98	100
III. Modernization of rural ecology	1. Coverage rate of harmless sanitary toilets in rural areas	%	≥ 95	100
	2. Amount of fertilizer used per hectare	Kg/ha	≤ 225	≤ 120
	3. Amount of pesticide used per hectare	Kg/ha	≤ 5.2	≤ 4

(continued)

Table 6.1 (continued)

Primary indicators	Secondary indicators	Unit	Target value of basically realizing agricultural and rural modernization	Target value of fully realizing agricultural and rural modernization
	4. Proportion of administrative villages with domestic sewage treated	%	≥ 90	100
	5. Proportion of administrative villages with domestic waste treated	%	≥ 95	100
	6. Percentage of agricultural hazards	%	≤ 40	≤ 30
IV. Modernization of rural culture	1. Illiteracy rate in rural areas	%	≤ 2	≤ 1
	2. Average years of schooling of rural residents	Year	≥ 11	≥ 13
	3. Percentage of rural residents' consumption expenditure on culture, education and entertainment	%	≥ 18	≥ 20
	4. Percentage of civilized villages and towns at or above the county level ¹	%	≥ 80	100
V. Modernization of rural governance	1. Voter turnout of villagers in election	%	100	100
	2. Financial disclosure of village government affairs ¹	%	100	100

(continued)

Table 6.1 (continued)

Primary indicators	Secondary indicators	Unit	Target value of basically realizing agricultural and rural modernization	Target value of fully realizing agricultural and rural modernization
	3. Percentage of widowers, widows, orphans and childless couples supported ¹	%	100	100
	4. Number of practicing doctors per 1000 rural residents	person	≥ 3	≥ 4
	5. Number of nursing beds in medical institutions per rural 10,000 residents	bed	≥ 60	≥ 80

Note ¹Means data deficiency, a secondary indicator obtained when all data are included in the evaluation of overall realization degree. However, due to the limitation of data availability, it cannot fully reflect the realization degree of primary indicators of rural governance modernization. Therefore, this chapter mainly evaluates the realization degree of four primary indicators, such as rural industrial modernization, rural ecological modernization, rural cultural modernization and farmers' life modernization. Some indicators, such as the average years of education of rural population, the income ratio of urban and rural residents, and the amount of chemical fertilizers and pesticides used per hectare, were established with reference to international experience and standards. Data in 2017 were used for indicators such as coverage rates of rural fuel gas, rural harmless sanitary toilets, rural illiteracy and voter turnout of villagers in election

Source Annually published China Statistical Yearbook, China Rural Statistical Yearbook, China Statistical Yearbook on Environment, China Population and Employment Statistics Yearbook, and China Urban–Rural Construction Statistical Yearbook as well as the Ministry of Agriculture and Rural Affairs website, and the Ministry of Water Resources website.

of the 2035 goal, the realization degree of agricultural and rural modernization in 2018 was 66.1%, increasing by about 3.5% annually since 2010 if calculated at the compound annual growth rate. According to target values of the 2050 goal, the realization degree of agricultural and rural modernization in 2018 was 54.2%, rising by about 3.6% annually since 2010 if calculated at the compound annual growth rate. Based on the average annual growth rate from 2011 to 2018, China will basically achieve the target value of agricultural and rural modernization by 2035 and fully realize the target value of agricultural and rural modernization by 2050. However, some important sub-indicators or key indicators may lag behind, which may hinder the realization of the goals of agricultural and rural modernization. It is therefore

necessary to further analyze the realization degree of the primary and secondary indicators.

Second, of four primary indicators, the rural industrial modernization was realized at the highest degree, while the rural ecological modernization and rural cultural modernization were realized at a lower degree.

When the 2035 goal is taken as a reference standard to evaluate the basic realization degree of all primary indicators of agricultural and rural modernization, the following indicators have entered a mid-term stage in 2018: rural industrial modernization (75.2%), farmers' life modernization (65.2%), rural ecological modernization (61.5%) and rural cultural modernization (52.8%). Of four primary indicators, the rural industrial modernization was realized at the highest degree, with a smallest gap to the 2035 goal, while the rural cultural modernization saw a biggest gap to 2035 goal, which is the most salient weak point. When goals 2050 were taken as the reference standard, the rural industrial modernization was realized at the highest degree, and the rural cultural modernization was done at the lowest degree. In 2018, the rural industrial modernization (64.2%) and farmers' life modernization (50.3%) entered the mid-term stage, while the rural ecological modernization (49.3%) and rural cultural modernization (42.8%) were only in the initial stage. For long-term goals, the farmers' life modernization is advancing rapidly, indicating a substantial increase of the per capita disposable income of rural residents, significant improvement of the living conditions such as the coverage rate of rural water supply, and huge potentials for improving the modernization level of farmers' life in the future. The process of rural cultural modernization lags behind because of the slow improvement of rural residents' cultural quality and the lack of cultural and entertainment consumption capacity and level. In the long run, improving the popularity and accessibility of public services in rural areas will become an important direction of future rural policies (Fig. 6.1).

(2) Evaluation of the realization degree of China's agricultural and rural modernization by indicators.

First, the primary indicator "rural industrial modernization" consists of many favorable items, and other three primary indicators comprise many unfavorable items.

Taking goals 2050 as the reference standard, we found that the realization degree of rural industrial modernization is obviously higher than other three primary indicators, and the realization degree of overall grain output is the highest (94.0%), which has become an important advantageous item to maintain the level of rural industrial modernization (see Table 6.2). Although the voter turnout of villagers in election is higher, this indicator cannot reflect the overall level of rural governance, so the capability and level of rural governance need to be improved urgently at present. Three primary indicators, such as farmers' life modernization, rural ecological modernization and rural cultural modernization, have a close degree of realization, but they contain laggard items, e.g. the rural per capita disposable income (36.5%), income ratio of urban and rural residents (37.2%) and rural fuel gas coverage rate (27.0%) in indicators for farmers' life modernization, the amount of chemical fertilizer per hectare (35.2%) and proportion of administrative villages with domestic sewage

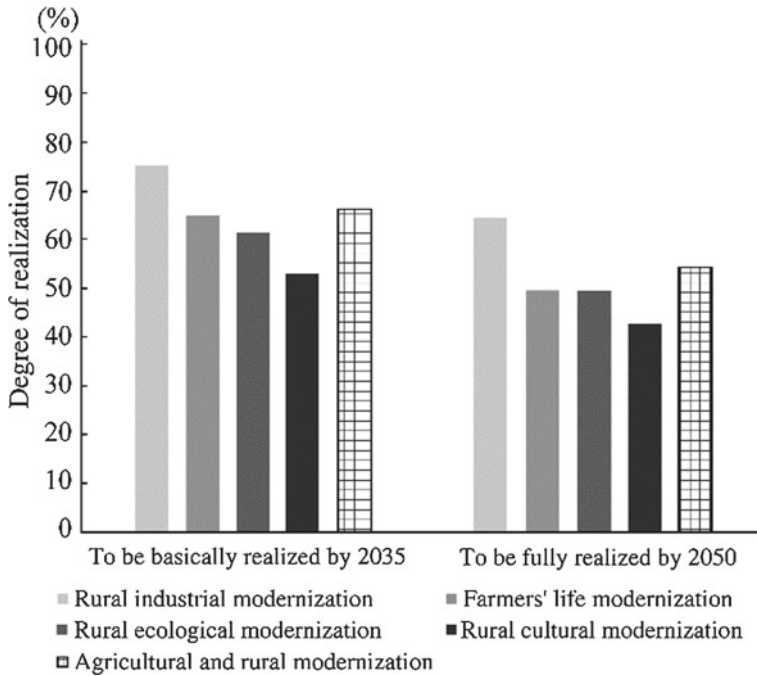


Fig. 6.1 Evaluation of the realization degrees of agricultural and rural modernization by indicators and stages

treated (20.0%) in indicators of rural ecological modernization, and the rural illiteracy rate (12.6%) in indicators for rural cultural modernization. These secondary indicators have reduced the realization degree of the primary indicators. In order to realize the overall rural vitalization and accelerate the pace of agricultural and rural modernization, we need to find out specific problems in all unfavorable items and existing gap.

Second, according to the 2035 goal, the realization degree of most secondary indicators has entered the middle and late stage. According to the 2050 goal, 11 secondary indicators need to be paid special attention to.

In accordance with the goal of basically realizing agricultural and rural modernization by the year 2035, the results of secondary indicators evaluation (see Table 6.3) suggest that 6 indicators, including overall grain output, have entered the late stage, 17 indicators, including agricultural labor productivity, have entered the middle stage, and 3 indicators, including rural illiteracy rate remain in the infancy. According to the current progress, an overwhelming majority of indicators can reach the target value of basically realizing agricultural and rural modernization by the year 2035, but several secondary indicators have lagged behind, such as the rural infrastructure (fuel gas coverage rate), rural ecological environment (proportion of administrative villages with domestic sewage treated) and degree of education (rural illiteracy rate),

Table 6.2 Favorable and unfavorable items of agricultural and rural modernization with reference to goals 2050 (Unit: %)

Primary indicators	Secondary indicators		Degree of realization
Rural industrial modernization	Favorable items	Overall grain output	94.0
	Unfavorable items	Agricultural labor productivity	41.6
Farmers' life modernization	Favorable items	Engel coefficient of rural residents	66.5
		Coverage rate of rural water supply	81.0
	Unfavorable items	Disposable income of rural residents	36.5
		Income ratio of urban and rural residents	37.2
		Coverage rate of rural fuel gas	27.0
Rural ecological modernization	Favorable items	Proportion of administrative villages with domestic waste treated	75.0
	Unfavorable items	Amount of fertilizer used per hectare	35.2
		Amount of pesticide used per hectare	44.1
		Proportion of administrative villages with domestic sewage treated	20.0
Modernization of rural governance	Favorable items	Voter turnout of villagers in election	90.6
Rural cultural modernization	Unfavorable items	Rural illiteracy rate	12.6

which are the key aspects that need to be paid attention to when the goal of agricultural and rural modernization is basically realized in the moderately prosperous society.

According to the goal of fully realizing agricultural and rural modernization by the year 2050, three indicators such as overall grain output have entered the late stage, 13 indicators such as contribution rate of contribution of technological advances to growth in agricultural production have entered the middle stage, and 10 indicators such as rural illiteracy rate are in the initial stage. The comparison of the basic realization degree of all secondary indicators by 2035 and by 2050 has concluded 7 indicators, have returned from the mid-term stage to the initial stage, including agricultural labor productivity, per capita disposable income of rural residents, income

ratio of urban and rural residents, per capita electricity consumption of rural residents, amount of chemical fertilizers used per hectare, amount of pesticide used per hectare, and number of practicing doctors per thousand rural population. In the process of fully realizing agricultural and rural modernization after 2020, if these indicators are not handled well, they may affect the overall process of agricultural and rural modernization.

From the above evaluation results, in the medium and long term, the key problems to be dealt with in promoting agricultural and rural modernization are mainly reflected in 10 secondary indicators in the initial stage. In reference to rural industrial modernization, we need to continuously improve the agricultural labor productivity. In reference to farmers’ life modernization, we will step up efforts to develop rural areas by urban advancement, increase farmers’ income, and narrow the gap between urban and rural residents’ income and infrastructure (electricity and gas). In reference to rural ecological modernization, we need to improve the effective utilization of resources, reduce the use of pesticides and fertilizers, and strengthen the treatment of rural domestic waste and sewage. In reference to rural cultural modernization, we need to comprehensively improve the cultural quality of rural population, especially those with low education level, and continue to increase investment in rural education. In reference to rural governance modernization, we need to further improve rural medical and health conditions, and ensure equitable access to basic public services between urban and rural areas.

Third, guided by the prospect of rural vitalization in all respects, agricultural and rural modernization is characterized by typical stages from “strong agriculture” to “rich farmers” and then to “beautiful countryside”.

From the current trend of national development, rural industrial modernization is the most important driving force for agricultural and rural modernization; in particular, indicators such as overall grain output, contribution of technological advances to growth in agricultural production, and rate of mechanization in the plowing, sowing,

Table 6.3 Evaluation of secondary indicators of agricultural and rural modernization by stages

Rate of progress		Number of indicators	Indicator name
To be basically realized by 2035	Late stage (over 80%)	6	Overall grain output, contribution of technological advances to growth in agricultural production, rate of mechanization in the plowing, sowing, and harvesting of major crops, Engel coefficient of rural residents, coverage rate of rural water supply, and voter turnout of villagers in election

(continued)

Table 6.3 (continued)

Rate of progress	Number of indicators	Indicator name
Mid-term stage (50–80%)	17	Agricultural labor productivity, percentage of aquaculture output value in total output value of agriculture, forestry, animal husbandry and fishery, effective coefficient of irrigative water utilization, percentage of added value of agriculture, forestry, animal husbandry and fishery services in added value of agriculture, forestry, animal husbandry and fishery, per capita disposable income of rural residents, income ratio of urban and rural residents, per capita electricity consumption of rural residents, penetration of rural Internet access, coverage rate of harmless sanitary toilets in rural areas, amount of chemical fertilizers used per hectare, amount of pesticide used per hectare, proportion of administrative villages with domestic waste treated, agricultural disaster rate, average years of education of rural population, percentage of rural residents' consumer spending in culture, education and entertainment, number of practicing doctors per thousand rural population, number of nursing beds in medical institutions per 10,000 rural people

(continued)

Table 6.3 (continued)

Rate of progress		Number of indicators	Indicator name
	Initial stage (0–50%)	3	Coverage rate of rural fuel gas, proportion of administrative villages with domestic sewage treated, and rural illiteracy rate
To be fully realized by 2050	Late stage (over 80%)	3	Overall grain output, coverage rate of rural water supply, and voter turnout of villagers in election
	Mid-term stage (50–80%)	13	Contribution of technological advances to growth in agricultural production, rate of mechanization in the plowing, sowing, and harvesting of major crops, percentage of aquaculture output value in total output value of agriculture, forestry, animal husbandry and fishery, percentage of added value of agriculture, forestry, animal husbandry and fishery services in added value of agriculture, forestry, animal husbandry and fishery, effective coefficient of irrigative water utilization, Engel coefficient of rural residents, penetration of rural Internet access, coverage rate of harmless sanitary toilets in rural areas, proportion of administrative villages with domestic waste treated, agricultural disaster rate, average years of education of rural population, percentage of rural residents' consumer spending in culture, education and entertainment, and number of nursing beds in medical institutions per 10,000 rural people

(continued)

Table 6.3 (continued)

Rate of progress		Number of indicators	Indicator name
	Initial stage (0–50%)	10	Agricultural labor productivity, per capita disposable income of rural residents, income ratio of urban and rural residents, per capita electricity consumption of rural residents, coverage rate of rural fuel gas, amount of chemical fertilizers used per hectare, amount of pesticide used per hectare, proportion of administrative villages with domestic sewage treated, illiteracy rate in rural areas, number of practicing doctors per thousand rural population

Note In this table, data of 2019 were used to calculate the realization degree of secondary indicators, such as the overall grain output, per capita disposable income of rural residents, and income ratio of urban and rural residents

and harvesting of major crops have increased significantly, and some indicators are close to the level of developed countries. On the premise of ensuring food self-sufficiency, taking the target of 2035 as reference, rural industrial modernization with agricultural modernization at its core will become the most prominent feature of basically realizing agricultural and rural modernization with the accelerating adjustment of agricultural structure and continuous improvement of development quality.

Compared with rural industrial modernization, the realization degree of farmers' life modernization and rural ecological modernization is on the low side. The goal of implementing the rural vitalization strategy is to "revitalize the countryside in all respects, and rural areas should have strong agriculture, a beautiful countryside and well-off farmers" by the year 2050. The three goals of "strong agriculture", "beautiful countryside" and "well-off farmers" are advanced at the same time; however, due to differences in the existing process and progressing speed, the time nodes of realizing the target values of agricultural and rural modernization have represented a phased change from "strong agriculture" to "well-off farmers" and then to "beautiful countryside". According to the average annual growth rate from 2011 to 2018, the year of realizing the 2050 target values of rural industrial modernization is about 7–8 years earlier than the year of realizing the target value of rural ecological modernization, while the year of realizing the target value of farmers' life modernization will be slightly earlier than the year of realizing rural ecological modernization. This reflects the ladder-like characteristics of agricultural and rural modernization, and the difficulty lies in realizing "well-off farmers" and "beautiful countryside".

6.1.3 Achievements and Challenges of the Fight Against Poverty

China's poverty reduction goal by 2020 can usually be expressed as eliminating absolute poverty under the current standards, which is the minimal goal for building a moderately prosperous society in all respects. During the "13th Five-Year Plan" period, China carried out anti-poverty action for five consecutive years. According to the progress by the end of 2019, China will achieve the goal of winning the tough fight against poverty as scheduled in 2020, but it will face challenges such as preventing some rural residents from returning to poverty after the fight, consolidating and upgrading achievements in poverty alleviation, and the new task of poverty governance transition.

(1) Overall achievements in the fight against poverty.

First, removing all remaining counties from the country's poverty list, and achieving the goal of eliminating absolute poverty under the current standards by 2020.

When the 18th National Congress of the Communist Party of China was held at the end of 2012, the rural poverty incidence under the current standards in China was still as high as 10.2%, with 98.99 million rural poor people and 832 poverty-stricken counties, including key counties for poverty alleviation and development and counties in contiguous poor areas. By the end of 2015, the incidence of rural poverty dropped to 5.7%, and the number of poor people decreased to 55.75 million. Since 2016, China has gradually registered poverty-stricken people, villages and counties as living in poverty, and removed them from the country's poverty list. The number of impoverished people has dropped by more than 11 million every year, and the number of poverty-stricken counties removed from the country's poverty list has increased year by year. The incidence of rural poverty dropped to 1.7% by the end of 2018, up to the poverty eradication standard of less than 3% as defined by the World Bank. By the end of 2019, the incidence of rural poverty dropped to 0.6% (see Table 6.4).

The goal of China's fight against poverty is also part of the goals of the United Nations Agenda 2030 for Sustainable Development. Existing research shows that China's current poverty standard is significantly higher than the World Bank's poverty standard of 1.9 USD/day for assessing absolute poverty.³ If measured by the World Bank standard, the scale and incidence of poverty in China have declined faster over the years. The World Bank usually sets the proportion of poor people below 3% as the goal of poverty eradication. In 2013, the incidence of poverty in China under the World Bank standards dropped from 6.5% in the previous year to 1.9%, achieving the goal of eliminating absolute poverty.⁴ In 2017, China's national poverty incidence measured by its poverty standard dropped to 2.2%, achieving the goal of eliminating absolute poverty. By the end of 2019, the incidence of rural poverty dropped to 0.6%

³ Topic Group of Rural Development and Research Institute (2017).

⁴ This is the incidence rate of poverty in China, and the population base is the total population of China, with 1.357 billion people in 2013.

Table 6.4 Poor Residents and Counties Lifted Out of Poverty in China Since 2016

	Number of impoverished people decreased that year ('0000 persons)	Number of poverty-stricken counties that have been removed from the poverty list (county)	Number of people who had not shaken off poverty at the end of the year ('0000 persons)	Number of poverty-stricken counties that have not been removed from the poverty list (county)	Poverty incidence at the end of the year (%)
2015	1,442	–	5575	832	5.7
2016	1,240	28	4335	804	4.5
2017	1,289	125	3046	679	3.1
2018	1,386	283	1660	396	1.7
2019	1,109	344	551	52	0.6

Source *Poverty Monitoring Report of Rural China 2019*; Media reports

(see Fig. 6.2). The poverty alleviation level that China will achieve in 2020 is the contribution to the world poverty eradication goal with higher standards.

Second, income and consumption of farmers and people registered as living in poverty in poverty-stricken areas have improved faster.

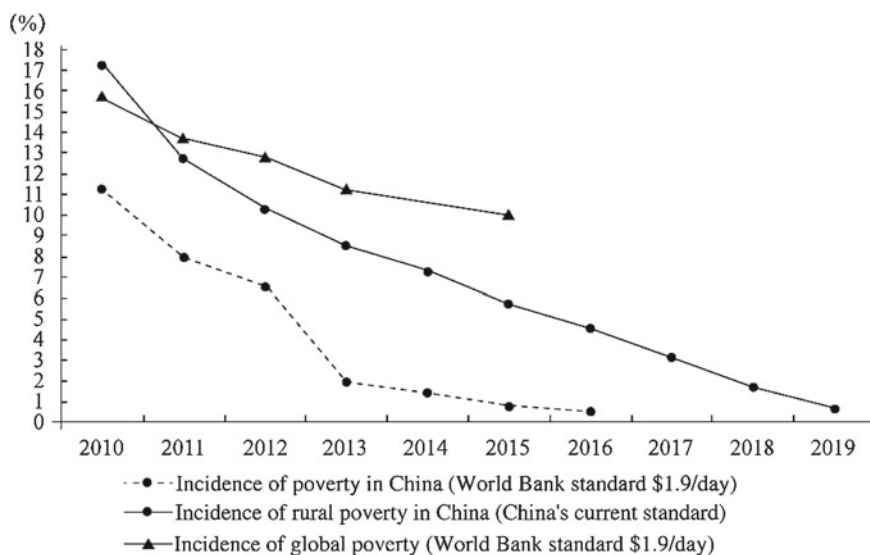


Fig. 6.2 Decline of poverty incidences measured by Chinese and World Bank standards. Source *Poverty Monitoring Report of Rural China* in the past years; World Development Indicators database of the World Bank (<https://databank.worldbank.org/>); The incidence of rural poverty in China in 2019 from the website of the National Bureau of Statistics (<http://www.stats.gov.cn/jsjjd/202001/120200123.1724700.html>)

Table 6.5 Comparison of per capita disposable incomes of farmers in poverty-stricken areas and the national average from 2015 to 2019

Year	Per capita disposable income of farmers (yuan)		Nominal growth rate of disposable income (%)		Income ratio (%) (poverty-stricken areas/national level)
	National level	Poverty-stricken areas	National level	Poverty-stricken areas	
2015	11,422	7653	8.9	11.7	67.0
2016	12,363	8452	8.2	10.4	68.4
2017	13,432	9377	8.6	10.9	69.8
2018	14,617	10,371	8.8	10.6	71.0
2019	16,021	11,567	9.6	11.5	72.2

Source *China Rural Poverty Monitoring Report of Rural China* in the past years: The data from 2018 to 2019 were available on the website of the National Bureau of Statistics

One of the important goals of the fight against poverty is that the per capita disposable income of farmers in poverty-stricken areas will increase faster than the national average. From 2015 to 2019, this goal has been achieved every year, making the ratio of per capita disposable income of poverty-stricken areas to rural residents in China climb from 67.0 to 72.2%. The per capita disposable income of farmers in poverty-stricken areas exceeded 10,000 yuan for the first time in 2018 and exceeded 11,000 yuan in 2019 (see Table 6.5). At the same time, the per capita consumption level of farmers in poverty-stricken areas has also grown steadily. From 2014 to 2017, the annual growth rate ranged from 6,007 yuan to 7998 yuan, rising by more than 600 yuan every year. The consumption structure has been optimized, and the basic consumer spending on food and clothing has increased steadily. The improved consumer spending on transportation and communication, education, culture and entertainment, and medical care has increased rapidly.⁵ The income data of people who are registered as living in poverty were not published, but limited data indicated that the income level of poverty-stricken households is almost close to the average level of per capita income of farmers in poverty-stricken areas, and the per capita net income of the remaining poor population also reached more than 3,700 yuan in 2017, which obviously exceeded the threshold income level of poverty alleviation.

Third, deep poverty-stricken areas are working hard to achieve the basic goal of poverty alleviation.

The deeply impoverished areas in China have two calibers: (1) “three regions (Tibet, the Tibetan ethnic areas of Sichuan, Yunnan, Gansu and Qinghai provinces, and the four prefectures in southern Xinjiang (Hotan, Aksu, Kashi and Kizilsu Kirgiz Autonomous Prefecture)) and three prefectures (Liangshan Yi Autonomous Prefecture in Sichuan, NujiangLisu Autonomous Prefecture in Yunnan and LinxiaHui

⁵ Household Survey Office of National Bureau of Statistics (2018).

Table 6.6 Progress in poverty alleviation in deeply impoverished areas by the end of 2018

	Number of counties (county)	Number of people lifted out of poverty ('0000 persons)	Number of poverty-stricken people ('0000 persons)	Incidence of poverty (%)
“Three regions and three prefectures”	209	133	172	8.2
Deeply impoverished counties	334	480	627	6.1
Deeply impoverished counties aside from “three regions and three prefectures”	199	–	467	5.6

Source “Summary of Achievements of the Fight against Poverty in Deeply Impoverished Areas”, Xinhuanet, http://www.xinhuanet.com/2019-09/08/e_1124974418.html, September 8, 2019; “Why Is It Difficult to Reduce Poverty in Deeply Impoverished Areas? An Answer Given by the National Administration for Rural Revitalization”, guangming.com, http://politics.gmw.cn/2019-06/26/content_32951305.html, September 26, 2019

Autonomous Prefecture in Gansu)”, in which most of counties are most impoverished, and there are also ordinary poverty-stricken counties and non-poverty counties, and (2) deeply impoverished counties are defined by poverty incidence of 19%, totaling 334 counties, more than half of which are aside from “three regions and three prefectures”. In 2018, 4.8 million people were lifted out of poverty from 334 deeply impoverished counties, with the incidence of poverty falling by 4.9 percentage points from 11 to 6.1% (see Table 6.6).⁶ In 2019, significant progress was made in poverty alleviation in deeply impoverished areas. The number of poverty-stricken people in “three regions and three prefectures” decreased from 1.72 million to 430,000, and the incidence of poverty decreased from 8.2 to 2%, thus crossing the threshold of 3%.⁷

Forth, the quality of life and the level of basic public services enjoyed by rural residents have improved continuously.

The fight against poverty has continuously improved the quality of life and basic public services enjoyed by farmers in poverty-stricken areas, especially former impoverished people. In counties that have been removed from the country’s poverty list, the per capita net income of farmers is higher than the average increase of

⁶ “Fight with all your might, attack with all your might—A summary of the achievements of poverty alleviation in deep poverty areas”, September 26, 2019, Xinhuanet, http://www.xinhuanet.com/2019-09/08/c_1124974418.htm.

⁷ “2019 National Poverty Alleviation and Development Work Conference Held in Beijing”, December 10, 2019, the website of the State Council Poverty Alleviation Office, http://www.cpad.gov.cn/art/2019/12/20/art_61_108746.html.

farmers' income in the province. All poverty-stricken villages that have been registered as living in poverty now have access to hardened roads, supply of electricity and communication networks, and basic medical service facilities, educational facilities and safe drinking water. All households that have been registered as living poverty now have no worries about food and clothing, compulsory education, basic medical care and housing security. According to poverty monitoring data provided by the National Bureau of Statistics, the proportion of farmers living in bamboo or grass adobe houses in poverty-stricken areas has fallen continuously; the proportion of farmers who have access to tap water through pipelines has continued rising; and the proportion of farmers with basic health service facilities has exceeded 90%, and the proportion of farmers who can go to school nearby is approaching 90%.

(1) Challenges facing the fight against poverty.

According to current progress of poverty alleviation, there is no doubt that the task of poverty alleviation will be completed by the end of 2020, but there are still some challenges in the fight against poverty with high quality. Part of the challenges come from practical problems during the fight, and more are concerning how to ensure stable life of those lifted out of poverty after winning the fight and the smooth transformation of poverty alleviation system and mechanism.

During the fight against poverty, that is, in the remaining days of 2020, there are challenges ahead. First, the strict requirement for lifting every impoverished person out of poverty seems difficult to meet because of weak development foundation of some areas and groups, especially some deeply impoverished areas. Even in a normal society, there will always be a certain proportion of people returning to poverty, becoming poor and getting impoverished due to laziness. The requirement for lifting every impoverished person out of poverty will also play a "double-edged sword" role in grass-roots practice, which not only encourages local governments to intensify poverty alleviation work, but also triggers short-term anti-poverty measures. Second, in practice, there are some hidden dangers of vulnerability in poverty alleviation, especially when the follow-up resettlement of relocated households is not in place, and the measures for poverty alleviation and public welfare jobs in some industries are unstable. Third, some poverty-stricken counties have encountered debt pressure to shake off poverty, and some even borrowed extra money to carry out infrastructure construction and poverty-alleviation relocation. Fourth, compared with investment in poverty alleviation, more efforts are made to achieve the bottom-line goal of reaching poverty alleviation standards than to lead impoverished people toward prosperity after shaking off poverty. Fifth, the COVID-19 epidemic since December 2019 has had a certain impact on poverty alleviation in some poverty-stricken areas, especially on project commencement, migrant workers going out for employment, industrial development and product sales.

More challenges in poverty alleviation lie in how to prevent falling back to poverty and consolidate the achievements of poverty alleviation after the fight against poverty. Specifically, main challenges after the end of poverty alleviation can be summarized in the following four aspects. (1) If the existing measures and achievements of poverty alleviation through developing industries and providing jobs cannot continue, they

will have a serious negative impact on sustained poverty alleviation, including but not limited to: all kinds of newly formed poverty alleviation industries, collective assets, investment of poverty alleviation funds in other industries and assets, such as photovoltaics, poverty alleviation workshops and factories, interest connection between registered poverty households and enterprises formed through poverty alleviation policies, employment services, public welfare jobs, and maintenance of rural production and living facilities. (2) About 9 million poor people are identified through the current precise poverty alleviation mechanism and the filing and establishment card system, and most of them can achieve stable poverty alleviation. The significance of the retention is mainly to continuously monitor and further consolidate the poverty alleviation achievements, but it has great limitations on the expansion of newly determined assistance targets. (3) China will enter the stage of solving the problem of relative poverty. Whether it adopts the relative poverty standard corresponding to the median income ratio or adopts a higher poverty standard measured in absolute value, the nature of poverty has changed. We will make adjustments in our anti-poverty strategy, extraordinary poverty alleviation system, poverty alleviation policies and measures, but we must face the challenge of effectively linking of the achievements of poverty alleviation with rural vitalization and effective transition to the next stage of anti-poverty strategy and policy. Fourth, the current definition and standard of poverty are applicable during the fight against poverty, but after the end of the fight, there will emerge such limitations as low standard and narrow scope of the current definition and standard.

6.2 Strategic Approach and Goals of Rural Vitalization and Anti-Poverty

After 2020, in the new journey towards building a modern socialist country in an all-round way, we will implement a new anti-poverty strategy on the basis of consolidating the achievements of previous poverty alleviation work, and also make efforts to fully implement the rural vitalization strategy. Therefore, after achieving the goal of fighting against poverty in 2020, we should gradually shift the focus of national “agriculture, rural areas and farmers” work from fighting against poverty to fully implementing the rural revitalization strategy, and gradually establish a long-term mechanism to promote rural revitalization and reduce relative poverty.

6.2.1 Overarching Approach and Goal of Rural Vitalization

(1) Mid-to-long-term strategic approach of rural vitalization.

The 14th Five-Year Plan is a period for consolidating achievements of poverty alleviation, and also a key period for implementation of the rural vitalization strategy after

the realization of a well-off society in rural areas. In a long period of time in the future, we will prioritize the development of agriculture and rural areas to comprehensively deepen rural reform and promote rural vitalization of industry, talent, culture, environment, and organizational structures so as to achieve effective alignment of poverty alleviation with rural revitalization, comprehensively advance the rural vitalization strategy, and embark on the road of agricultural and rural modernization with Chinese characteristics, thus laying a solid foundation for basically realizing agricultural and rural modernization and equal access to basic public services between urban and rural areas in 2035.

First of all, we will comprehensively advance the rural vitalization strategy. At present, the institutional framework and policy system for implementing the rural vitalization strategy have basically taken shape. Therefore, in the future, we will deeply implement the No. 1 Documents of the Central Committee in 2018 and 2019 and the *National Strategic Plan for Rural Vitalization (2018–2022)*, further refine and implement relevant policies, and achieve vitalization of industry, talent, culture, environment, and organizational structures in rural areas. In accordance with the requirements of prioritizing the development of agriculture and rural areas, we will further increase support for agriculture, rural areas and farmers, establish a stable growth mechanism of government agriculture-related funds, and gradually expand the poverty alleviation institutional arrangements, policies and measures that have been proved to be effective to support rural vitalization for years. We will set about preparing the second five-year plan for rural vitalization, namely the *National Strategic Plan for Rural Vitalization (2023–2027)*.

Second, consolidating the foundation for the preliminary modernization of agriculture and rural areas. A good start of this work will lay a good foundation for basically realizing the modernization of agriculture and rural areas in 2035. Local governments should adopt a diversified approach to sequential advancement of the agricultural and rural modernization. The so-called sequential advancement means adjusting measures to local conditions and respecting development laws so as to prevent one local government from blindly comparing and keeping up with another, and to allow and encourage coastal economically developed areas, suburbs of big cities and other qualified areas to take the lead in basically realizing agricultural and rural modernization. At present, we consider establishing national innovation and development pilot zones for agricultural and rural modernization in different types of areas, and encourage them to boldly carry out institutional innovations and experiments in agricultural and rural modernization, so as to accumulate experience for other regions. The so-called diversified approach means that local governments should carry out bold reforms and innovations in accordance with their own conditions so as to step up and explore diversified models of agricultural and rural modernization. To modernize agriculture and rural areas, we must modernize our development and governance capacity. To accelerate the modernization of agriculture and rural areas, we must enhance our capacity to advance modernization of rural governance system and governance capacity.

Finally, we will implement the strategy of “promoting rural vitalization through reform” to advance such modernization. Reform and innovation is the main engine

for rural vitalization. Rural reform will be carried out in all respects to constantly improve institutional mechanisms, legal systems and policy systems, activate factors, players and market, fully stimulate the internal vitality of rural development, build a modern rural industrial system with different characteristics and competitiveness, and promote the formation of a long-term mechanism for stable income increase of farmers and comprehensive rural vitalization. In particular, we will activate land elements and take policy innovation of agricultural facilities land and rural industrial land as core, to provide kinetic energy for modern agriculture and rural industries. At the same time, we will strengthen the leading role of the Party in rural vitalization, establish and improve the institutional mechanism and assessment mechanism for the rural vitalization work of the five-level party secretary (provincial, municipal, county, township and village).

(2) Mid-to-long-term objectives of rural vitalization.

After building a moderately prosperous society in all respects in 2020, we will step up efforts in implementation of the rural vitalization strategy while consolidating the achievements of building a moderately prosperous society in all respects and winning the fight against poverty. To achieve the goal of agricultural and rural modernization and the purpose of high-quality development, we will make up shortcomings, adjust structure, carry out reform and promote vitalization, so as to improve the institutional framework and policy system of rural vitalization by 2025, and carry out rural vitalization in all respects.

First, we should better safeguard food security. The national food security safeguard capacity has been further consolidated, and the level of food quality and safety has been significantly improved. In order to meet the requirements of “absolute safety of grain rations and basic self-sufficiency of grain”, the national comprehensive grain production capacity should continue to be stable at more than 600 million tons.

Second, a modern rural industrial system is basically formed. We have perfected the modern agricultural system, advanced the green development of agriculture, and furthered agricultural modernization. We have also boosted development of rural emerging industries, formed the pattern of industrial integration, and improved the level of industrial integration. By 2025, the contribution of technological advances to growth in agricultural production will reach about 64%, and the comprehensive mechanization rate of crop sowing and harvesting will reach up to 75%.

Third, farmers’ income and living standards have been improved. A long-term mechanism for farmers’ sustained and rapid income growth and steady income increase is in place, and farmers’ living standards have improved significantly. The income growth rate of rural residents continues to be higher than that of urban residents, and the income gap between urban and rural residents has been greatly narrowed. By 2025, the income ratio of urban and rural residents will drop below 2.45, and the Engel coefficient of rural households will drop below 28.5%.

Fourth, basic public services are available to urban and rural residents. Investment in rural public services has grown rapidly. A unified urban and rural public service system and social security system are in place. Significant progress has been made

in the equalization of urban and rural basic public services, and the level of urban–rural integration has been improved substantially. By 2025, the urban and rural basic public service standards and systems will have been unified throughout the country.

Fifth, rural infrastructure and living environment have been improved in all respects. With better rural infrastructure and a long-term management and protection mechanism in place, the living environment in rural areas has been significantly improved. As the total amount and intensity of chemical fertilizers and pesticides are greatly reduced, the agricultural non-point source pollution has been put under effective control. By 2025, the coverage rate of harmless sanitary toilets in rural areas will have exceeded 90%, and the proportion of administrative villages with domestic waste treated will have reached up to 95%.

Sixth, the rural governance capacity has improved markedly. The construction of rural organizations with Party organizations as their core has been further strengthened, playing increasingly important role. The modern rural governance system is in place to enhance the rural governance capacity and comprehensive emergency response capacity, which has produced a number of rural good governance models with different characteristics.

(3) Agricultural and rural modernization basically realized in districts where the conditions permit.

China's regional development levels are quite different. The time frames for realizing the goal of agricultural and rural modernization in different regions cannot be uniform, as some developed regions have the conditions to take the lead in realizing the goal of agricultural and rural modernization. As for the two-stage process of agricultural and rural modernization, this paper discusses whether some developed coastal areas are well conditioned to basically realize the goal of agricultural and rural modernization, thus becoming the pioneer area and demonstration area of agricultural and rural modernization in China.

As you can see, some core indicators in Beijing, Tianjin, Shanghai, Jiangsu, Zhejiang and other places have achieved the target value of basic modernization of agriculture and rural areas in 2035 ahead of schedule. The most prominent indicators are the average years of education of rural population in Beijing (9.66 years), the income ratio of urban and rural residents in Tianjin (1.86:1), the per capita disposable income of rural residents in Shanghai (30,375 yuan), the agricultural labor productivity in Jiangsu Province (53,978 yuan/person), and the coverage rate of harmless sanitary toilets in rural areas of Zhejiang Province (98.55%).⁸ The above areas feature a relatively high development level of urban–rural integration and a higher realization degree of agricultural and rural modernization in various fields.

Therefore, we have selected some key indicators of agricultural and rural modernization, such as agricultural labor productivity, per capita disposable income of rural

⁸ The average years of education of rural population in Beijing and agricultural labor productivity in Jiangsu province are the data of 2017, the income ratio of urban and rural residents in Tianjin, the per capita disposable income of rural residents in Shanghai and the popularization rate of harmless sanitary toilets in rural areas in Zhejiang province are the data of 2018.

residents, and income ratio of urban and rural residents, to make a national comparison in line with the goal of basically realizing socialist modernization by the year 2035 (see Table 6.7). On the whole, the overall performance of Beijing, Tianjin, Shanghai, Jiangsu and Zhejiang is still outstanding. In terms of rural industrial modernization, in 2017, 25 provinces were lower than the national average level of agricultural labor productivity, while only Jiangsu province's agricultural labor productivity exceeded 50,000 yuan/person. In terms of modernization of farmers' lives, the per capita disposable income of rural residents in Shanghai in 2018 was three times that of Gansu and Guizhou, and the income ratio of urban and rural residents in Tianjin was less than 2:1. In terms of rural cultural modernization and rural ecological modernization, the rural medical care, education and other public service conditions in the eastern developed areas are obviously better than those in other areas. At the same time, the coverage rate of harmless sanitary toilets in rural areas and the proportion of administrative villages with domestic garbage treated are higher, indicating that these areas have stronger ecological governance capacity. On the whole, indicators such as agricultural labor productivity, income ratio of urban and rural residents and average years of education of rural population are prominently weak indicators. At present, none of these indicators have reached the target value for the year 2035, so they deserve our special attention.

In order to further examine above analysis results and comprehensively investigate the possibility of realizing basic modernization of agriculture and rural areas in 2035 ahead of schedule in some areas, we used the evaluation index system and the method of realizing agricultural and rural modernization in China to make a horizontal comparison between different regions and the whole country. As the comparison by province is limited by data, indicators such as the contribution rate of agricultural scientific and technological progress, the per capita electricity consumption of rural residents and the amount of pesticides used per hectare were not included in the calculation; meanwhile, with different orientation of the main grain producing areas and the main selling areas, we deleted the index of grain output capacity in the comparison by provinces. Finally, 22 indicators were applied (26 were applied in nationwide calculation),⁹ and the results were illustrated in Fig. 6.3. According to the regional ranking of basically realizing agricultural and rural modernization, 9 regions are higher than the national overall level, including Beijing, Tianjin, Shanghai, Jiangsu, Zhejiang, Shandong, Hunan, Guangdong and Hainan. Top five regions are Shanghai, Jiangsu, Zhejiang, Beijing and Tianjin, which is similar to the evaluation results of the overall index of China Rural Development Index 2019 published by the Institute of Rural Development of Chinese Academy of Social Sciences, but the ranking order of top five regions is slightly different, so it is believed that the results are highly credible.

⁹ In order to maintain consistency and comparability, agricultural labor productivity, rural Internet household rate, rural gas penetration rate, rural water supply penetration rate, rural harmless sanitary toilets penetration rate, rural population's average years of education, participation rate of villagers in participating villages, etc. are based on 2017 data. The proportion of administrative villages that treat domestic sewage and domestic garbage is based on 2016 data, and the rest is based on 2018 data, the same as below.

Table 6.7 Comparison by provinces based on the goal of agricultural and rural modernization in 2035

Key indicators	Regions closest to the target value (sorted by top three of the closest)	Regions with the largest gap with the target value (sorted by top three regions)	Number of regions with target value achieved
Agricultural labor productivity	Jiangsu, Zhejiang, Hainan	Shanxi, Gansu, Xizang	0
Per capita disposable income of rural residents ^b	Shanghai, Zhejiang, Beijing	Gansu, Guizhou, Qinghai	3
Income ratio of urban and rural residents	Tianjin, Zhejiang, Heilongjiang	Gansu, Guizhou, Yunnan	0
Coverage rate of harmless sanitary toilets in rural areas ^b	Shanghai, Beijing, Zhejiang	Heilongjiang, Qinghai, Jilin	3
Proportion of administrative villages with domestic waste treated ^c	Shandong, Shanghai, Jiangsu	Heilongjiang, Jilin, Inner Mongolia	3
Average years of education of rural population ^a	Beijing, Shanxi, Hainan	Xizang, Qinghai, Gansu	0
Number of practicing doctors per 1000 rural residents ^b	Tianjin, Shanghai, Zhejiang	Guangxi, Jiangxi, Guizhou	3

Note ^a Standards for data in 2017, ^b for data in 2018, and ^c for data in 2016

To sum up, the results of regional evaluation are similar to those of core index analysis, and regions such as Shanghai, Jiangsu, Zhejiang, Beijing and Tianjin lead China in agricultural and rural modernization. According to above calculation, the growth rate of basically realizing agricultural and rural modernization in China (with an average annual increase of about 3.5% from 2011 to 2018), it is conservatively estimated that Shanghai will reach the target value of basically realizing agricultural and rural modernization in 7 years, while Jiangsu, Zhejiang and Beijing will achieve the target value in 8 years, and Tianjin in 9 years. Therefore, regions such as Shanghai, Jiangsu, Zhejiang, Beijing and Tianjin can basically realize agricultural and rural modernization through 7–9 years' efforts, while ensuring that the speed of agricultural and rural modernization is not lower than the average annual speed of the whole country in the past 8 years. As the main index for regional calculation is based on data in 2018, it is estimated that some developed coastal areas will basically achieve the target value of agricultural and rural modernization around 2025.

Based on the basic realization of the goal of agricultural and rural modernization in 2035, and from the perspective of staged differences at the provincial and regional levels, 31 provinces (including autonomous regions and municipalities directly under

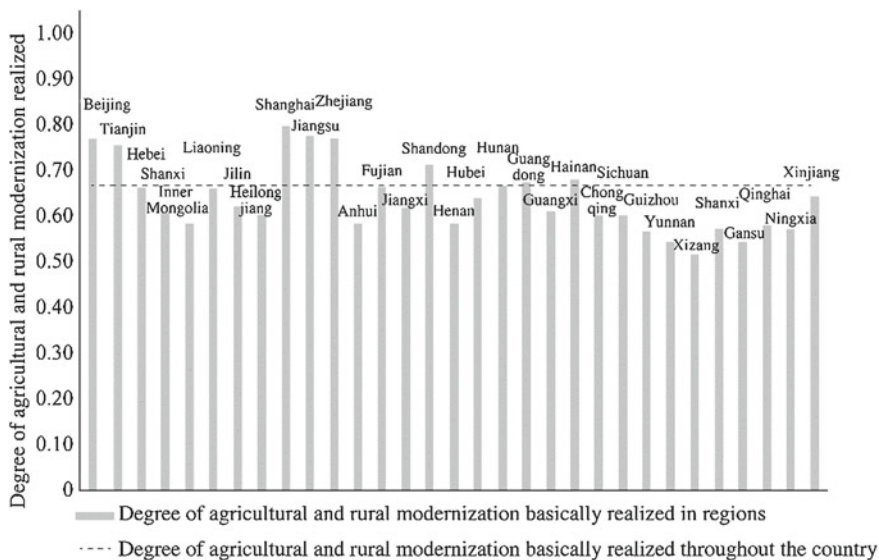


Fig. 6.3 Basic realization of agricultural and rural modernization in regions

the Central government) can be divided into three echelons: the first echelon includes Shanghai, Jiangsu, Zhejiang, Beijing and Tianjin, which is expected to reach the target value around 2025; the second includes 19 provinces such as Shandong, Hainan, Guangdong, Hunan and Fujian, which is expected to reach the target value around 2030; and the third includes Qinghai, Ningxia, Shaanxi, Guizhou, Gansu, Yunnan and Tibet, which needs to focus on support to ensure that agricultural and rural modernization will be basically realized as scheduled before 2035.

6.2.2 Overall Guidelines and Goals of the Fight Against Poverty

(1) Overview of the anti-poverty situation after 2020.

After 2020, China will give more attention to addressing relative poverty than to eliminating absolute poverty. The blueprint for socialist modernization outlined by the 19th National Congress of the Communist Party of China has established a two-stage historical direction for anti-poverty in the next 30 years: from 2020 to 2035, the state will devote itself to basically realizing socialist modernization, making people’s lives more affluent, basically equalizing basic public services, making decisive progress in rural revitalization, and forming a long-term mechanism to solve relative poverty; from 2035 to 2050, China will be built into a strong socialist modern country, with the rural areas revitalized in all respects and the common prosperity of all people

basically realized. Along this great historical direction, poverty after 2020 will be relative poverty as defined in any way, except for a few inevitable absolute poverty, and the anti-poverty goals and targets after 2020 will be part of the national development strategy so as to serve the improvement of the living standards of the relatively poor and the narrowing of the gap, and finally realize common prosperity of all the people.

After achieving goals and tasks of poverty alleviation in 2020, China will focus on addressing the problem of relative poverty. During this period, China will not rule out the existence of a very small number of absolute poverty-stricken people, including those relapsing into poverty under special circumstances, those currently living in poverty, those lifted out of poverty but employed in unstable industries or jobs, those relocated when follow-up support measures have not yet played an effective role, and those wishing to reap without sowing. In addition, some people lifted out of poverty have weak ability to survive and are at risk of relapsing to poverty, so we need to consolidate the achievements of poverty alleviation. Population in relative poverty includes people whose income and living standards are the lowest. Its scale and composition characteristics are determined by the specific definition of relative poverty, and these people will be the main poor groups in the future. With the change of urban and rural demographic distribution, the relatively poor population will be distributed in both urban and rural areas. In the meantime, China's poverty alleviation and development experience and anti-poverty system formed before 2020 have become too strong and unnecessary in relation to the remaining absolute poverty and vulnerability. However, China has little knowledge about the relative poverty theory and policy.

(2) General anti-poverty guidelines and goals after 2020.

International and domestic experience shows that the implementation of poverty reduction strategies plays an important role in promoting anti-poverty in various countries. According to the “three pillars” (opportunity, capacity and empowerment) poverty reduction strategy advocated by the World Bank and the methods and guidelines for formulating poverty reduction strategies by countries, the World Bank has helped most member countries to formulate poverty reduction strategies and promoted the poverty reduction process in some countries. The history of poverty alleviation and development in China in the past 40 years has shown that it is very important to determine poverty alleviation strategies in line with national development strategies, poverty characteristics and poverty alleviation capabilities. China has also adjusted poverty alleviation standards in stages, maintained a certain scale of poverty alleviation beneficiaries, and continuously improved the income and living standards of the poorest population.¹⁰

After 2020, under the framework of urban–rural integration and rural vitalization strategy, China's anti-poverty will gradually exit from unconventional poverty alleviation system and poverty alleviation policy through direct development, make overall

¹⁰ Innovation Project Team of “Research on China's Poverty Reduction Strategy after 2020”, “Research on China's Poverty Reduction Strategy after 2020”, 2019 innovation project closing report, 2019.

plans for urban and rural poverty governance, and move to conventional governance of relative poverty. The guidelines include the following aspects.

First, we will focus on alleviating relative poverty and multidimensional poverty, and use various poverty standards in parallel to play the roles of poverty monitoring, social progress monitoring and policy guidance.

Second, we will gradually establish a clearer “three-pillar” poverty reduction strategy or anti-poverty model, implement the development-oriented concept in the rural vitalization policy or the development policy of relatively poor areas, and gradually integrate comprehensive affordable poverty alleviation measures into an integrated social protection system.

Third, through anti-poverty legislation, equalization of basic public services, and well-established social protection system, a policy system to alleviate relative poverty will be formulated to realize transition to conventional poverty governance. The current leadership and work functions of poverty alleviation and development can be transferred to the state department of social welfare.

Fourth, the new relative poverty management information system should learn from foreign experience, make full use of the advantages of the current filing system, expand and adjust according to the new anti-poverty strategy and standards, and perform more functions such as poverty identification, dynamic management, monitoring and research.

Fifth, under the background of building a global community of shared future and the “Belt and Road” Initiative, we will actively participate in international poverty alleviation cooperation, and promote poverty reduction in other developing countries and advance the realization of the UN Sustainable Development Goals in 2030.

From 2021 to 2035, as part of the goal of “making decisive progress in rural vitalization and basically realizing agricultural and rural modernization”, China’s overall anti-poverty goals include: establishing a relatively complete declaration and identification system and management information system for people in relative poverty; achieving full coverage of people in relative poverty by equalizing urban and rural basic public services; establishing a social protection policy system for people in relative poverty; ensuring that anti-poverty management is normalized and legalized to provide welfare and development support; ensuring that the minimum living standard of urban and rural residents is dynamically adjusted with the economic development and the improvement of urban and rural income level; ensuring that the proportion of people in relative poverty and income gap tend to decline, and that multidimensional poverty is basically eliminated, thus making an important contribution to international poverty reduction and to the realization of the United Nations Sustainable Development Goals for 2030.

The next few years will be the transitional period of China’s anti-poverty strategies and policies, i.e. the transition from eliminating absolute poverty to alleviating relative poverty and from unconventional fight against poverty to conventional anti-poverty. In the past, the institutional mechanisms and measures to eliminate absolute poverty should not come to an abrupt end, but should undergo a transitional period so as to further consolidate the achievements of poverty alleviation, and study and implement the transformation or cancellation of various institutional mechanisms

and policies. In the meantime, we will promote research, policy design and system establishment of relative poverty governance to lay a solid foundation for medium and long-term implementation of anti-poverty strategies.

6.3 Policies and Measures for Advancing Rural Vitalization

The rural vitalization strategy is the key to our efforts concerning agriculture, rural areas and farmers in the new era. In a long period of time to come, we will promote implementation of the rural vitalization strategy on the basis of basically forming the institutional framework and policy system for rural revitalization. For this purpose, we need to implement the current effective policies and measures, and make adjustment and innovation according to new situation, with focus on key development areas. In addition, we will formulate and implement a number of new policies and measures, and constantly improve the rural vitalization policy system.

6.3.1 Strengthening the Food Security Guarantee Policy

Ensuring national food security is a major national strategy of China to be upheld all the time, and it is also a basic means to cope with the great changes unseen in a century.

First, we should improve national food security strategy. We need to change our traditional security policy of simply pursuing food quantity, establish a comprehensive new policy of food security, and accelerate the transformation of food security from quantity security to quality and capacity security. According to the food security policy of “ensuring basic self-sufficiency of grain and absolute security of staple food”, a hierarchical food security strategy is implemented for staple food, grains and food. “Security of staple food” is the core of food security. To ensure absolute security of staple food, we need to make sure that the self-sufficiency rate of rice and wheat basically reaches 100%. Grains should be basically self-sufficient, and the self-sufficiency rate should reach more than 95% determined by the United Nations Food and Agriculture Organization (FAO). For other grain varieties, we can make full use of international trade to adjust surplus and demand of food supplies according to actual situation. In addition, we should extend the traditional policy of grain security to the policy of food security, ensure residents’ food and nutrition needs at a higher level, and promote a diversified food consumption structure.

Second, we should build a diversified system of grain reserves. Based on implementation of the “strategy of sustainable farmland use and innovative application of agricultural technology to increase farmland productivity”, we will vigorously promote the policy of “encouraging farmers to store grains” and build a diversified national grain reserve system led by the government and actively participated by enterprises and farmers. We will deepen reform of the management system of central

grain reserves, scientifically determine the size of reserves, strengthen the supervision and management of central grain reserves, and promote coordinated operation of the central and local reserves. We will step up efforts in R&D of key core technologies in grain production, processing, storage and transportation. We will improve the science and technology extension service system of grain food, further optimize the national grain transportation system, speed up construction of the modern grain logistics system, comprehensively heighten the scientific and technological level of grain industry chain, and improve the efficiency of cross-regional grain transportation. On this basis, processing and circulation enterprises, new business entities and farmers will be encouraged to carry out independent grain storage and management. The State will provide subsidies for enterprises, new business entities and farmers who participate in grain storage.

Third, we should improve the benefit compensation mechanism of major grain producing areas. We will further improve the central government's policy compensation for major grain-producing counties, and increase support in infrastructure construction, rural public service supply, tax reduction and exemption, etc. We will also strengthen compensation for development of major grain selling areas in major grain-producing counties, guide grain processing enterprises to invest in major grain-producing counties, and enhance their capacity to increase grain output. According to the amount of grain transferred into the main grain selling areas, special compensation funds proportionally collected from local financial revenues are used as agricultural subsidies for grain purchase price, grain insurance, grain storage and transportation, agricultural infrastructure construction and grain risks fund in the main grain producing areas. In addition, based on the value of ecological services, we should give priority to the vertical compensation of higher-level finance and the horizontal compensation between localities by carrying out pilot work of food ecological compensation in major grain producing areas, and give sub-compensation according to the crop planting area.

Fourth, we should establish and improve the price formation mechanism of agricultural products. We will gradually reduce the minimum purchase price of wheat and rice, and reduce market interventions in crops such as corn, soybeans and cotton, and implement the policy of "separation of price and subsidy" so as to improve the purchasing system of agricultural products and guide production of high-quality agricultural products on the market.

6.3.2 Innovating the Policy of Rural Industrial Land Use

First, encourage qualified places to introduce policies that fully combine the reform of "separation of three powers" of farmland with the construction of high-standard farmland and the development of farmland transfer market. (Note by translator, three powers mean rural land ownership rights, contract rights and land management rights).

The policy of rural industrial land use should be innovated, with focus on summarizing the reform experiences of reform of “three kinds of rural land (i.e. farming land, residential land, and construction land)”. First, we will encourage qualified places to introduce policies that fully combine the reform of “separation of three rights” of farmland with the construction of high-standard farmland and the development of farmland transfer market. (Note by translator: three rights mean rural land ownership rights, contract rights and land management rights). Full play will be given to the land leveling right in the “ownership” of agricultural land for overall planning and integration of financial funds with high-standard farmland construction funds. We will promote construction of high-standard farmland by means of county co-ordination, town implementation and village cooperation, and release the scale effect of farmland formation contiguous in a larger area. On the basis of guaranteeing farmers’ contract rights, agricultural business entities such as family farms can conveniently obtain the management rights of leveled contiguous farmland.

Second, under the framework of the newly revised *Law of Land Administration*, we will improve the policy of homestead approval and stock activation. With focus on innovating the reform of “separation of rural land rights”, we will improve the policy of farmers’ idle homesteads and houses, actively explore ways to realize the “separation of the ownership, qualification and use rights of homesteads, and implement collective ownership of homesteads, protect farmers’ qualification rights of homesteads and property rights of farmers’ houses, so as to moderately release homesteads and use rights of farmers’ houses. We will carry out pilot projects for the circulation and mortgage of homesteads within the county area, and explore practice of converting idle homestead into construction land. Farmers will be encouraged to voluntarily abdicate their unoccupied houses, allowing market players to operate vacant houses and develop rural industries. According to local conditions, we will formulate the policy of voluntary paid exit of farmers’ homesteads, and open up the connection channel between the exit of homesteads and the collective management of construction land.¹¹

Third, all localities are encouraged to introduce policy of rural industrial land use according to local conditions. According to the *Notice on Issues Related to the Management of Agricultural Land for Green House and Aquatic Operations*, all localities should formulate local implementation rules to clear the obstacles of agricultural land for green house and aquatic operations. On the premise of conforming to the overall land use planning, the county-level government is allowed to adjust and optimize the layout of village land through village land use planning, and effectively utilize the scattered stock of construction land in rural areas. Any county-level government that collects and stores idle rural construction land to develop new industries and new formats in rural areas will be granted new construction land use index as a reward.

¹¹ Wei (2020).

6.3.3 Improving the Policy of Rural Talent Vitalization

Adhere to the idea that human resources are the first resource, gather talents from all over the world and use them, do a good job in five aspects: bounding talents, cultivating talents, attracting talents, using talents and retaining talents, and improve the rural talent vitalization policy.

First, we will establish and improve the policy for identification of agricultural and rural talents. On the basis of clarifying all kinds of talents in rural areas, we should carry out classified management, introduce the identification management system, study and formulate the information statistics system of agricultural and rural talents. We also need to always keep informed of the quantity, structure and development trend of all kinds of talents. Local agricultural and rural talent information systems will be integrated to establish a unified national agricultural and rural talent information platform.

Second, we will establish the policy of cultivating agricultural and rural talents. An all-round three-dimensional agricultural and rural talent cultivation system will be created to cultivate professional farmers, strengthen rural agricultural technology extension talents, implement rural skilled personnel training actions, and enhance the innovation and entrepreneurship ability of all kinds of rural skilled personnel. We will cultivate the team of new rural elites, strengthen the construction of rural Party organization talents, and explore the directional training of agricultural technology extension talents at village level.

Third, we will introduce policies to optimize the working environment of talents. To build the incentive system of agricultural and rural talent system, optimize the talent service environment and create a good rural talent ecology, we must follow the people-oriented principle to promote the integration of urban and rural development and the sustained and steady growth of farmers' income, while making up the debts of rural public service construction as soon as possible, and realizing the integration of urban and rural public services.

6.3.4 Innovating the Policy of Agricultural Support and Protection

In the future, China will build a new agricultural support and protection policy to ensure the security of grain quantity and quality and the sustainable production capacity of national grain.

First, we will adjust and improve the "yellow box" policy and expand the scope of use of the "green box" policy. We will subsidize agriculture and made full use of the upper limit of not exceeding 8.5% of the total agricultural output value under the WTO rules. The production subsidy for specific products will be changed into direct subsidy that is not linked to specific varieties. A direct subsidy system for

agricultural income that decouples from agricultural production in that year will be established as soon as possible.

Second, we will strengthen and improve the direct subsidy measures and the policy performance of direct subsidies. We will step up efforts to increase support and protection for agricultural production. At the same time, we will follow the principle of “consistency of rights and obligations” and implement the practice of paying subsidies according to grain output or sown area, so as to change the current practice of “getting subsidies no matter whether grain is grown or not” and paying subsidies according to the taxable land area. We will give full play to the incentive effect of agricultural subsidies and improve the policy performance of direct subsidies. Based on the principle of subsidizing rural entities really engaged in agricultural scale operation, we will grant new direct subsidies to the real agricultural business operators such as professional farmers and family farms. Convenient conditions will be created for business entities to participate in the construction of high-standard farmland and agricultural infrastructure. We will actively explore the establishment of subsidy policies for improving soil quality protection.

Third, we will establish and improve policies to promote the great development of agricultural insurance market. On the one hand, we need to improve the agricultural insurance policy. The production-linked subsidies will be translated into optional schemes of policy credit and insurance support. We will strengthen top-level design of agricultural insurance, and promote pilot projects of full cost insurance and income insurance for rice, wheat and corn. We will explore the implementation of the pilot project to replace subsidies with awards for the insurance of agricultural products with local advantages and characteristics. The pilot project of agricultural catastrophe insurance will be expanded. A linkage mechanism among agricultural subsidies, agriculture-related credit, agricultural products futures and agricultural insurance will be established to steadily expand the “insurance + futures” experiment, and more effectively prevent the market risks of agricultural production. On the other hand, local governments should formulate policies to promote the development of local agricultural insurance market according to local conditions, and encourage and guide social capital to invest in agricultural insurance market, so as to enrich agricultural insurance varieties and meet diversified market demands.

6.3.5 Improving the Modern Rural Industrial Policy

The key to rural vitalization is industrial vitalization. In the medium and long term, we will take promoting the high-quality development of agriculture as the basic starting point, and take diversifying the rural industrial form as the main goal to further improve the modern rural industrial policy.

First, we will improve the policy of high-quality agricultural development. To implement three strategies of boosting high-quality development of rural areas, we will formulate and improve the high-quality agricultural development policy. As for the plan to boost high-quality development of rural areas, we should take

brand building as the starting point to implement the national agricultural product quality improvement project and agricultural product processing industry improvement action, and further improve the national agricultural product quality and safety inspection and testing system and traceability system. We will comprehensively improve the quality and efficiency of agricultural product supply, and embark on the road of high-quality development of modern agriculture. As for green agriculture, we must follow the concept of green development to develop ecological agriculture, organic agriculture and circular agriculture. We will speed up green transformation of traditional agriculture, carry out fertile land construction projects and reduction action plans for chemical fertilizers and pesticides, and support organic fertilizers to replace chemical fertilizers. We will also strengthen the comprehensive utilization of livestock manure, straw and plastic film to achieve the goal of green agricultural development with Chinese characteristics. As for the plan to boost agriculture through scientific and technological advances, we will further increase investment in agricultural science and technology, and speed up agricultural science and technology innovation, transformation and application of achievements, so as to build an agricultural education system, scientific research system, technology extension service system and modern seed industry innovation system that meet the needs of rural vitalization. In particular, we will step up efforts in the transformation and upgrading of agricultural mechanization, with the purpose to vigorously promote cross-regional operation and socialized service of agricultural machinery, make innovations of public welfare agricultural technology extension service methods, and encourage and guide various social forces to participate in the extension of agricultural scientific and technological achievements.

Second, we will improve the rural industrial integration development policy we will ensure the decisive role of the market in choosing rural industrial types and industrial integration methods, and see to it that the government should do a good job in industrial integration information services and entity docking activities to reduce various transaction costs of industrial integration. First, we will deepen the reform of administrative system, transform government functions, and create an environment for integration. The local government will be obligated to clarify government responsibilities, provide an excellent environment for industrial integration and development, simplify market access conditions, and reduce institutional transaction costs. Second, we will establish and improve the factor market of urban–rural integration to create convenience for free circulation of factors between urban and rural areas. We will spur the development of agricultural products processing industry, guide and encourage the integration and development of agriculture, tourism, home stay experience and other new industries. Third, we will provide preferential incentives in taxation, land and finance for leading enterprises, cooperatives, family farms and other market entities that can promote the integration and development of rural industries.

6.3.6 Improving the Farmers' Benefits Affiliating Policy

Farmers' benefits are the starting point and foothold of rural vitalization. The rural vitalization strategy is a long-term development strategy, so it is necessary to establish a linkage mechanism to ensure farmers' benefits in the medium and long-term development. First, we need to ensure the benefits of farmers in the development of rural industries. Farmers' prosperity and rural vitalization are the starting point and foothold of industrial development. Therefore, while actively guiding the participation of multiple entities, the benefits of small farmers must not be ignored because of their weak position. We will take into account the interests of all parties, and control the unjust enrichment of capital under the principle of protecting farmers' interests, so as to establish a benefit coupling mechanism with farmers, and form a community of share future with shared interests and risks.¹² Second, we will ensure farmers' interests in collective property rights and system reform. While urging all localities to complete the reform of rural collective property rights system as soon as possible, we will formulate relevant supervision policies to ensure the vital interests of farmers in various reforms such as the reform of "three changes (i.e. resources changed into equity, funds changed into equity capital, and farmers changed into shareholders)". Third, we will ensure the interests of farmers in the development of rural collective economy. While developing rural collective economy, we will introduce relevant policy to ensure farmers' interests.

6.3.7 Improving the Rural Ecological Livability Policy

To improve the appearance of villages, we will build ecologically livable villages and formulate a policy system to transform rural beauty into productivity. (1) We will speed up the renovation of dilapidated houses in rural areas. All local governments should determine the renovation standards of dilapidated buildings and old houses, and increase financial subsidies. (2) We will accelerate the construction of rural roads. This includes the construction of inter-village roads and household roads, with special attention paid to the problem that the roads in the transition zone of administrative divisions are not maintained. Through road improvement, the situation of muddy roads and inconvenient travel of villagers in the village will be solved. (3) We will improve rural sewage treatment. We will increase investment in domestic sewage treatment, and focus on strengthening the governance of surface water eutrophication pollution caused by nitrogen, phosphorus and potassium in planting industry, fecal pollution caused by aquaculture industry, and domestic sewage discharge. The water sources in rural drinking water safety projects will be put under proper management by regularly collecting and testing samples of water sources. (4) We will make innovations of the concept of rural garbage management and establish a mechanism

¹² Wei and Du (2019).

for rural residents to participate in the management. We will establish and practice the development concept of “clear waters and green mountains are as valuable as mountains of gold and silver”, and promote rural environmental optimization by rural garbage treatment. We will enhance rural residents’ awareness of garbage classification, increase capital investment in rural garbage treatment, and ensure the infrastructure of rural garbage storage. (5) We will make reasonable choice of the toilet reform mode, and promote toilet revolution according to local conditions. In economically developed or suburban areas, we will accelerate the construction and renovation of household sanitary toilets. In economically backward or remote areas, we will respect the principle of mass acceptance, economic applicability and convenient maintenance, and adopt different toilet improvement modes. At the same time, we will focus on organic combination of toilet treatment and domestic sewage treatment, and ensure that the basic principle of toilet improvement is not to pollute rural water. (6) We will promote village greening and improve village public facilities. Full use will be made of idle land for afforestation and wetland restoration so as to build green ecological villages. We will accelerate the construction of public places such as village public lighting facilities, leisure and entertainment places and elderly activity centers.¹³

6.3.8 Improving the Urban and Rural Public Service Policy

The equalization of basic public services between urban and rural areas will be accelerated to promote the integration of urban and rural areas, which is an important guarantee for implementing the rural vitalization strategy. In a certain period of time to come, we will further improve the policy system of equalization of basic public services between urban and rural areas, and provide incentives for free flow of various elements between urban and rural areas. First, we will establish and improve the policy of promoting the unification of urban and rural basic public service standards and the integration of systems. All local governments are required, according to their own conditions and development level, to formulate unified basic public service construction standards for urban and rural areas in their own regions, and strive to complete the integration of relevant policies by 2025. Second, we will establish and improve the fiscal policy to support the equalization of basic public services in urban and rural areas. Financial support is a basic guarantee for the government to perform public services. For priority development of agriculture and rural areas, we will fundamentally adjust and optimize the urban–rural structure of financial public service expenditure, increase financial investment in rural public services, and accelerate the equalization of basic public services in urban and rural areas. At the same time, we will change the financial supply mode by which the government serves as a single subject, and actively encourage various non-governmental organizations and social capital to participate in the construction of rural public services.

¹³ Wei and Du (2019).

In the case of limited financial resources, the government should give priority to increasing the support for rural basic public services. (1) Priority should be given to increasing investment in compulsory education, vocational education and preschool education in rural areas. Investment will be increased in rural education funds and continuously improve the hardware facilities of rural education. We will strengthen the construction of rural teachers, guarantee teachers' wages, benefits and social insurance benefits, and establish and improve the two-way flow mechanism of urban and rural teachers. (2) We will give priority to increasing investment in rural basic medical services. The medical security level of rural residents will be further improved to strengthen the infrastructure construction of rural health service stations and service networks, and improve the treatment of rural doctors and the medical service ability of medical staff. (3) Priority should be given to increasing investment in rural social security. At present, China's rural social security standards are low, so efforts should be made to improve relevant systems and increase subsidies for rural minimum living guarantee.¹⁴ (4) We will formulate relevant policies to encourage and guide social capital to participate in the construction of rural basic public services.

6.3.9 Establishing and Improving the Policy of Safe Countryside

We will set out to establish a policy system of safe countryside, so that rural residents can realize rural vitalization under the condition of safe production and safe life. First, we will establish and improve the rural safety production policy. All local governments should formulate rural safety production policies suitable for their own regions under the framework of national safety production policies and regulations in accordance with rural types and development stages. Safety production policies will be established for publicity, guidance, supervision, handling and response of safety production so as to properly solve the problem of law enforcement team and financial security. We will enhance the safety supervision ability and safety supervision guarantee ability of grass-roots governments, promote the continuous improvement of the safety production level of enterprises within the jurisdiction, and enhance the production safety accident prevention ability and continuously improve the safety production situation. Second, we will establish and improve the rural safe life policy. Under the principle of prevention first in combination with rescue, we will adhere to the unity of normal disaster reduction and abnormal disaster relief, and comprehensively improve the comprehensive prevention ability against various disasters. We will strengthen the monitoring, forecasting and early warning of rural natural disasters, and solve the "last mile" problem of rural early warning information release. The construction of disaster prevention and mitigation projects will be strengthened to promote renovation of dilapidated buildings for rural poor people

¹⁴ Wei and Du (2019).

in high-risk areas of natural disasters. We will comprehensively deepen the prevention and control of forest and grassland fires. Efforts will also be made to advance the construction of rural public fire-fighting facilities, fire-fighting forces and fire-fighting safety management organizations, and improve rural fire-fighting safety conditions. A prevention and response mechanism will be in place for major diseases in rural areas. We will promote the construction of relief materials reserve system for major disasters and epidemics.

6.4 Ideas and Policies of Implementing the Anti-Poverty Strategy

After 2020, on the basis of consolidating poverty alleviation achievements and eliminating absolute poverty, China should establish a policy system for reducing relative poverty. It consists of shared development strategies and policies, equalization of basic public services, rural vitalization policies, development policies for relatively poor areas and social protection policies, relative poverty identification and monitoring, and relative poverty governance framework of urban and rural integration. We will continue to promote the transformation of poverty governance from an unconventional fight against poverty system to a conventional and legal governance system and mechanism, and finally realize the long-term goal that poverty governance becomes an organic part of rural vitalization actions and national governance modernization.

6.4.1 Implementing the Policy of Consolidating the Achievements of Poverty Alleviation and Eliminating Absolute Poverty

After 2020, the primary task of anti-poverty is to consolidate the achievements of poverty alleviation, prevent the poverty-stricken people from relapsing into poverty, and improve the sustainability of poverty alleviation. To consolidate the achievements of poverty alleviation and prevent relapse into poverty in rural areas, we will establish a long-term mechanism for farmers' stable income increase and a long-term mechanism for income support of low-income groups, though there must be some families who need to rely on various policy support for a period of time. In the future, therefore, in addition to the macro-policy needs that are conducive to increasing farmers' income, such as stabilizing growth and employment, the special policies are as follows:

- (1) Priority industrial and employment support policies for low-income families.

On the premise of supporting the healthy operation of poverty alleviation industries and poverty alleviation workshops (factories) in rural areas, we will support all localities to gradually rationalize the interest connection mechanism between the card-setting households and poverty alleviation industries and poverty alleviation workshops, and ensure that all employment, cooperation and benefit distribution behaviors are more in line with economic laws and market rules. We will pay special attention to low-income families which is registered as poor families. Certain preferential policy support will be given to the cooperation between new business entities, enterprises and various low-income families. We will continue to make good use of the rural labor transfer and employment management information system, employment cooperation and skills training policies so as to stabilize the agricultural labor transfer and employment, and encourage self-employment.

- (2) Collective income and welfare distribution policy of fairness and benefit to the poor.

In line with the reform of rural collective property rights, we will strengthen the operation and management of collective financial assets for poverty alleviation and collective assets. The principle of fairness and pro-poor benefits will be adopted in the distribution of collective income and other benefits, of which the democratic decision will be made by villagers, making allowance for low-income families.

- (3) A more perfect policy to guarantee people's basic needs.

The basic needs guarantee policy is a long-term comprehensive support policy for families without labor or provider, including minimum income support and various basic guarantees as well as auxiliary policies such as asset income distribution. The most important thing of the basic needs guarantee policy is its stability and long-term effect, including the clarity of standards for selecting objects with basic needs and fund guarantee, so that the objects with basic needs will have no worries.

For a small number of people relapsing into poverty or becoming impoverished under the current standards that will inevitably occur, it is no longer necessary to identify them on a large scale because of their small quantity and scattered distribution. However, it is necessary to implement a basic needs guarantee policy and establish a bottom-up rapid response and rescue mechanism. Once poverty occurs, the poor and their grass-roots communities (villagers' groups) should quickly find out and report to the administrative villages, and use relatively perfect accurate identification standards and mechanisms for discrimination and identification of poverty-stricken people. Once people relapsing into poverty or becoming impoverished are identified, the social assistance mechanism should be started quickly to provide minimum living security and various targeted assistance measures so as to ensure "two assurances and three guarantees (i.e. assuring the rural poor population that their food and clothing needs will be met, and guaranteeing that they have access to compulsory education, basic medical services, and safe housing)".

6.4.2 Improve the Rural Vitalization Policy Including the Concept of Development-Oriented Poverty Alleviation and the Development Policy of Relatively Poor Areas

Development-oriented poverty alleviation is one of successful Chinese experiences, which is designed to develop resources and production, improve poor farmers' self-accumulation and self-development ability, and help them overcome poverty and achieve prosperity through labor.¹⁵ Although the connotation of the development-oriented poverty alleviation policy is constantly enriched and expanded during evolution, its core philosophy remains unchanged. Academic circles have never stopped questioning and criticizing the issue of development-oriented poverty alleviation. The main point of criticism is that, to a certain extent, or to a great extent, because development-oriented poverty alleviation is actively or even forcibly promoted by the government, poor areas and poor farmers are passively or even forced to participate, which leads to a series of problems such as industrial failure, insufficient participation of poor households, and lack of mechanism to drive poor households. In the stage of solving the problem of absolute poverty, development-oriented poverty alleviation is a necessary development process. Poor effect is inevitable, but it is not a reason to deny it.

With the anti-poverty entering a new stage after 2020, it is necessary to reflect on the development-oriented poverty alleviation policy. In short, the core concept of development-oriented poverty alleviation still needs to be upheld, but the policy mechanism of development-oriented poverty alleviation should be changed from being government-led to being government-supported and guided, with business entities and farmers participating independently and voluntarily. Therefore, according to the idea of effectively linking poverty alleviation with rural vitalization, the 14th Five-Year Plan period will be a transitional period of the development-oriented poverty alleviation policy. It is thus necessary to continue, transform or cancel the current policy according to the classification principles of retention, extension, adjustment and cancellation. The policy for business entities in development-oriented poverty alleviation can be turned to promoting the rural vitalization policy, and to providing preferential incentives and support policies for families registered as living in poverty on the basis of inclusive policy mechanisms. Regional policies can be integrated into the development policies in relative poor areas.

¹⁵ Wei (2019).

6.4.3 *Establishing a Specific “Three Pillars” Anti-Poverty Strategy*

The World Bank’s “three-pillar” strategy to eradicate absolute poverty has been refined and perfected many times in the 30 years since 1990. In a 2016 report, the “three pillars” of comprehensive poverty reduction were defined as labor-intensive economic growth, human capital investments, and setback-proof social security to cope with events with great global influence such as pandemics and catastrophes, which shows its foresight.¹⁶ The *Europe 2020* program on reducing population in relative poverty includes boosting inclusive growth, guaranteeing education, improving medical services, and bettering the effect of social protection, which is highly consistent with the “three-pillar” strategy. China’s development and poverty reduction model also has the characteristics of “three pillars”, such as developing labor-intensive industries and implementing employment priority policies, popularizing rural compulsory education, and developing low-level but wide-coverage residents’ medical care and old-age security systems.¹⁷ In recent years, China has consciously constructed affordable poverty alleviation measures that complement its development-oriented poverty alleviation policy. Under the precise poverty alleviation model, as the poverty situation of all poor families is known, the guaranteed poverty alleviation can effectively play the role of poverty alleviation.

China’s poverty reduction model at the stage of eliminating absolute poverty coincides with the “three pillars” model, which is more determined by the development path of socialism with Chinese characteristics and has not been written into the written poverty reduction strategy document. After 2020, due to the sociality of relative poverty, its solution mechanism and process need to be more closely integrated with economic and social development. A clear “three-pillar” poverty reduction strategy is essential, and it needs to be adjusted and transformed in China in combination with internationally accepted initiatives, practices and China’s national conditions. The focus of these adjustments is to re-distinguish the investment and guarantee in the World Bank report in terms of concepts and policies. At present, there are four basically parallel concepts in these two aspects at home and abroad, namely, basic public services, social security, social protection and social assistance. Comparison shows that investment and guarantee should be replaced by basic public services and social protection respectively, so the “three pillars” of poverty reduction in China in the future can be composed of inclusive growth, equalization of basic public services and social protection. In terms of inclusive growth, the communiqué of the Fourth Plenary Session of the 19th CPC Central Committee proposed that the promotion mechanism conducive to fuller and higher quality employment should be improved, including employment priority policy, public employment service, lifelong vocational skills training system, employment support for key groups, employment driven

¹⁶ Among them, it deals with the global guarantee to deal with the events that have great global influence, such as pandemics and catastrophes, which shows its foresight Gill et al. (2016).

¹⁷ Wu et al. (2018).

by entrepreneurship, and flexible employment through multiple channels. An education system that serves lifelong learning for all is conducive to promoting employment. Social insurance belongs to the common field of basic public services and social protection, while labor and employment services belong to the common field of inclusive growth, basic public services and social protection. This is why they really matter. The internationally accepted concept of social protection is close to China's social security, which includes not only social insurance and social assistance, but also labor market intervention measures, such as training, employment promotion, and employment assistance is also regarded as an important content of social protection.

6.4.4 Exploring Relative Poverty Standards and Monitoring Systems of Urban and Rural Integration and Multiple Standards

(1) Establishing a pluralistic relative poverty standard system.

After 2020, China as a whole will enter a stage to resolve relative poverty. Because China's current absolute poverty standard is still a rather low standard, and people have a poor understanding of the relative poverty theory, standard and measurement, it is suggested that a relative poverty standard system composed of multiple standards should be researched and formulated under the support of the concepts of relative poverty, multi-dimensional poverty and shared prosperity. The system includes the following five types of standards.

First, the standard of basic living guarantee (combined with the standard of subsistence allowance). The basic living guarantee standard is an extension of the absolute poverty standard in the past, which parallels with the minimum subsistence allowance standard. Based on minimum subsistence allowance and equivalent income, this standard is aimed to realize the unification of the basic living guarantee standard and the subsistence allowance standard. In the future, all Chinese citizens will have the right to get a minimum standard of living, and families below this standard will have the right to receive monetary or in-kind relief. With the elimination of absolute poverty, if the poverty standard combined with the minimum living standard is adopted, the newly added population under protection will be very limited on the basis of the existing rural minimum living standard.

Second, the numerical relative poverty standard (poverty reduction work standard). With the improvement of social and economic development level, and for the purpose of improving the income and living standard of people in poverty, the state can set a higher poverty standard to be measured by income value as a new goal of poverty reduction. This standard can still be gradually improved in stages as before, corresponding to the phased goal of common prosperity. This poverty standard is actually a relative poverty standard related to the development stage and development goal. It is different from the higher poverty standard implemented in

some developed countries, and it is a feasible income goal that low-income families can achieve through assistance and efforts, which can also be called low-income standard. Therefore, its target value should be between the basic living standard and the proportional relative poverty standard to be discussed later, and its function is to define the low-income families below this standard and having the ability to work, and to promote them to get rich through labor by providing them with direct developmental assistance measures, with the purpose of helping them rise above the poverty line.

Third, the proportional relative poverty standard (relative poverty monitoring standard). Proportional relative poverty standard is equivalent to the poverty standard of EU and OECD, and it is a poverty standard measured by a certain proportion of the median per capita disposable income of residents. It is suggested that 50% of the median value of per capita disposable income should be set as the poverty standard, which is consistent with the OECD relative poverty standard, lower than 60% of the EU standard and higher than 40% recommended by most domestic studies. At present, most studies have set the proportion of relative poverty standard at 40%.¹⁸ At present, the proportional relative poverty standard adopted in China is mainly used to monitor poverty changes, and its long-term goal is to pursue an appropriate reduction of the poverty rate.

Fourth, multidimensional poverty standards. Drawing experience from international practice, the multi-dimensional poverty dimensions and dimension thresholds have been determined according to the needs of residents' basic living, basic public services and human capital development. On the one hand, they serve as the basis for multi-dimensional poverty monitoring, and on the other hand, they serve as the basis for relevant departments to "improve weakness" in the fields of basic living security and basic public services. At present, there have been many studies on the standard of relative poverty in China, and one of the most representative and latest achievements is the research conducted by Wang Xiaolin and FengHexia.¹⁹ They believe that the multidimensional poverty standard is very important, but they may be somewhat inadequate as a holistic scheme to measure relative poverty. In addition, as a multidimensional poverty standard under a multidimensional standard system, it is no longer necessary to include income indicators.

Fifth, indicators of shared prosperity. Promoting shared prosperity is one of the two goals set by the World Bank in 2013 in parallel with poverty eradication.²⁰ The shared prosperity focuses on the growth of income or living standards of 40% low income population and its improvement relative to the other 60%. One of the main indicators of shared prosperity is the shared prosperity premium, that is, the ratio of the income or consumption growth of 40% low income population to the average

¹⁸ At present, most studies set the proportion of the relative poverty standard at 40%, which shows its feasibility with a lower standard. In this research scheme, due to the existence of the minimum poverty standard, the income ratio in the relative poverty standard does not have to be too low. Consistency with OECD is conducive to comparison.

¹⁹ Wang and Feng (2020).

²⁰ World Bank (2016).

social growth rate. The average income or consumption level, growth rate of 40% low income population and its premium relative to the social average level should be important indicators of common prosperity.

- (2) Reforming and improving the household survey system to meet the needs of relative poverty monitoring.

In order to meet the needs of multi-poverty monitoring in urban and rural areas, the current national household survey and statistics system needs to be reformed and improved. First, we need to further improve the urban–rural division in the household sampling system, increase the samples of permanent floating population, improve the urban–rural distribution of samples and the representativeness of floating population, and finally realize poverty monitoring based on permanent population. Second, we need to improve the contents and methods of household surveys, reduce reporting errors, and adapt to the needs of relative poverty and multidimensional poverty monitoring. Third, we need to improve the representativeness of county-level samples and strengthen the survey and monitoring of county-level households in relatively poor areas. Fourth, we need to improve the analysis of sample data, and identify the non-poor samples in 20% low-income groups (caused by income fluctuations), so that the data of low-income groups can better represent low-income groups.

6.4.5 Building a Routine Relative Poverty Governance System with Central-Local Coordination and Urban–rural Coordination

- (1) The pattern of poverty alleviation coordinated by the central and local governments will be optimized to strengthen the role of local governments and social forces.

After 2020, the pattern of poverty alleviation led by the central government, which has been formed for a long time in the past, should be adjusted and optimized. On the basis of optimizing the function of the central government, we will strengthen the role of local governments and social forces, and create a new pattern of poverty alleviation coordinated by the central and local governments. First of all, we should maintain the system of overall planning by the central government, overall responsibility by provinces, and graded responsibility and concerted efforts by cities and counties. However, the responsibilities at all levels will be adjusted accordingly, and the central responsibilities will be transformed into national strategies, standards, statistical monitoring, institutional systems, coordination and guidance. Local governments will assume more specific responsibilities and have the autonomy to implement a higher level of relative poverty alleviation strategies and policies according to their own economic strength. Second, poverty alleviation is managed by the Party and the five-level Party secretaries. The responsibility system of the top leaders of the

Party and government is included in the priority mechanism of rural vitalization. Consolidating anti-poverty achievements and alleviating relative poverty is the part of rural vitalization. Third, we need to optimize and strengthen social poverty alleviation, integrate poverty alleviation cooperation and targeted poverty alleviation into a development cooperation mechanism, and greatly strengthen the participation of social organizations. Finally, establish the system of sending cadres to grass-roots party organizations or villages with weak economic development, and replace the system of helping households by strengthening rural social services.

(2) Transition to the institutionalized and legalized anti-poverty system of urban and rural co-ordination.

Under the premise of new definition of poverty and the transformation of development-oriented poverty alleviation policy, the rural special poverty alleviation and development system, which targets the rural poor and development-oriented poverty alleviation, should be gradually adjusted as a part of the national social welfare work with support from development and social protection at its core. As required by urban and rural integration, we will set up a special anti-poverty work organization in the national civil affairs department to integrate anti-poverty work with urban and rural subsistence allowance. An anti-poverty coordination mechanism should be created jointly by the Ministry of Civil Affairs, the National Development and Reform Commission and the Ministry of Agriculture and Rural Affairs for the development of relatively poor areas and rural vitalization. Until the mechanism is formed, the current poverty alleviation office system can be retained for another three years or so. The routine anti-poverty system in the future will be carried out by due standards and procedures. It is thus recommended that the State should formulate anti-relative poverty laws or regulations in a timely manner to stipulate the rights and obligations of the State, government departments and target population, so that relevant supporting measures can be followed by laws.

(3) Enhance the service ability of discovering relative poverty and intervening in grass-roots society.

In the future, the discovery and intervention measures for relative poverty should be responsive and integrated. Responsibility means that the relative poverty phenomenon in grass-roots communities can be quickly discovered, identified and included in the protection by the complementary way of family application and grass-roots cadres' active discovery. Integration means that, like affordable poverty alleviation measures for targeted poverty reduction, a variety of policies can be jointly applied according to the unfavorable conditions of families. These two aspects depend not only on the system of policy integration, but also on the improvement of grass-roots governance mechanism and the enhancement of public service capacity. On the one hand, the enhancement of grass-roots social service capability depends on the strengthening of community autonomy and self-service capability; on the other hand, it depends on purchasing services from social organizations and enhancing volunteer services.

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Chapter 7

Mid-to-Long-Term Structural Adjustments of Manufacturing and Cultivation of New Competitive Advantages



Dan Shi, Xiaohua Li, Pengfei Li, Zhou Deng, and Shenning Qu

The year of 2020 is the last year of China's "13th Five-Year Plan" period, in which we will achieve the strategic goals of basically realizing industrialization and building a moderately prosperous society in all respects. For a long period of time in the future, China's industry will face opportunities such as upgrading domestic demand, expanding markets in developing countries, and the rise of a new industrial revolution. At the same time, it will also face various challenges such as the impact of the "backlash against globalization" and "double-end squeeze", as well as the interference of uncertain factors such as the COVID-19 pandemic. During the 14th Five-Year Plan period, China's industry will be well oriented to cultivate new advantages and take new measures to pace up the move from a large country to a strong country in industry.

7.1 Development Status and Main Problems of China's Manufacturing

7.1.1 *The Growth Rate Declined and Stabilized, and the Development of Industry Differentiated*

Affected by changes in domestic and international market environment, the growth rate of China's manufacturing industry has gradually slowed down since the 12th Five-Year Plan. After its contribution to national economic growth lagged behind that of service industry, the growth rate has continued to decline and is lower than the average growth rate of various sectors of the national economy. In nominal terms,

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the compound annual growth rate of manufacturing added value was 16.7% during the 11th Five-Year Plan period, decreased to 9.2% during the 12th Five-Year Plan period, and further decreased to 5.5% in the first three years of the 13th Five-Year Plan period. In 2018, the added value of manufacturing industry grew 6.2%. With the slowdown of growth rate, the proportion of manufacturing industry in the national economy has declined. The proportion of manufacturing added value in GDP has dropped by 0.7% point during the 11th Five-Year Plan period and 2.4% points during the 12th Five-Year Plan period (see Fig. 7.1). However, since the 13th Five-Year Plan, the development of industries has been differentiated, with the growth rate of food industry, textile and garment, rubber and plastics industries declining most while the proportion of equipment manufacturing and electronic information manufacturing industries increased in the same period (see Fig. 7.2). In the first two years of the 13th Five-Year Plan period, the proportion of main business income of electronic information manufacturing industry increased by 1.2% points—the largest growth. In 2019, with the overall growth rate of manufacturing industry declining, the added value of high-tech manufacturing industry with large scale and strategic emerging industries increased by 8.8 and 8.4% points respectively over the previous year, and the growth rates were 2.8 and 2.4% points faster than those of manufacturing industry with large scale respectively. High-tech industries and emerging industries accelerated their development; the operating conditions of manufacturing enterprises improved significantly; the ability of innovation-driven development increased; and the downward trend of manufacturing growth slowed down. In 2019, the growth rate of added value of manufacturing enterprises with large scale was 6.0%, and it decreased by merely 0.1% point in the first three years of the 13th Five-Year Plan. In 2019, the added value of manufacturing industry accounted for 27.2% of GDP.

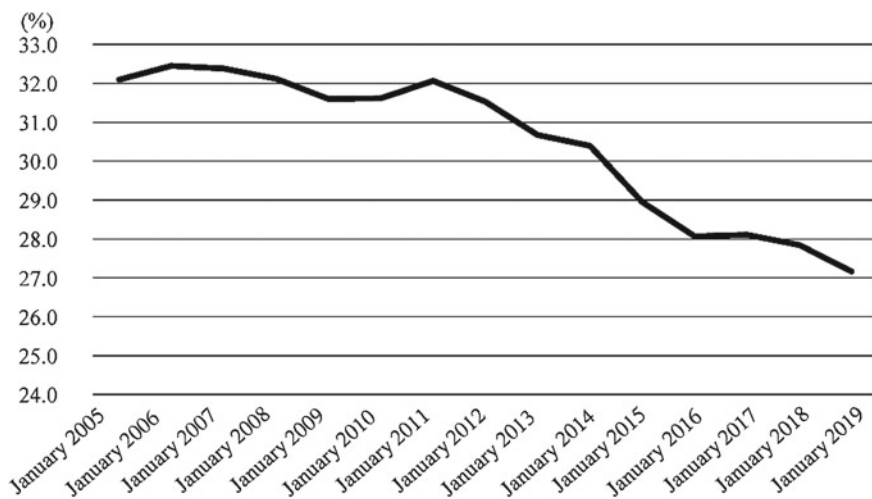


Fig. 7.1 Changes in the proportion of manufacturing added value to GDP. *Source* National Bureau of Statistics

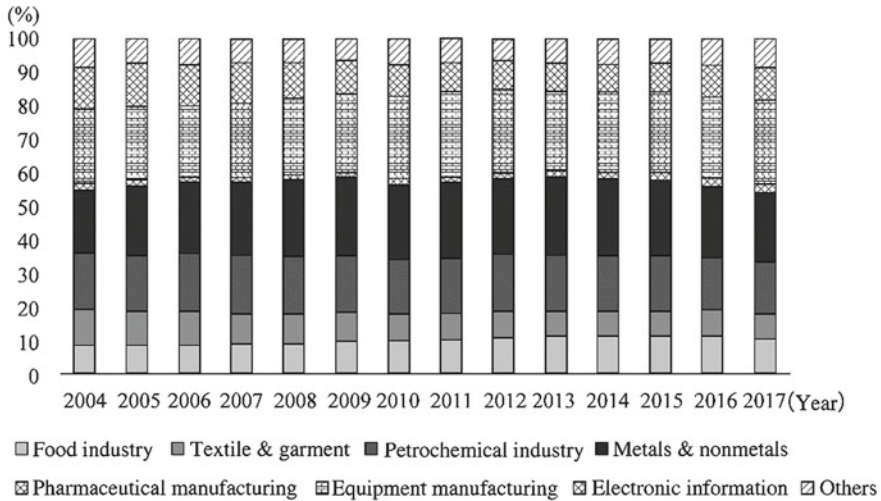


Fig. 7.2 Changes in the proportion of manufacturing output above designated size (calculated by main business income). *Source* Calculated according to the data of the National Bureau of Statistics

7.1.2 Formation of New Development Momentum and Effect of Weak Demand on Industry Benefits

The innovation drive of manufacturing industry has achieved remarkable results in recent years under the policy incentives of optimizing resource allocation, promoting transformation and upgrading, strengthening innovation drive and eliminating backward production capacity. The proportion of research and experimental development activities of industrial enterprises above designated size increased from 19.2% in 2015 to 28.0% in 2018, and the proportion of research and experimental development expenditure in main business income increased from 0.9% in 2015 to 1.3% in 2018. In 2017, the main business income of high-tech industries reached 15.9 trillion yuan, and the proportion of all manufacturing industries above designated size increased from 14.8% in 2015 to 16.7%. With the deepening of supply-side structural reform, the reduction of excess capacity in traditional industries such as steel, coal, petrochemical and building materials has been continuously promoted. While the development of strategic emerging industries has paced up, new products conforming to structural upgrading and consumer demand have emerged constantly, and economic and environmental benefits have improved significantly. In 2017, the total energy consumption of manufacturing industry was 245,000 tons of standard coal, and the energy consumption per 10,000 yuan of added value was 1.0 tons of standard coal, down 16.7% from 2015, which accounted for 54.7% of the total energy consumption, down 2.3% points from 2015. However, affected by the relationship between supply and demand on both domestic and international markets, some industries saw overcapacity, and the ex-factory price index of industrial producers

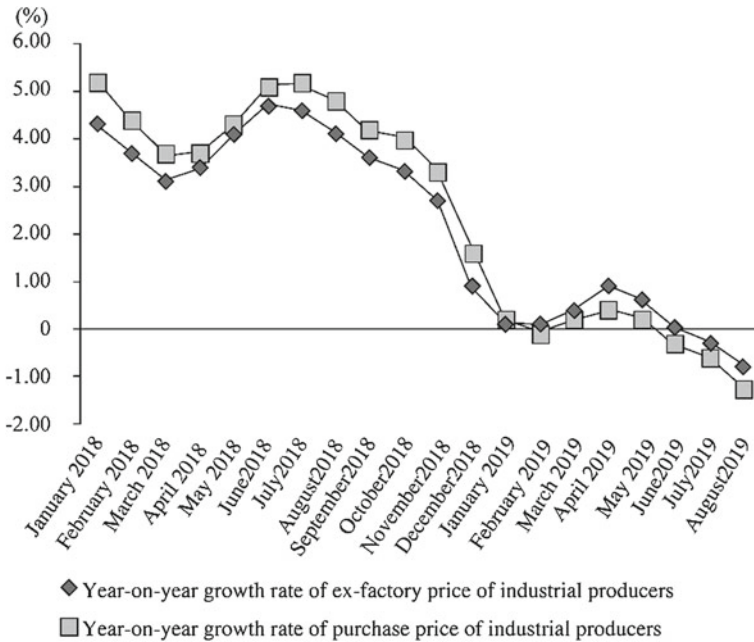


Fig. 7.3 Trends of ex-factory price and purchase price of industrial producers. *Source* National Bureau of Statistics

continued to fall, leading to the rise of inventories. Especially in the manufacturing industry downstream of the industrial production process, the growth rate of purchase price was higher than that of ex-factory price, and the profit growth rate of industrial enterprises dived (see Figs. 7.3 and 7.4).

The economic benefits of China's manufacturing enterprises have been continuously depressed due to impact of the COVID-19 pandemic. Since 2018, the cumulative year-on-year growth rates of manufacturing operating income and total manufacturing profit have been declining continuously, down to -1.1 and -42.7% respectively in February 2020. Although it has improved since then, the values of these two indicators remained negative in May, i.e. -7.5 and -16.6% respectively. In the meantime, the year-on-year growth rate of the number of manufacturing loss-making enterprises and the cumulative year-on-year growth rate of the total losses of manufacturing loss-making enterprises tended to rise. The two figures reached 44.1 and 46.9% respectively in February. By May, 27.2% of manufacturing enterprises still suffered losses, and the cumulative year-on-year growth rate of total losses reached 38.9% , both of which were much higher than the same period in 2018 and 2019. Among them, it is particularly noteworthy that, as the COVID-19's impact on enterprises was directly related to their ability to resume work and resist capital risks, small and medium-sized enterprises saw poor production conditions and capital conditions, and their ability to resist capital chain and supply chain risks also became weaker under greatest impact. According to the data released by the National Bureau

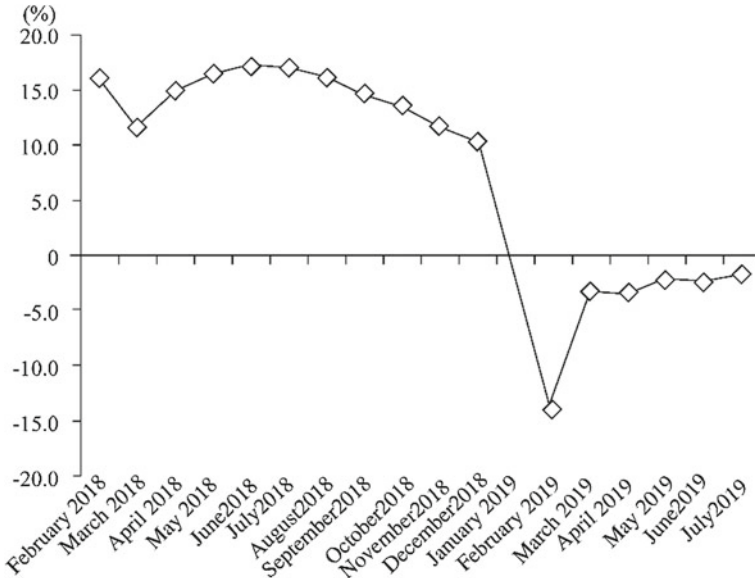


Fig. 7.4 Trends of profit growth rates of industrial enterprises. Source National Bureau of Statistics

of Statistics, the number of loss-making enterprises in private industrial enterprises with dense small and medium-sized enterprises increased by 31.1% year on year in May, while the number of loss-making enterprises in state-owned and state-controlled industrial enterprises with large scale increased by 12.2% year on year.

7.1.3 The Industrial Production System is Complete and the Scale Advantage is Outstanding

China has built an industrial production system with 41 major categories, 207 middle categories and 666 minor categories in the world. China’s industrial products and investment have spread over more than 230 countries (regions) and 190 countries (regions) respectively, providing domestic and foreign consumers with various industrial products of complete styles, which occupy an important position in the global industrial chain. Since 2010, the United States has taken measures to promote the comeback of manufacturing industry, and its manufacturing growth rate has slightly recovered to 1.0%, but China maintained a growth rate of 7.5% in the same period. In 2018, China’s manufacturing added value accounted for more than 28% of the world’s total, 1.7 times that of the United States, 3.9 times that of Japan and 4.8 times that of Germany.

In 2013, China surpassed the United States to become the world’s largest trading country in goods, and the growth of import and export of manufactured goods played

a decisive role. According to the World Bank, the added value of China's manufacturing industry surpassed that of the United States in 2010 and became the largest manufacturing country in the world. According to the data of the United Nations Industrial Development Organization (UNIDO), industrialized countries accounted for 55.3%, and newly industrialized countries accounted for 16.3%. It reached 24.8% in China in 2017. Compared with 2005, China's share of global manufacturing value added increased by 13.2% points, more than doubling (see Table 7.1). In recent years, China's imports and exports have further expanded, with the total import and export volume rising from US \$2974.00 billion in 2010 to US \$4576.13 billion in 2019, and its international trade ranking has jumped continuously. Among them, the total export volume increased from US \$1577.75 billion in 2010 to US \$2499.03 billion in 2019, and the export of manufactured goods in 2019 was US \$2365.09 billion, accounting for 94.6% of the total export volume of all goods, which was the most important industrial sector to create foreign economic and trade surplus (see Table 7.2).

Table 7.1 Distribution trends of global manufacturing value added (*Unit %*)

	2005	2010	2015	2017	Average annual growth rates from 2005 to 2010	Average annual growth rates from 2010 to 2017
Industrialized countries	69.6	61.8	56.8	55.3	-0.3	1.3
Newly industrialized countries	16.0	16.6	16.5	16.3	3.5	2.7
Other developing countries	2.3	2.5	2.7	2.8	4.5	5.2
Least-developed countries	0.5	0.6	0.7	0.8	9.1	6.7
China	11.6	18.5	23.3	24.8	13.1	7.5
United States	20.2	17.3	15.6	15.1	-0.4	1.1

Source Calculated according to UNIDO database data

Table 7.2 China's trade in goods in recent years (*unit* 100 million US dollars)

Years	2010	2012	2014	2016	2018	2019
Total import–export volume	29,740.0	36,418.6	43,015.3	36,855.6	46,224.1	45,761.3
Total export	15,777.5	18,983.8	23,422.9	20,976.3	24,866.8	24,990.3
Total import	13,962.5	17,434.8	19,592.4	15,879.3	21,357.3	20,771.0
Balance between import and export	1815.0	1549.0	3830.5	5097.0	3509.5	4219.3

Source National Bureau of Statistics

7.2 Stability of Employment and Investment and Non-optimistic Market Environment

The manufacturing industry is the most important pillar industry to promote steady transformation of China's economy, and plays an important role in all aspects. In terms of added value, the added value of China's manufacturing industry reached 26.5 trillion yuan in 2018, 1.3 times that at the end of the 12th Five-Year Plan and 2.0 times that at the end of the 11th Five-Year Plan. In terms of employment, by the end of 2018, there were 41.783 million employed people in non-private entities in manufacturing cities and towns, accounting for 24.2% of the total employed population in non-private entities in all cities and towns. In terms of investment, the growth rate of manufacturing investment has declined in recent years. The growth rate of manufacturing fixed assets investment in 2018 was still 3.6% points higher than the national total. In 2017, the manufacturing fixed assets investment reached 19.4 trillion yuan, accounting for 30.7% of all urban fixed assets investment. In terms of tax payment, the tax payment of manufacturing industry in 2018 was 5.5 trillion yuan, accounting for 32.2% of the total tax revenue. In terms of foreign investment, the actual use of foreign capital in manufacturing industry in 2018 was US \$41.17 billion, accounting for 30.5% of the total actual use of foreign capital. In terms of outbound investment, as of 2018, the stock of manufacturing foreign investment was US \$182.23 billion, accounting for 9.2% of the total stock of foreign investment, an increase of 2% points over 2015. While China's manufacturing industry made great contributions to economic and social development, the development environment needs to be improved. The manufacturing development environment in China is obviously poorer than developed countries (see Fig. 7.5). According to the results of comprehensive development environment assessment of major manufacturing countries in the world in 2018 released by Brookings Institution, Britain, Switzerland and the United States ranked among the top three, while China ranked 13th in the world with a score of 61 points.

7.3 New Trends and Challenges of Global Manufacturing Development and New Demand of China's Manufacturing

7.3.1 Trends of "New Four Modernizations" of Manufacturing Industry and Its Impact on Competitive Advantages

In recent years, a new round of scientific and technological revolution and industrial transformation, featuring explosion of science and technology in the fields of new generation information technology, new materials, new energy and life sciences, has

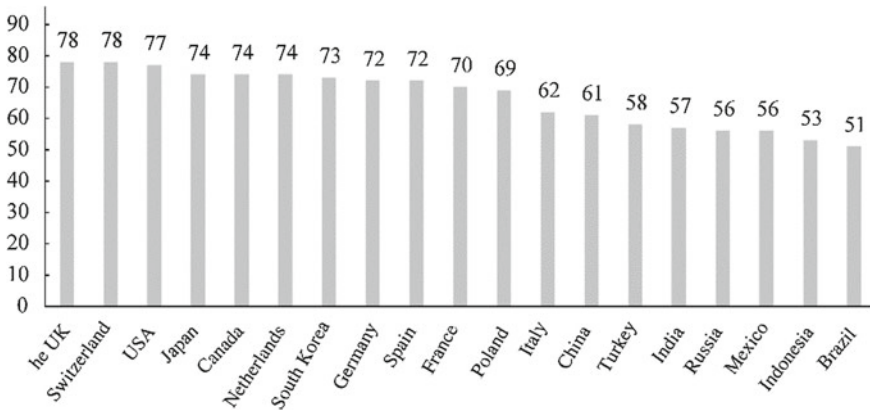


Fig. 7.5 Rankings of comprehensive manufacturing environment by countries in 2018. *Source* Brookings Institution: *global manufacturing scorecard: a comparative study of the United States and 18 countries*, July 2018

emerged all over the world. The development of manufacturing industry will show a trend of green, intelligent, service and customization.

First, green development, the green development of manufacturing industry refers to the transformation of manufacturing industry to energy and resource conservation, environmental friendliness and low greenhouse gas emission. On the one hand, the trend of green development stems from the changes in production methods and business models caused by technological innovation. Not only is it limited to the improvement of energy conversion efficiency and resource utilization efficiency in resource-based industries with high energy consumption, high pollution, but greener production equipment, production technology and development mode will be generally adopted in every manufacturing sector and every link of the whole life cycle of the manufacturing industry chain. On the other hand, countries all over the world have raised higher environmental standards for raw materials, production processes, final products, environmental impacts, recycling, etc. Green development has thus increasingly become a consensus. On the one hand, the trend of green development promotes the energy-saving and environmental protection industry to become the leading industry. On the other hand, the environmental cost of manufacturing industry will increase. For those enterprises lacking green manufacturing technology, the increase of environmental costs may offset the existing cost advantages.

Second, intelligent development with the development of new generation information technology, the manufacturing industry is developing along an intelligent direction that is data-driven, real-time online and intelligence-led. With the empowerment of artificial intelligence technology, production equipment and products will have the capabilities of self-perception, self-learning, self-decision-making, self-execution and self-adaptation. Smart manufacturing will reconstruct the production mode and value process of the manufacturing industry, improve the efficiency of

R&D and production, strengthen market response, and improve user service. Smartness will also bring about fundamental changes in the manufacturing structure, thus forming a number of strategic emerging industries with software and digital transmission and integrated analysis, while some traditional industries will be rejuvenated by digital empowerment. Therefore, the competitive advantage of manufacturing industry has changed towards intensive human capital and knowledge. For example, “labor-intensive” industries such as food manufacturing, printing and reproduction of recording media, furniture manufacturing, textile and clothing, shoes and hats manufacturing are evolving into “capital-intensive” industries with low dependence on labor under the highly automated production paradigm.

Third, provide services, service-based development information network technology has created conditions for manufacturing enterprises to extend to clients on the basis of production division. The manufacturing industry has changed from product-centered to customer-centered, from processing and assembly-oriented to product service outsourcing integration, from one-time trading products to long-term service provision, and from product-based value source to “product + service” combination as value source. Integrated and customized services based on products are increasingly becoming an important source of competitiveness for manufacturing enterprises.

Forth, customized products, customization and mass production are the main way to improve the efficiency of traditional industrialization. The new round of industrial revolution has provided enterprises with low-cost, large-scale and extremely personalized customized manufacturing. Providing highly customized products to specific customers can accurately enable manufacturers to expand personalized market demand, obtain more orders and improve efficiency. Personalized customization market is a like gold mine for manufacturing industry to expand its market scale and form new competitive advantages after the traditional consumption demand.

7.3.2 Impact of New Challenges of the International Environment on China’s Traditional Competitive Advantage

New challenges of the international environment mainly originate from the destruction of the global industrial division of labor caused by unilateralism and trade protectionism in some developed countries, and from the changes of competitors that Chinese manufacturing faces when it approaches the center of the world stage.

First, the global industrial value chain is retracting. Driven by the new round of industrial revolution, the popularization of industrial Internet, artificial intelligence, cloud computing, big data and other technologies in major developed countries has promoted the improvement of local labor productivity, while the advantage of low labor cost of developing countries has been continuously weakened. After the international financial crisis, in order to solve the problems of industrial hollowing out and

employment, the manufacturing industry chain of developed countries has returned to their own countries. The increasing protectionist measures introduced by major developed economies in the world have seriously threatened the integration of global economy and reduced opportunities for developing countries to promote industrialization by integrating into the global industrial chain. For China with a relatively complete manufacturing system, it will lose the opportunity to climb to the high end of the industrial chain, which may affect China's competitive advantage formed on the basis of the existing global industrial division of labor.

Second, the supply of cutting-edge technology is restricted. With the development of China's manufacturing industry and with the adjustment of policies of developed countries, the relationship between China and developed countries has gradually changed from a cooperative relationship of upstream and downstream division of labor to a competitive relationship in the same industrial chain. Developed countries have changed from technology supply demonstration to technology blockade and suppression. The fundamental purpose of the United States to provoke trade friction is to block the development of China's cutting-edge technology. Although China and the United States formally signed the first-phase economic and trade agreement in January 2020, and the "hot trade war" eased, the "cold war of science and technology" between China and the United States in key industries will not stop. In the second stage of trade friction and future competition, the U.S. government will be characterized by non-tariff barriers such as import and export control and investment restriction, using various measures to restrict China's access to American technology, imposing special export restrictions on certain specific sectors, and examining Chinese companies' investment in the United States and their technology acquisition channels. Therefore, China should promote diversification of the supply chain, strengthen control over the key links of the value chain, and lay a solid foundation for modernization of the industrial chain, so as to reduce the risk of "seized us by the throat".

Third, newly industrialized countries are catching up with China's development. The transformation and upgrading of China's manufacturing industry increased the competition with developed countries in the field of high-end manufacturing. On the other hand, due to the rising labor cost and environmental cost, the competitive advantage of China's manufacturing industry in labor-intensive industries and low-end production links has been challenged by newly industrialized countries. China has a vast territory, but its development level of productive forces is unbalanced. In some areas, the demand for industrial development and economic development is very urgent. The competition between newly industrialized countries and China in labor-intensive industries has affected the economic development of underdeveloped areas in China to some extent, and brought down the development speed of manufacturing industry to a certain extent. However, as the development of manufacturing industry needs industrial supporting system, the competition from developed or developing countries will not have a fundamental impact on the development of China's manufacturing industry. The fundamental factor affecting the development of China's manufacturing industry is the internal driving force brought by the improvement of economic development level.

7.3.3 The Global Spread of the COVID-19 Pandemic Threatens the Stability of China's Industrial and Supply Chains

China is the largest manufacturing country and exporter of manufactured goods in the world. Its manufacturing industry is deeply integrated into the global production network and is the most important manufacturing base in the world. On the one hand, a large number of high-tech intermediate products represented by high-end equipment, core components and scientific instruments have been imported. On the other hand, the advantages of low cost of comprehensive factors and large production scale have been brought into play. After the outbreak of COVID-19, China adopted a series of measures to restrict population mobility, such as extending holidays and delaying the resumption of work, and temporarily suspended the production in enterprises. With the relief of the pandemic and the normalization of epidemic prevention and control in China, the process of resuming production in China has been accelerated, and the manufacturing industry has basically recovered to the pre-epidemic level. However, the overseas epidemic situation was not effectively controlled, affecting the consumer market, with overseas orders of Chinese enterprises canceled one after another, and some export-oriented SMEs have been greatly impacted.

After the international financial crisis in 2008, the United States proposed “re-industrialization” to promote the comeback of manufacturing industry. After the outbreak of COVID-19 in Europe and America, politicians and media in some countries such as the United States and the European Union wantonly hyped the anxiety about the shortage of masks, ventilators and medicines, and took the opportunity to promote the comeback of the manufacturers. On March 27, 2020, after the U.S. federal government urgently launched the *National Defense Production Act* to ensure localization of strategic materials production. White House trade consultant Navarro and Republican Senator Rubio actively promoted the *Buy American* bill and required federal agencies to purchase American-made medicines and medical equipment to reduce dependence on China's manufacturing supply chain. On April 9, 2020, US Presidential Economic Adviser Kudlow announced that he would promote the comeback of manufacturing to the United States by implementing measures such as full pre-tax credit for relocation costs. Subsequently, the US State Department, the Department of Commerce and other federal agencies began to jointly promote the construction of an “Economic Prosperity Network” with “reliable partners” such as Australia, India, Japan, New Zealand, South Korea and Vietnam, with the aim to reduce the dependence of the United States on Chinese manufacturing and to weaken China's central position in the global manufacturing supply chain. The EU's discussion on reducing dependence on external supply chains has expanded from promoting self-built industrial chains to produce necessary protective products against the COVID-19 to promoting the comeback of key industries or diversifying their supply chains. On March 9, 2020, French Finance Minister Lemerre publicly stated that France must reduce its dependence on China's supply chain and strengthen

its own control in strategic value chains such as automobiles, aerospace and pharmaceuticals. From April to May, EU officials continuously put forward in public the idea of achieving self-sufficiency in health and safety products and ensuring EU autonomy in strategic industries.

Although China is the country with the strongest supporting capacity and the most obvious advantages in the industrial chain in the world as the largest manufacturing country in the world, it maintains a deep interdependence with other countries in the manufacturing supply chain. According to the data of World Integrated Trade Solutions (WITS), in 2018, China's imports of raw materials and intermediate products totaled US \$967.5 billion, accounting for 45.3% of the total imports of goods. In the same year, the imports of raw materials and intermediate products of the United States, Japan and Germany accounted for 25.1, 39.5 and 30.5% of the total imports of goods respectively (see Fig. 7.3). From this point of view, China is the world's major manufacturing country with the deepest dependence on the supply of foreign raw materials and intermediate products. On the other hand, the supply chain resilience of Chinese enterprises is relatively low. According to the 2020 Global Supply Chain Resilience Index released by FM Global, China ranks 45th among 126 countries and regions, while Germany, Japan and the United States rank 9th, 14th and 16th respectively. That is to say, from the perspective of the conditions and capabilities to cope with the impact of supply chain, Chinese enterprises are facing more challenges.

7.4 New Demands Brought About by a Moderately Prosperous Society and the “Belt and Road” Initiative

China will build a moderately prosperous society in all respects in 2020, and the people's living standards will be further improved. At the same time, the “Belt and Road” Initiative has received wide response, and the changes in the domestic and international market environment will make the demand side of China's manufacturing industry show a series of new features in the mid-to-long-term development, which will have a significant impact on the development direction of the manufacturing industry.

First, consumer demand is expanding. The rise of economic growth is usually accompanied by the change of demand structure. From the evolution of demand structure in developed countries, the change path of demand structure in different countries is highly related to the level of economic development, showing remarkable convergence.¹ Looking forward to the medium and long term, and under the condition that there is no major negative impact on employment and inflation, the total consumption demand of Chinese residents will grow steadily, and its proportion in the total social demand will continue to increase. Consumption demand will play a more important role in promoting economic growth. China's consumption scale is expected to surpass that of the United States in recent years, and become the

¹ China Development Research Foundation (2018).

largest consumer market in the world. The continuous expansion of domestic market demand will form a significant local market advantage, which is an important support for the medium and long-term high-quality development of China's manufacturing industry.

Second, the demand for technology investment has increased. International experience shows that under the background of slowing economic growth, the structure of investment demand will undergo great changes. Take Japan as an example. After 1973, Japan's investment demand underwent major structural changes, that is, the growth rate of its total investment gradually slowed down, but the investment in advanced technology and equipment increased rapidly. The penetration rate of industrial robots in Japanese manufacturing industry increased from 0.083 units per 1000 people in 1974 to 0.822 units per 1,000 people in 1979, which increased nearly nine times in five years, with an average annual growth rate of 58%,² while the average annual growth rate of total capital formation in Japan was only 7.5% in the same period. China's manufacturing industry has huge debts in investment in advanced technology and equipment. Under the dual influence of the disappearance of demographic dividend and the arrival of "Smart+" era, digital and intelligent equipment and systems such as robots will become the main force driving the upgrading of investment structure.

Third, new durable consumer goods are emerging. Comparing the per capita consumption expenditure structure of Chinese residents in 2018 with that of Japanese residents during 1973–1979, we can find that there is little difference in the proportion of food expenditure, clothing expenditure, household goods expenditure and medical care expenditure between the two countries, but the proportion of Chinese residents' housing expenditure is 37% higher than that of Japan in the highest year in the sample period (see Table 7.3). If the real estate price and the resulting rent price can remain basically stable, there is still much room for adjustment of Chinese residents' consumption structure in the medium and long term. New durable goods that have relatively low value but can improve the quality of life are an important support for promoting the growth of residents' consumption. The main driving force for the growth of Chinese residents' consumer demand in the medium and long term may be "new household appliances" (such as dishwashers, etc.), which have only appeared in recent years and have relatively low penetration rate at present, as well as new consumer electronic products related to emerging electronic information technologies (such as VR equipment, smart household appliances, etc.).

Fourth, the emerging external demand market is taking its shape. The optimization effect of external demand structure formed by the co-construction of the Belt and Road will become an important factor to promote the upgrading of China's manufacturing industry. Asian, European and African countries participating in the co-construction of the "Belt and Road" Initiative are still the three major sources of China's external demand growth, among which Asian countries are the most important growth points, while African countries are playing an increasingly important role. Using the time-varying stochastic frontier trade gravity model, this paper

² Tani (1989).

Table 7.3 Composition of Japanese residents' consumption (1973–1979) and its comparison with China (2018) (*unit %*)

	Japan							China
	1973	1974	1975	1976	1977	1978	1979	2018
Food	27.6	28.3	28.4	28.1	27.5	26.2	24.8	28.4
Clothing	8.8	8.4	8.1	8.2	7.7	7.7	7.5	6.5
Rent, water, energy	16.1	15.5	15.6	16.1	16.7	17.1	17.1	23.4
Household goods	7.9	7.6	6.3	6.4	6.1	5.8	6.2	6.2
Medical care	7.8	8.4	9.0	9.0	9.2	9.6	9.8	8.5
Transportation and communication	8.6	9.1	9.6	9.6	10.0	10.0	10.2	13.5
Recreational and educational activities	9.2	9.0	8.8	9.0	8.9	8.9	8.8	11.2
Others	14.1	13.9	14.2	13.6	14.0	14.8	15.7	2.4

Source Statistics Bureau of Ministry of Internal Affairs and Communications of Japan, National Bureau of Statistics of China

makes an empirical analysis on the export data of manufactured goods from China to 136 countries that have signed the cooperation documents of the “Belt and Road” Initiative from 2010 to 2018. The results show that: from the perspective of export product types, from 2013 to 2018, among the four categories of manufactured goods exported by China to 136 countries that have signed cooperation documents to jointly build the Belt and Road, the export trade efficiency of resource-based, low-tech, medium-tech and high-tech manufactured goods increased by 8, 5, 17 and 11% respectively (see Table 7.4). In other words, since the “Belt and Road” Initiative was put forward, the medium-tech finished products represented by automobiles, chemicals, machinery and equipment benefit most from the improvement of export trade efficiency, followed by high-tech manufactured goods represented by electronic information products, power equipment, pharmaceuticals, resource-based manufactured goods such as wood, and low-tech manufactured goods such as textiles and clothing benefit relatively little. In the medium and long term, if the export efficiency increase of these four types of manufactured goods is the same as that of 2013–2018, then, according to the conservative estimation of the export value of various manufactured goods in 2018, only by improving the efficiency of export trade, China’s exports of medium-tech, high-tech, low-tech and resource-based manufactured goods to 136 countries participating in the “Belt and Road” Initiative will increase by 25 billion US dollars, 16.2 billion US dollars, 9.9 billion US dollars and 2.4 billion US dollars respectively. The demand for medium-tech manufactured goods in countries participating in the “Belt and Road” Initiative will significantly improve China’s external demand structure. With the improvement of the income level of the countries participating in the “Belt and Road” Initiative, the demand for high-tech manufactured goods will form a strong driving force for the development of China’s corresponding industries, while the new demand for resource-based and low-tech manufactured goods due to the improvement of export trade efficiency is relatively small.

Table 7.4 Efficiency of China's export trade to 136 countries participating in the "Belt and Road" Initiative

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Africa (44 countries)	0.35	0.35	0.34	0.36	0.37	0.39	0.42	0.45	0.48
Asia (37 countries)	0.78	0.77	0.81	0.80	0.83	0.85	0.85	0.86	0.86
Europe (27 countries)	0.62	0.61	0.60	0.62	0.64	0.65	0.65	0.67	0.68
Oceania (9 countries)	0.55	0.53	0.53	0.54	0.56	0.57	0.57	0.59	0.59
South America (8 countries)	0.58	0.54	0.57	0.57	0.58	0.57	0.60	0.61	0.63
North America (11 countries)	0.49	0.52	0.51	0.51	0.53	0.55	0.58	0.59	0.58
Resource-based finished products	0.62	0.61	0.61	0.62	0.64	0.65	0.63	0.65	0.67
Low-tech manufactured goods	0.76	0.77	0.76	0.75	0.76	0.77	0.78	0.77	0.79
Medium-tech manufactured goods	0.57	0.56	0.56	0.58	0.59	0.61	0.63	0.65	0.68
High-tech manufactured goods	0.46	0.46	0.46	0.47	0.46	0.48	0.51	0.50	0.52

Source Estimated by the research group

7.5 Development Orientation and Key Areas of China's Mid-to-Long-Term Manufacturing Industry

7.5.1 Positioning of Manufacturing Industry in the National Economy

During the 12th Five-Year Plan period, the development speed of China's manufacturing industry began to slow down, and the industry's position in the national economy was retreated from the largest industrial sector to lagging behind the service industry. In recent years, the development speed has further declined due to the impact of increasing tariffs and trade protection in the United States. From the international experience, the decline in the proportion of manufacturing industry is a feature of economic development entering a high-income stage. For example, before 1968, the proportion of manufacturing industry in the United States was above 25%, while the per capita GDP reached 23,000 US dollars (constant price in 2010). When Japan's per capita GDP was US \$18,700 (constant price in 2010), there emerged an inflection point of continuous decline in manufacturing industry. Compared with the United States and Japan, the proportion of manufacturing industry in China has declined too early and too fast. Although the proportion of manufacturing industry of China is close to that of developed countries, the economic development is still outside the threshold of high-income countries.³ This change in industrial structure is called premature industrial structure. All countries caught in the "middle income trap", such

³ According to the standards of the World Bank in fiscal year 2020 and the Atlas method of the World Bank, a country with its per capita GNI (Gross National Income) in 2018 exceeding 12,376 US dollars will be seen as a high-income country. In 2018, China's per capita GDP was 9,771 US dollars (current price), and the per capita CNI (Atlas method) was 9460 US dollars (current

as Brazil and Argentina, witnessed precocious industrial structure. The rapid decline in the proportion of manufacturing in these countries was almost synchronized with the economic stagnation. In addition, from the lessons of developed countries deeply impacted by the international financial crisis, manufacturing is not only a key pedal for middle-income countries to move towards high-income countries, but also an important guarantee for maintaining national economic strength. In the medium and long term, although the contribution of China's manufacturing industry to economic growth will still be lower than that of service industry, its role in national economic development is mainly manifested in five irreplaceable aspects.

First, the basic role of industry in building a strong socialist modern country is irreplaceable. Industry is the most important material production sector to provide material products that can't be replaced by any other sectors for residents' lives and economic activities of various industries. Without modern industry, if economic activities lack material basis for operation, China's economy will have to rely on other countries in international competition, which will not meet the people's needs for material products in pursuit of a better life, nor will it effectively respond to major emergencies such as natural disasters and infectious diseases. In addition, this will safeguard national security and ensure the people to live and work in peace and contentment. From the lessons of developed countries deeply impacted by the international financial crisis, industry is not only a key pedal from middle-income countries to high-income countries, but also an important guarantee to maintain national economic strength. The proportion of China's industry dropped from the highest point of 42.0% in 2006 to 32.8% in 2018, and the proportion of service industry reached 53.3%. However, industry will still play a fundamental supporting role in the development of national economy, building a moderately prosperous society in all respects and building a modern country.

Second, the supporting role of industry in crossing the "middle income trap" and "high income wall" is irreplaceable. From the history of global economic development, we can see that some countries were stagnant when their per capita GDP was only 4000–5000 international dollars, far from the threshold of high-income countries. Some other countries were difficult to further grow after their per capita GDP reached about 10,000 international dollars. These two situations were called "middle income trap" and "high income wall" by economists respectively. The cause of "middle income trap" and "high income wall" is that after the advantages of primary production factors are lost, advanced production factors such as knowledge and technology have not become sources of industrial competitive advantage and economic growth, which is essentially a "technology stagnation trap". Industry is an industrial sector that has the largest investment in R&D, the most active technological innovation and the strongest radiation driving force. It plays an irreplaceable role in promoting other industries to break the "technology stagnation trap". From the perspective of industrial structure, if the proportion of manufacturing industry declines too early and too fast, there will appear the problem of "premature industrial

price). In 2019, the per capita GDP reached US \$10,276, but it still did not cross the threshold of high-income countries.

structure". The economic stagnation in Brazil, Argentina and other countries caught in the "middle income trap" was almost synchronized with the rapid decline of the proportion of manufacturing industry.

Third, the leading role of industry in promoting China's industrial division of labor is irreplaceable. Manufacturing is the main force of China's foreign trade. Although China's service export is growing rapidly, the export scale of manufactured goods in 2018 was still about 10 times that of service industries. The trade surplus of manufactured goods was as high as 917.70 billion US dollars, while the trade in services saw a deficit of 258.20 billion US dollars. Manufacturing is also the main field of utilizing foreign capital and foreign investment. In 2018, China's manufacturing industry actually utilized foreign capital of 41.17 billion US dollars, accounting for 30.5% of the total actual utilization of foreign capital. By 2018, China's manufacturing foreign investment stock amounted to US \$182.23 billion, the proportion of total foreign direct investment stock increased from 5.6% in 2010 to 9.5%. In 2019, 129 enterprises in China (including Hong Kong, Macao and Taiwan) entered the ranks of Top 500 in the world, and a quarter of the main business was manufacturing. From the industry point of view, the manufacturing industry in China's large enterprises was more internationalized.

Fourth, industry's role in promoting technological innovation and technological diffusion is irreplaceable. Many talents, funds and hardware facilities of innovation activities depend on industry. At the same time, the establishment of the physical system of innovative activities depends on industry. It is the verification place for the industrialization and commercialization of innovative achievements and the "mother" of technological innovation. Even in the United States, where the proportion of manufacturing is very low, about 70% of innovation activities depend directly on manufacturing or receive financial support from manufacturing.

Fifth, the leading role of industry in driving economic development in backward areas is irreplaceable. Industry is an important industrial sector for rapid economic development because of its long industrial chain, wide driving force, strong employment absorption and technology diffusion. It is a successful experience to get rid of backwardness and accelerate economic development in many areas of China to choose and develop industries and manufacturing industries suitable for local needs according to local conditions. For example, the prosperity of Northeast China is due to the prosperity of manufacturing industry, while its decline is due to the decline of manufacturing industry. At present, China's per capita GDP level has just exceeded 10,000 US dollars, and some impoverished areas have just lifted out of poverty. Therefore, the task of economic development is very arduous, and it is urgent to rely on the development of industry to drive the economy to take off.

7.5.2 Favorable Conditions for Cultivating New Competitive Advantages of China's Manufacturing Industry

The changes of domestic resource endowment, industrial base and development stage, as well as the international technological, economic and political environment have required China's manufacturing industry to shape new competitive advantages. Although China's manufacturing industry is squeezed by both developed countries and emerging developing countries, China's manufacturing industry still has development potential and favorable conditions to reproduce new competitive advantages.

First, the comprehensive cost is low. Driven by factors such as the improvement of economic development level, the disappearance of demographic dividend and the increase of living cost, China's wage level is rising continuously and rapidly, and the prices of production factors such as land and energy are relatively high, which has a certain impact on the traditional low price advantage of China's manufacturing industry. However, the cost and price advantage of manufacturing industry depends not only on the wage level, but also on the joint action of many factors such as labor quality, equipment level, infrastructure and industrial supporting conditions. Compared with developing countries, although their wage level is obviously lower than that of China, and their wage level and unit labor cost of labor productivity also have advantages, the backward infrastructure and industrial facilities restrict their low-cost manufacturing advantages. Compared with developed countries, China's wage level still has obvious advantages, moreover, China's cost advantage is reflected in the processing and manufacturing links at the low end of the global value chain. With the improvement of national education level, more and more high-quality laborers will enter the national economy. The change of China's labor dividend from quantity dividend to quality dividend or "engineer dividend" will make China's manufacturing industry have lower costs in R&D, design, products and services, thus forming the cost advantage of China's manufacturing industry compared with developed countries in the whole life cycle.

Second, China has a sound industrial chain. China has the most complete industrial categories in the world, and the detailed industrial division of labor has formed perfect industrial supporting facilities and rapid supply chain response capability. China's manufacturing industry as a whole is in the processing and assembly link with low added value in the global value chain, and many high-tech intermediate products depend on imports, but this situation is changing. More and more intermediate products can already be produced in China, and the global value chain is becoming shorter. With continuous improvement of China's manufacturing innovation capability, the industrial supporting capability will be further enhanced. In contrast, the supporting capacity of upstream capital and technology-intensive industries in developing countries is weak. However, in developed countries, the lack of processing and manufacturing capacity restricts innovation and engineering and large-scale production of new technologies.

Third, the ability to make innovations has been enhanced. After more than 40 years of development since the reform and opening-up, the innovation capability of China's manufacturing industry has been significantly improved and continues to increase, which has promoted the expansion of production capacity of raw materials, industries such as steel, cement and textiles, as well as industries such as clothing and electronic assembly, and made the technical level of these industries or industrial chain links among the world-class. This has also solved problems of advanced materials, core components and major equipment from scratch, and continuously improved the technical level in these fields. Major technological breakthroughs have been achieved in strategic emerging industries and cutting-edge technologies, which has strongly supported the development of China's strategic emerging industries.

Fourth, China's digital economy leads the world. Information technology is promoting the manufacturing industry towards digital, networked, intelligent, service-based and green development, and plays an important role in helping manufacturing industry improve supply quality and production efficiency, make quick response to market, and expand value-added space. The future manufacturing industry will be an industry with deep integration of digital technology and industrial technology, advanced manufacturing industry and modern service industry, and will also become a typical feature of the future manufacturing power. China's digital economy ranks second in the world, with a number of world-class digital economy enterprises, and cutting-edge digital technologies such as artificial intelligence are in the forefront of the world. Adoption of digital technologies such as robots and artificial intelligence will not only reduce the number and cost of labor, but also offset the pressure of rising costs to a certain extent. It can also improve the flexibility of manufacturing industry, help provide products to meet market changes and user needs, and develop high value-added services based on existing products.

Fifth, the size of China's economy is expanding. China is one of the countries with the largest population and economy in the world. It boasts super-large-scale economy, super-large-scale population, land space, economic volume and unified market. These four factors are superimposed and coupled to form five characteristics: super-large scale economy effect, scope economy effect, spatial agglomeration effect, innovation learning effect and development spillover effect.⁴ China's domestic market is large in scale and good in growth. The continuous expansion and upgrading of the market scale of residents and industries, consumer goods and investment products has raised more demands for products of more advanced technology, higher quality and stronger performance, which provides huge domestic market support for the manufacturing industry to climb to the middle and high end.

⁴ Research Group of Development Research Center of the State Council (2020).

7.5.3 *Favorable Conditions for Promoting the Development of Manufacturing Industry*

In the medium and long term, the development of China's manufacturing industry needs to adapt to the changes in domestic and international demand, and seize the opportunities brought about by the new round of industrial revolution, so as to promote the transformation and upgrading of traditional industries, and cultivate and expand strategic emerging industries. Emerging industries specifically include:

First, strategic emerging industries driven by new technologies. In traditional industries, the competitive position between countries (regions) and enterprises is relatively solidified, and latecomers need to spend huge time and cost in catching up with leaders. However, in the field of emerging industries, developed countries and developing countries are at a similar starting line, and there is no ready-made technological development direction for them to imitate. Therefore, every scientific and technological revolution and industrial transformation has become a historical opportunity for late-developing countries to catch up. At present, the new round of scientific and technological revolution and industrial transformation is also an opportunity for China's manufacturing industry to overtake other developed economies. President Xi Jinping emphasized that we should "clarify the main direction and breakthrough of China's scientific and technological innovation according to the principle of active follow-up, careful selection and doing a better job in something while abandoning something else. When the right direction is determined, we should work out plans, increase investment in human resources, focus on overcoming a number of key core technologies, and accelerate catch-up and even take the lead."⁵ The engineering transformation and large-scale production of advanced and cutting-edge technologies will be accelerated to produce a batch of irreplaceable "trump card" products in China's manufacturing industry in emerging industries so as to overcome restrictions of western developed countries on China's key core technologies.

Second, the intelligent manufacturing industry utilizing digital technology. Intelligent manufacturing industry utilizing digital technology is the core content of the new round of industrial revolution. Under the background that the low-cost advantage of China's manufacturing industry is gradually weakening, efforts must be made to improve product quality and production management efficiency, and reshape competitive advantage. The intelligent manufacturing industry utilizing digital technology is an important way to enhance the competitiveness of manufacturing industry. At present, as far as the actual situation in China is concerned, the degree of automation and IT application in automobile, household appliances and other industries has been relatively high, while other industries such as 3C, food and beverage and chemicals are accelerating the process of automation and IT applications. Intelligent manufacturing is the key support direction in policy making at the government level, but transformation and upgrading at the enterprise level and technological breakthrough at the research level, the practical application of intelligent manufacturing

⁵ "Accelerating the Implementation of Innovation-driven Development Strategy and the Transformation of Economic Development Mode", *People's Daily*, August 19, 2014.

in China remains in its infancy. One of the important reasons for late arrival of the intelligent manufacturing era is the lack of specialized providers for intelligent manufacturing solution. Manufacturing enterprises have an urgent need to break the bottleneck of development through intelligent manufacturing, but the shortage of specialized providers for intelligent manufacturing solution has become the main obstacle hindering the development of China's intelligent manufacturing industry and market. Conformance to the development trend of digital economy and solving difficult problems in the process of digital transformation of intelligent manufacturing industry has become top priority to effectively promote the high-quality development of manufacturing industry.

Third, green manufacturing industry that promotes ecological civilization. Green manufacturing refers to a modern manufacturing mode that comprehensively considers environmental impact and resource efficiency on the premise of ensuring the function, quality and cost of products. Over years, China's economic growth and industrialization have relied largely on resource-based growth, and the industrial development is dominated by the growth model characterized by "high input, high consumption, high pollution, low quality, low benefit and low output" and "pollution precedes environmental protection". At present, China is in the middle stage of industrialization, an important stage of upgrading consumption structure. On the one hand, as the main body of China's economy, industry has a broad market space. On the other hand, heavy chemical industry has strong expansion power, while problems such as waste of resources, environmental degradation and structural imbalance in the industrial field are still very prominent, restricting the sustainable development of China's industry. In recent years, developed countries have advocated the concept of "low-carbon development" and made great efforts to promote green economy and "Green New Deal". Faced with the changes of international environment and domestic situation, China finds it is of great strategic significance to accelerate the transformation of China's industrial development mode, realize green manufacturing and shape sustainable competitiveness. This is not only conducive to maintaining the autonomy of energy conservation, emission reduction and industrial restructuring, but also can produce more remarkable effects and extensive influences, and create new industrial sectors due to the great potential of industrial energy conservation and emission reduction and relatively good technical and market conditions.

Fourth, labor-intensive industries with high employment. At present, the international economic situation is complex and changeable, and there emerges some deep-seated contradictions that have accumulated for a long time in China. The new normal of economic development and supply-side structural reform put forward new requirements for promoting employment. The inherent requirements for realizing a moderately prosperous society in all respects and promoting high-quality economic development involve developing labor-intensive industries that efficiently drive employment, comprehensively improving workers' employment and entrepreneurship ability, and achieving relatively full and high-quality employment. On the one hand, we will accelerate the development of labor-intensive manufacturing industries such as light industry, 3C processing and assembly with obvious international competitive advantages and large rigid demand for people's livelihood. On the other

hand, we will promote the transformation and upgrading of difficult industries with limited market demand and weak competitiveness, and stabilize the existing employment demand. The supply-side structural reform of labor-intensive industries will be further promoted by eliminating excess and backward production capacity, reducing the social burden of state-owned enterprises, and implementing tax reduction and fee reduction policies. We will also step up efforts to achieve deep integration of the new generation of information technology and manufacturing industry, improve the scientific and technological content and added value of products, and promote the transformation of traditional manufacturing industry from production to production service, so as to extend the industrial chain and increase jobs. Along this direction, we will promote adjustments of industrial structure and transformation of workers' skills, and enhance the ability to absorb employment during transformation and development.

Fifth, new consumer goods industry for the people's better life. The upgrading of domestic residents' consumption has created favorable conditions for the structural adjustment and transformation of manufacturing industry and even the whole national economy, which is the greatest potential of China's domestic demand. We will make full use of domestic demand and develop a new consumer goods industry to meet the needs of a better life. This will help reduce the dependence of national economy on exports and investment and making contribute to growth, and will also help adapt to the wave of scientific and technological innovation under the background of the new round of industrial revolution, and provide good conditions for China to occupy an active position in the new round of scientific and technological competition. To provide new consumer goods with strong consumer demand and closely related to people's daily life, we will focus on the development of new information products such as next-generation mobile communication terminals, ultra-high definition video terminals, wearable devices, smart homes and consumer drones, as well as cutting-edge information consumption products such as virtual reality, augmented reality, intelligent service robots and unmanned driving. For these new consumer goods, we will provide support for enterprises to find users' needs and strengthen innovation in product development, design, packaging scheme and marketing, so as to actively carry out personalized customization and flexible production, enrich and refine consumer goods types, and promote the transformation from "Made in China" to "Created in China".

7.6 Strategic Measures to Foster New Competitive Advantages

In the medium and long term, if China's manufacturing industry intends to take a solid step towards fostering new competitive advantages, it is necessary to formulate strong measures. We hereby propose implementing the following seven major projects.

7.6.1 Industrial Basic Capacity Building Project

First, we will pull together various resources to develop core technical parts (components) with high performance, high reliability and intelligence necessary for intelligent manufacturing equipment such as integrated circuits, high-end sensors and reducers. We will also improve the performance, quality stability and self-sufficiency of key basic materials, such as special metal functional materials, high-end technical structural materials, advanced polymer materials, new inorganic nonmetallic materials and information functional materials, with focus on research, development, popularization and application of new advanced basic technologies, such as digitization, networking, intelligence and greening, and strive to solve the key bottlenecks restricting the upgrading of the industrial chain.

Second, we will uphold innovation-driven development and strengthen R&D innovation and industrialization in basic fields. Innovative resources will be optimized and integrated to guide enterprises, research institutes, universities and downstream users to jointly establish technological innovation organizations, such as R&D institutions and industrial technology alliances. We will further increase investment in basic research and common technology research, strengthen research on common technologies, high-end technologies and forward-looking technologies in basic fields. We will make efforts to solve the key common technologies that affect the performance and stability of core basic components (components), so as to improve the technical level of key manufacturing processes such as digital design, advanced molding and processing, enhance the supply of source technology, and break through technical bottlenecks of industrial chain upgrading.

Third, we will strengthen cooperation on industrial chain, promote coordinated development of leading enterprises, supporting enterprises and downstream user enterprises, and improve the overall synergy of upgrading the industrial chain level. The “one-stop” application plans for key technology research and development, product design, special material development, advanced technology development and application, public test platform construction, mass production and demonstration promotion of key basic products and processes will be formulated to promote the interactive development of the whole machine (system) and basic technology. We will jointly develop measurement standards, establish a new integrated organization model of integration, symbiosis, division of labor and benefit sharing in the upper, middle and lower reaches. The industrial chain cooperation will be enhanced to integrate and form a benign interaction between upstream and downstream of the industrial chain, so as to achieve an upgrading mechanism, and enhance the high-end, intelligent and green level of the whole industrial chain.

7.6.2 Industrial Ecosystem Upgrading Project

First, the competitive market environment will be further improved to attract more foreign innovative elements and innovative enterprises to join the innovation and development of China's manufacturing industry with the international-flow business environment. We will strengthen the basic position of competitive policies, promote the transformation of manufacturing industrial policies from selective and differentiated to functional and inclusive manufacturing, and continuously improve the competitive market environment. The access management system of service links related to advanced manufacturing industries will be improved to promote the negative list management system related to service links in integrated circuits and other industrial fields, and drive product and process innovation with service innovation. With focus on intellectual property protection, we will further optimize the business environment, and create favorable conditions for the high-quality development of intellectual property-intensive manufacturing industries. A comprehensive service platform for intellectual property operation will be built to provide patent analysis and risk prevention services for small and medium-sized innovative manufacturing enterprises, so as to promote domestic enterprises to build comprehensive competitive advantages based on patent intellectual property rights.

Second, we will improve the system and mechanism to promote industrial innovation. For this end, we will build a world-leading industry-university-research consortium and provide a solid knowledge base and cutting-edge industrial common technologies for product and process innovation in domestic high-end manufacturing industries. We will promote technical cooperation among domestic enterprises in emerging industries. For technologies in the exploratory stage that see a large technological gap, we will jointly tackle key problems. For fields that already have technical foundation, we will seize opportunities and accelerate engineering and industrialization.

Third, the public service platform of industrial technology foundation will be optimized and upgraded to improve the industrial technology foundation system, and promote the upgrading of industrial chain. Full use will be made of existing backbone enterprises, research institutes, universities, users and third-party institutions to improve the service level of industrial technology basic public service platform, test and detection public service platform and industrial big data public platform, and strengthen the supply of industrial common technologies, research and development and transformation of key technologies, so as to enhance the technical basic support capabilities such as test verification, inspection and certification, intellectual property rights and standards.

7.6.3 Core Technologies in High-End Manufacturing Field

First, we will make a good strategic layout of core technologies. Centering on the national strategic needs and the development trend of manufacturing industry, we will examine the technical level of high-end manufacturing industry in the medium and long term, analyze the gap with foreign advanced level, and study possible technological breakthroughs, so as to identify key development areas, core technologies, and technologies that give priority to development. We will also establish the technological development path, and enhance the engineering and technical capability and level of high-end manufacturing industry. In the meantime, we will strengthen coordination with industrial basic capacity building project to provide strategic support for breakthroughs in core technologies in high-end manufacturing industry.

Second, we will increase support for special projects. Because of the complexity of products and processes, long R&D cycle and high cost risk of core technologies, we will intensify scientific research at the national level, formulate major special R&D plans, and set up special research funds so as to carry out research on common problems, and strengthen the organic connection between basic research, applied research and achievement transformation. We will speed up the R&D process of core technologies to prevent and resolve major risks in high-end manufacturing and engineering science and technology. By summarizing the implementation experience of “special project for core electronic devices, high-end central chips and basic software products” and “special project for manufacturing equipment and complete processes of very large scale integration”, we will focus on future industrial competition, and coordinate efforts of all parties in production, education and research, so as to make breakthroughs in core technologies in key links of high-end manufacturing. We will strive to achieve technological leadership in some important areas, and gain equal opportunities to participate in the global manufacturing division of labor system by improving our self-sustaining ability in extreme environment and leading advantage in competitive environment.

Third, we will promote the establishment of substantive industrial alliances. The core technologies of high-end manufacturing industry involve information, machinery, electronics, chemistry and materials, so they can hardly be overcome by only a few enterprises or organizations. It is thus necessary for government agencies to take the lead in establishing a scientific research and production system with leading enterprises at the core and scientific research institutes, universities and supporting enterprises working together. Exchanges and cooperation between institutions in different disciplines will be enhanced to promote cooperation between businesses, universities and research institutes, speed up the R&D process and reduce R&D risks.

7.6.4 Independent Brand Creation Project

First, we will pool resources to build independent brands. Standing on a strategic height, we will study and establish institutions and mechanisms at the national level, integrate governments, industries, enterprises and social organizations, pool resources and form a national brand promotion system, so as to promote Chinese quality brands overseas, eliminate the stereotype of “Made in China” by overseas consumers, and establish a brand-new independent brand image of “high quality, green and safety”. We aim to realize the mutual promotion of national image, independent brand image and Chinese-made product image.

Second, we will improve collaborative and effective proprietary brand promotion mechanism. A market mechanism for development of quality brands will be established, with focus on solving the problem of asymmetric quality information in the market, give play to the effect of “voting by feet” by consumer groups, and guide production factors to gather around high-efficiency industries and high-quality independent brands. A public service platform of quality brand will be established to strengthen the building of social intermediary organizations of quality brand service, promote market-based platform operation of quality brand service, and provide professional independent brand promotion services for enterprises.

Third, we will optimize the development environment of independent brands. We will improve the quality supervision and inspection mechanism, and establish a supervision and publicity mechanism for independent brand protection, so as to improve, implement laws and regulations on brand protection, and crack down on intellectual property infringement, counterfeiting and unfair competition according to law. We will step up efforts to improve the national brand value evaluation mechanism, and formulate international standards for brand value, with focus on improving the standards of safety, environmental protection and hygiene of Chinese products. Independent brand enterprises will be encouraged to adopt international standards and higher industry standards in terms of product quality and safety.

7.6.5 Human Resources Quality Improvement Project

Full consideration will be given to factors such as talent training cycle and uncertainty of industrial technology innovation. We will take the building of “emerging engineering education” as the starting point to meet the urgent needs of high-end manufacturing for high-quality talents. We will also increase investment in basic disciplines such as mathematics and physics, and lay a foundation for enhancing the original innovation capability of China’s manufacturing industry.

First, we will make good use of the stock resources of personnel training by reforming the personnel training system of science and engineering technology majors. In the building of “emerging engineering education”, we should coordinate various resources and give full play to the guarantee function of “capital, resources

and information” of government departments in the cultivation of innovative talents. We will also promote high-end manufacturing enterprises and domestic first-class universities to actively explore new mechanism of integration of production and education, school-enterprise joint training, so as to achieve the effective connection between theoretical teaching in colleges and universities and enterprise engineering training, and improve the quality of engineering and technical personnel training. The China Manufacturing Skills Enhancement Fund will be proposed to provide financial support for first-class universities and enterprises to train engineers and industrial skilled workers in cooperation. Universities are encouraged to set up corresponding majors according to the work requirements of team leaders or workshop leaders in intelligent modern factories, and fill in the gap that China’s “low-end vocational education” cannot meet the development requirements of “high-end manufacturing” by training high-skilled industrial talents.

Second, we will improve the level of China-foreign cooperation in running schools for natural science and engineering science majors, drive stock resources with high-quality incremental resources of science and technology education, and form the core nodes of global manufacturing knowledge innovation network in China. With focus on natural science and engineering science majors urgently needed for the development of strategic industries such as integrated circuits, we will enhance cooperation with overseas high-level universities and scientific research institutions in running schools.

Third, while attaching importance to the cultivation and introduction of elite R&D talents, we should give priority to the upgrading of general skills of engineers, high-skilled workers and general industrial workers, and build a lifelong learning system composed of enterprises, technical schools, research universities and reform service institutions. On the basis of deeply implementing a series of preferential policies for the introduction of high-level scientific and technological talents, a market mechanism for the return of overseas high-level management and technical talents will be created by optimizing the entrepreneurial environment. While strengthening the training of engineers and high-skilled industrial workers, we will improve the skill level of industrial workers along with the development of vocational and technical schools. Through implementation of government-funded training programs, we will make efforts in training key process equipment such as machine tool operation and general industrial robot operation, so as to improve the overall labor productivity of China’s manufacturing industry.

7.6.6 “Smart+” Pilot Demonstration Project

First, we will build “smart+” pilot demonstration projects in key manufacturing industrial clusters so as to promote the effective diffusion of common technical knowledge related to “smart+”. In order to change the situation that manufacturing enterprises do not fully understand the power of “smart+”, it is suggested that in areas with high development level of manufacturing industrial clusters, we will build

a number of “smart+” pilot demonstration projects, and encourage entrepreneurs in the manufacturing industry to go beyond the level of “machine replacing people”, so that they can steadily transform into intelligent manufacturing which is all-factor, whole-process and multi-field intelligent collaborative operation, reduce labor costs with “data resource dividends”, and build a new competitive advantage based on industrial big data.

Second, we will make moderate adjustment the integration of IT application and industrialization to lay a solid foundation for the manufacturing industry to move towards the “smart+” era. Due to an obvious gap in IT application among manufacturing enterprises, the enterprises with higher level of IT application have focused on intelligent transformation and upgrading, while enterprises with lower level still lack the foundation and ability to implement intelligent transformation. Therefore, it is suggested that the focus of the integration of IT application and industrialization should be adjusted from “promoting the strong” to “helping the weak”, so as to increase support for enterprises with good product market prospects and advanced production technology but with relatively backward IT application, and guide them to gradually realize IT application in research and development, production control, operation management, guarantee services and market development. This will lay a good foundation for the subsequent transformation to “smart+”.

Third, we will enhance the supporting service capability of the “smart+” transformation of manufacturing industry. On the one hand, we should strengthen training of intelligent manufacturing talents in manufacturing industry, and foster a group of compound talents with both manufacturing industry knowledge and intelligent manufacturing technology, as well as high-quality professional talents who are good at intelligent equipment and system operation. We will provide human resources guarantee for the development of modern productive service industries, such as system integration design, transfer incubation and professional technical consultation for the “smart+” transformation of manufacturing industry. On the other hand, we will consolidate the digital infrastructure and save the cost of comprehensive digital transformation of enterprises. In view of the outstanding problem of data migration bandwidth constraint in the process of enterprise real-time data cloud, we should speed up the building of digital infrastructure, and combine cloud computing and big data technology to formulate scientific development plans, determine the geographical location of cloud computing data centers, and establish a perfect cross-regional information sharing mechanism. Operators will be guided to provide low-latency ubiquitous network services with integrating wired and wireless for traditional manufacturing enterprises at reasonable prices to meet their real-time operation and management needs of big data. The construction of national intelligent manufacturing data centers will be accelerated in manufacturing industries so as to provide basic support for the development and utilization of industrial big data services.

Fourth, we will improve the network security barrier to escort the comprehensive digital transformation of manufacturing enterprises. In the wave of digital transformation, we find it difficult to deal with increasingly diversified and unknown security threats by relying solely on the strength of enterprises. For this end, the government

needs to make overall plans and learn from the idea of building a “digital government” security barrier. The network security barrier of “digital industry” must change from passive threat response and standard compliance planning to capability-oriented systematic synchronous construction. On the one hand, we will move the gateway forward, make plan synchronously with the digital transformation of enterprises, and build a comprehensive defense capability system. On the other hand, the defense systems such as threat intelligence detection and response, safe hunting, alarm analysis, incident response and disposal, which are faced by different industries after comprehensive digital transformation, will be taken as important common technologies in the industry and provided by the government in the form of purchasing services.

7.6.7 Optimizing the Global Layout Project of Manufacturing Industry

First, we will continue to promote the structure of manufacturing investment in countries along the Belt and Road. We will comprehensively promote investment cooperation with 17 countries in ASEAN, South Asia, Central Asia, West Asia and Central and Eastern Europe, and advance the construction of the New Eurasian Continental Bridge, China-Mongolia-Russia, China-Central Asia-West Asia, China-Indochina Peninsula, China-Pakistan and Bangladesh-China-India-Myanmar international economic cooperation corridors. We will strengthen economic and trade negotiations, sign bilateral and multilateral investment agreement, and create a favorable external environment for Chinese manufacturing enterprises to invest in countries along the Belt and Road. We will encourage manufacturers to “go global” by promoting infrastructure connectivity, energy development cooperation, capacity cooperation and equipment cooperation among countries along the route, and accelerate the investment pace of rail transit, information and communication, energy and power industries by building “arterial roads” such as passage, communication, navigation and trade in international major channels. The economic and trade cooperation parks and manufacturing bases will be built to form a network of foreign trade and economic cooperation parks for countries along the route and for the whole world.

Second, efforts will be made to optimize the structure of manufacturing investment in developed countries. We will actively promote the negotiation of bilateral investment agreements (BIT) between China and the United States and between China and Europe, and establish a two-way, reciprocal, open and mutually beneficial investment mechanism so as to create a favorable environment for Chinese manufacturing enterprises to invest and merge in Europe and America. Through direct investment in European and American countries, Chinese manufacturing enterprises will effectively integrate into local production networks of industrial powers, and give full play to the functions of forward and backward connection and division of labor and cooperation of the regional production networks. Meanwhile, through foreign direct

investment, Chinese manufacturing enterprises will directly connect with various entities with high-end manufacturing innovation resources, including SMEs, hi-tech service enterprises and research universities in the local innovation network. By making full use of the factor differences and division advantages of different countries or regions, China's manufacturing industry will promote its position in the global value chain.

Third, we will improve the professional service ability of manufacturing to conduct foreign investment. A comprehensive and one-stop service platform will be built to effectively integrate resources scattered in various sectors and trades, and provide industry guidance, information services, financing services, investment promotion, personnel training, risk prevention and other full-process services for manufacturing enterprises to facilitate foreign investment. A number of institutions engaged in internationally competitive design consulting, asset appraisal, credit rating, legal services and investment banking will be established to enhance the international and professional service capabilities of domestic institutions involved in banking, information, legal, financial and technical services.

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Chapter 8

Trends and Policies for Mid-to-Long-Term Development of Service Sectors



Jiechang Xia, Hongfu Ni, and Yi Liu

China's service sector is in a critical period of transformation, upgrading and improvement in all respects. Over 40 years' development and accumulation of reform and opening-up, we have been equipped with the economic foundation, technical conditions and institutional environment to accelerate the transformation and upgrading of our service sector towards a service-based economy, and make possible the transformation and upgrading of our service sector and high-quality development. Grasping the trends of the mid-to-long-term development of the service sector, we will pace up the service sector development, implement the upgrading strategy of the service sector, and promote the quality and efficiency of the service sector. This will be of important strategic significance and policy implications for building a modern economic system and satisfying people's yearning for a better life.

8.1 Current Conditions, Problems and Trends of the Service Sector Development

8.1.1 *Current Conditions of the Service Sector Development*

Since the 13th Five-Year Plan, China's service sector has witnessed rapid development. The scale and quality of the service sector have been further improved, and the

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proportion of the added value of the service sector in GDP has reached a new high, ranking first for many years and accounting for 53.9% in 2019. This has become an important foundation for China's stable economic growth. The breadth and depth of service industry's opening to the outside world have been further improved, and the development of the service sector has played an important role in economic restructuring, industrial structure optimization and upgrading, employment expansion and meeting people's needs for a better life. Since the 18th National Congress of the Communist Party of China, the CPC Central Committee and the State Council have attached great importance to the development of service sector and launched a series of reform measures to promote development of the platform economy, sharing economy and digital economy, and push the service sector into a new stage of development.

- (1) The "two proportions" of the service industry are constantly improving, and the role of service economy is more prominent

Two proportions are used to measure the role of the service-based economy, i.e. the proportion of the added value of service sectors to GDP and the proportion of service workers to all employed persons. According to the *Statistical Bulletin of the People's Republic of China on National Economic and Social Development in 2019* published by the National Bureau of Statistics, the gross domestic product (GDP) in 2019 amounted to 99,086.5 billion yuan, an increase of 6.1% over the previous year at comparable prices. In terms of industries, the added value of the primary industry was 7046.7 billion yuan, growing 3.1% over the previous year. The added value of the secondary industry was 38,616.5 billion yuan, an increase of 5.7%. The added value of the tertiary industry reached 53,423.3 billion yuan, increasing 6.9%. In the whole year, the added value of the tertiary industry accounted for 53.9% of GDP, increasing by 0.6% points over the previous year and 14.9% points higher than that of the secondary industry. Its contribution to GDP growth was 9.4%. The proportion of employed workers in the service sector in the whole society has been increasing continuously, and it has become the main channel to absorb employment. In 2018, the employed workers of service sector in China accounted for 46.3% of the total employment of the whole society, 3.9% points higher than that of service sector in 2015 (42.4%), with an average annual growth rate of nearly 1% point. The changes of these indicators highlighted the increasing role of the service economy, marking that China is stepping into the "era of service economy".

- (2) Service consumption becomes the most active area of residents' consumption

The role of consumption as the main driving force of economic growth has been further consolidated, and the contribution rate of final consumption expenditure to GDP growth was 57.8%, 26.6% points higher than the gross capital formation. Residents' consumption has been upgraded and improved. In 2019, the Engel coefficient of national residents was 28.2%, down 0.2% points from the previous year. In 2019, the service consumption expenditure accounted for 45.9% of the per capita consumption expenditure of national residents, increasing 1.7% points over the previous year. Service consumption represented by culture, tourism, health, old-age care and sports

is becoming the most favored field of residents and gradually becoming the main force of residents' consumption.

- (3) The growth rate of fixed assets investment in service sector has maintained rapid growth, and has been the main force of fixed assets investment for many years. During the 13th Five-Year Plan period, the proportion of the tertiary industry investment in fixed assets investment in China was much higher than that of the secondary industry investment in fixed assets investment, accounting for more than 56% of the total fixed assets investment in the whole society in most years. In 2019, the national investment in fixed assets (excluding farmers) was 55,147.8 billion yuan, an increase of 5.4% over the previous year. In terms of industries, investment in the primary industry grew 0.6%, investment in secondary industry increased 3.2%, and investment in tertiary industry rose by 6.5%. Private investment reached 31,115.9 billion yuan, an increase of 4.7%. Investment in high-tech industries increased by 17.3%, 11.9% points faster than the total investment, among which investment in high-tech manufacturing and high-tech service sectors increased by 17.7 and 16.5% respectively. Investment in the social field increased by 13.2%, 7.8% points faster than the total investment, among which investment in education increased by 17.7%, and investment in culture, sports and entertainment increased by 13.9%.
- (4) New breakthroughs have been made in the development of service trade. Under the background of deep development of global value chain, the global service sector has shown obviously different characteristics from before, and the role of the service sector in global value chain has become increasingly prominent. How to promote the development and opening of the service sector in China from the perspective of global value chain is particularly important. Trade in services has become a more important part of global trade, and the proportion of service trade between countries in global trade is getting higher and higher. According to the traditional total value trade statistics, service trade only accounts for about 1/5 of global trade. However, with the development of the global value chain's accounting theory and methods in recent years, all countries have gradually realized that the traditional gross value trade statistics have the defect of "duplicate statistics", ignoring the export of service products as intermediate inputs. This traditional gross value trade statistics method has greatly underestimated the role of service sectors in international trade. From the perspective of global value chain, the role and position of service trade in global trade can be described more accurately. According to the OECD/World Trade Organization Added Value Trade Database (TiVA), the added value trade of the service sector accounts for more than half of global added value trade. Under the background of rapid development of global service trade, the development of China's service trade is particularly noticeable. According to the statistics released by the Ministry of Commerce, the import and export volumes of China's service trade have maintained the second place in the world for five consecutive years.

In 2018, the import and export volume of service trade reached 5.24 trillion yuan, an increase of 11.5% year-on-year. The proportion of service trade in foreign trade increased from 11.1% in 2012 to 14.7% in 2018. With the trade structure being optimized, the proportion of knowledge-intensive service trade increased rapidly, showing the characteristics of high-quality development.

(5) New items and new forms of services

Technological progress and business model innovation have transformed traditional production models and service forms, and promoted the integration and development of industry and services. Driven by the new generation of information technology, digital, network and smart technologies have been applied in all aspects of China's real economy. The digital economy grows at a high speed, and its strategic position and engine role in the transformation of old and new kinetic energy are increasingly important. The new generation of information technology and intelligent manufacturing technology are fully embedded in the manufacturing and service sectors, which will break the traditional closed manufacturing process and service forms in China and promote the integration of manufacturing and service sectors in the industrial chain.¹ With deep integration of industries, there will emerge new technologies, new products, and new business forms; a modern industrial system will be built; and China's economy will be more service-oriented. More efforts will be made to focus on "service-based manufacturing" and "service-oriented manufacturing" so as to achieve manufacturing transformation and upgrading and consolidate the real economy.

8.1.2 Problems Faced by the Development of Service Sectors

- (1) Due to institutional obstacles, the business environment needs to be further optimized. The institutional system is an important factor that may influence economic growth and efficiency improvement. The development of China's service sector is faced with the following institutional obstacles. First, some sub-sectors of services are seriously monopolized, and administrative monopoly exists in many economic aspects in China, but monopoly in the producer service sectors is especially serious, such as finance, telecommunications, railway, civil aviation, education, press and publication media, etc. These sectors generally have unclear property rights, weak competitiveness and low efficiency. Second, the threshold of market access is still relatively high, especially for private enterprises. Except for traditional service sectors such as catering and commerce, the market access threshold of other service sectors is higher. For example, the business licenses of banks and insurance operators are basically allocated by policies. Private enterprises do not have access to many emerging service sectors, thus inhibiting the development of service sectors. Third, the management system

¹ Liu and Xia (2018a).

is backward and particularly unable to meet the development of new economy, new services and new business forms. Old policies and systems are in compatible with innovative development of services, and the management system of service sectors has lagged far behind the innovation and development of service sectors.

Fourth, there is a lack of truly implemented and operable support policies for the development of service sectors. In the past, some fiscal, taxation and financial policies were introduced for the industrial sector, and many of them were not suitable for the service sector. For example, bank loans generally required asset mortgage, but the dominant position of intangible assets such as intellectual property rights and brands of service enterprises made it difficult for many service enterprises to apply for loans. Fifth, the business environment needs to be further optimized, and the transaction cost remains high. The implementation of streamlining administration and delegating power to the lower levels was not well-supervised, and there was no effect feedback mechanism. The policy for “streamlining administration and decentralizing powers, combining decentralization with appropriate control, and optimizing services” has been in practice for many years and achieved remarkable results. However, some measures designed to streamline administration and decentralize power could hardly be carried out, and some even were unable to solve practical problems.

(2) The scale of producer services is small and the development level is low

The scale and level of producer services development in China lagged behind due to low proportion of producer services as intermediate input, low degree of specialization and low technical content. There are many reasons for the backward development of China’s producer services. The international subcontracting mode has led to the poor correlation between foreign-funded manufacturing industry and local service sectors, and the short industrial chain inhibited the development space of producer service sector. Over years, no change has taken place in the growth mode of China’s foreign trade, for which the international subcontracting remains the main force. New trade forms such as digital trade have just emerged. In the international division of labor in the industrial chain, processing and manufacturing with low added value remain at the bottom of the “smiling curve”, while there are few product R&D and design with high added value and brand marketing and most of them are at the low end of the global value chain.² China is a big manufacturing country with a good development foundation and market demand for producer services, but its manufacturing industry is not strong. The industrial chain in China is very short, and the demand for producer services comes mostly from overseas market, which had disabled China’s producer services to find support and market. The space for development seems to be very large but actually very small.

(3) Low level of services, high proportion of traditional services, and backward development of modern services

² Xiao et al. (2019).

Traditional services have occupied a high proportion, while modern services lagged behind, which is an industry structural problem faced by the development of China's service sector. Currently in China, the service sector is mainly concentrated in traditional services, such as commerce, catering, warehousing and postal services, but modern services are underdeveloped, including finance, telecommunications, information services, business services and leasing services, and scientific research. The service sector is still at a low-level structure level. Although the internal structure of the service sector has improved in recent years, and the emerging industries have a certain upgrading trend, they have not yet become the main player of industrial growth, and traditional sectors and general industries are still the main forces driving the growth of services. According to the latest input–output table in 2017, the added value of three traditional services such as transportation, warehousing and postal services, wholesale and retail services, accommodation and catering services accounted for 32.3%, while modern service sectors such as financial insurance, business services and scientific and technological information, which were highly concentrated in central cities and had great demand potential, were not fully developed, and their proportion was much lower. For example, information transmission, computer services and software industries accounted for less than 7.0%. According to relevant data of World Input–Output Table from 1995 to 2011 in WIOD database, from the comparison of service sub-sectors in major foreign countries, in 2011, the added value of Chinese traditional services (retail, wholesale, transportation, transportation, accommodation and catering) accounted for a large proportion of the added value of the tertiary industry, up to 32.2%. Except Russia and India, the proportion of traditional services in China was obviously higher than that of other major countries, e.g. 12.73% points higher than that in the United States (23.4%, 2011) and 7.9% points higher than that in Japan (28.2%, 2011).

(4) Big differences in the development levels of services in different regions

In recent years, the service industry in various regions of China is growing rapidly. However, due to the influence of regional economic development level, natural endowment, population and environment, there is a big gap in the development level of service industry in different regions. The per capita service product gap between regions is obviously greater than the GDP gap. In 2018, Beijing (113,545.27 yuan/person) saw a highest per capita added value of services, 6.6 times that of Gansu province (17,214.89 yuan/person), while the corresponding per capita GDP level of Beijing (140,211 yuan/person) was 4.47 times that of Gansu Province (31,336 yuan/person).

(5) Uncertainty in the development of services increased due to COVID-19 impact

As the service sector is characterized by population concentration, it has the greatest conflict with the quarantine measures taken to prevent the spread of the epidemic. The sustained spread of the epidemic has undoubtedly caused heavy losses to economy and employment of the service sector. Many offline services were suspended, and the operation of some service enterprises was almost paralyzed. After the COVID-19 was contained, some service consumption would be retaliatory or compensatory

consumption, but it is difficult to make up for these losses in a short term. What is even more worrying is that most services are operated by small and micro enterprises that have difficulty in capital turnover and have to pay more expensive rent and other expenses. If the impact of the epidemic continues, these small and micro service enterprises will lose their sources of income while bearing rigid expenditures. Even with some government subsidies and preferential policies, some service enterprises may not be able to survive this most difficult period due to great market trauma. To a certain extent, this also reflects the fragility, uncertainty and weak ability of China's services to cope with emergencies. These service enterprises need to transform and change their operation mode so as to cope with possible public health emergencies.

8.1.3 Mid-to-Long-Term Development Trends of China's Service Sector (2020–2030)

The author is optimistic about the mid-to-long-term development trend of China's service sector. First of all, the rapid development of services is required by the transformation and upgrading of economic structure. The rapid development of producer services is necessitated by the optimization and upgrading of industrial structure. Meanwhile, with the improvement of people's living standards, there will be higher requirements for service level and quality to promote the rapid development of consumer-oriented service sectors. Second, China's economy has entered a stage of high-quality development, and its economic growth rate has shifted from high-speed to medium-high-speed growth. Due to slow growth of industry (especially manufacturing industry) and declining foreign demand, the price index of industrial products will remain at a low level, which will lower the proportion of industry in national economy and raise the proportion of service sector. In order to accurately predict the development prospect of China's service sector, the author has adopted a simple trend extrapolation method to predict the added value of service sector and the ratio of added value of service sector to GDP.

(1) Added value of the service sector and forecast on employment in service sectors

According to the changes in the proportion of added value of China's service sector during the 13th Five-Year Plan period and the current and future economic development trends of China, we predicted the scale and proportion of service sectors. Table 8.1 predicts the GDP ratio of China's tertiary industry by simple extrapolation method. By 2020, the proportion of China's service sector in GDP will be 54.7%, up to the middle development level of the world service sector. By 2025, the proportion of service sector in GDP will be 60.7%, reaching the middle and upper level of the world service sector. By 2030, the added value of service sector will account for 65.7% of GDP, approaching the middle level of the world service powers.

Driven by technological progress, the service sectors will be inevitably more capital-intensive, and the employment in service sectors will be inevitably less elastic. According to changes of employment elasticity coefficient of China's service sector

Table 8.1 Forecasts on the scale and proportion of added value of service sector by an extrapolation method (taking 2018 as the benchmark price)

	Added value of service sector (trillion yuan)	Proportion of added value of service sector (%)
2018	45.66	52.2
2019	49.62	53.5
2020	53.74	54.7
2021	58.16	55.9
2022	62.79	57.1
2023	67.70	58.3
2024	72.90	59.5
2025	78.38	60.7
2026	83.90	61.7
2027	89.69	62.7
2028	95.77	63.7
2029	102.13	64.7
2030	108.90	65.7

during the 13th Five-Year Plan period, we assumed that after 2018, the employment elasticity of service sector was 0.3, and that of the whole economy was 0.04. According to the employment elasticity of service sector and the whole economy, the employment proportion of service sector could thus be calculated.

As the employment elasticity and the growth rate of added value of service sector are higher than those of the whole economy, the employment proportion of service sector has steadily increased, and by 2020, the employment proportion of service sector will reach 47.15%. When there are far more new jobs in the service sector than in the whole society, there may be negative employment growth in agriculture or industry in the future. By 2025, the employment proportion of service sector will reach 51.75%, accounting for half of all labor employment. By 2030, the proportion of employment in service sector will be 55.08%, reaching the middle level in developed countries (see Table 8.2).

(2) Forecast of labor productivity in service sectors

The labor productivity index of service sectors can be used as one of the important indicators to measure the high-quality development and upgrading of service sectors. Labor productivity is the added value created by employees per unit. On the basis of simple extrapolation method and employment forecast data, we estimated the labor productivities of the whole society and the service sectors in China from 2019 to 2030. In 2020, the labor productivity of the whole society in China will increase to 125,200 yuan/person, and by 2025, the labor productivity of the whole society in China will be 163,000 yuan/person. By 2030, the labor productivity of the whole society in China will reach 207,600 yuan/person. The labor productivity of service sectors will

Table 8.2 Forecast on proportion of employment in services from 2019 to 2030

	Number of employed people in the whole society ('0000 persons)	Employment in service sector ('0000 persons)	Proportion of employment in service sectors (%)	New employment in service sectors ('0000 persons)	New employment in the whole society ('0000 persons)	Growth rate of employment in the whole society (%)	Growth rate of employed persons in service sectors (%)
2019	78,286	36,048.02	0.4605	1029.44	191.77	0.25	2.94
2020	78,469	36,995.19	0.4715	947.17	182.22	0.23	2.63
2021	78,631	37,805.58	0.4808	810.39	162.04	0.21	2.19
2022	78,787	38,607.21	0.4900	801.63	156.87	0.20	2.12
2023	78,942	39,409.05	0.4992	801.84	154.42	0.20	2.08
2024	79,094	40,210.78	0.5084	801.73	151.96	0.19	2.03
2025	79,243	41,012.05	0.5175	801.27	149.49	0.19	1.99
2026	79,369	41,611.30	0.5243	599.24	126.00	0.16	1.46
2027	79,493	42,207.70	0.5310	596.40	123.82	0.16	1.43
2028	79,615	42,801.01	0.5376	593.31	121.62	0.15	1.41
2029	79,734	43,390.97	0.5442	589.96	119.42	0.15	1.38
2030	79,854	43,986.16	0.5508	595.19	119.60	0.15	1.37

be improved and higher than that of the whole society. The labor productivity of China's service sector will be about 151,100 yuan/person in 2020, about 199,100 yuan/person by 2025, and 261,200 yuan/person by 2030 (Table 8.3).

8.2 Transformation and Upgrading: Strategic Tasks for Mid-to-Long-Term Development of China's Service Sectors

8.2.1 Significance of the Transformation and Upgrading of China's Service Sectors

According to the latest data from the National Bureau of Statistics, the added value of the service sectors accounted for 53.9% of GDP in 2019, an increase of 0.6% points over the previous year. Service consumption accounted for 45.9% of total consumption expenditures, up 1.7% points over the previous year. According to the data released by the Ministry of Human Resources and Social Security in June 2019, the employment proportion of employees in the tertiary industry increased from 40.6% in 2014 to 46.3% in 2018, showing a continuous upward trend in the past five years, and has become the main force to absorb employment. Obviously,

Table 8.3 Forecast of labor productivity in service sectors from 2019 to 2030

	Labor productivity of the whole society ('0000 yuan/person)	Labor productivity of service sectors ('0000 yuan/person)	GDP ('00,000,000 yuan)	Number of employed people in the whole society ('0000 persons)	Added value of service sectors ('00,000,000 yuan)	Employed persons in service sector ('0000 persons)
2019	11.86	14.37	928,399.89	78,286.35	517,922.01	36,048.02
2020	12.52	15.11	982,423.48	78,468.57	558,890.78	36,995.19
2021	13.23	15.96	1,040,386.46	78,630.61	603,335.25	37,805.58
2022	13.96	16.83	1,099,688.49	78,787.47	649,849.06	38,607.21
2023	14.71	17.82	1,161,271.05	78,941.90	702,275.95	39,409.05
2024	15.49	18.85	1,225,140.95	79,093.86	757,818.41	40,210.78
2025	16.30	19.91	1,291,298.57	79,243.35	816,571.42	41,012.05
2026	17.13	21.12	1,359,737.39	79,369.34	878,625.56	41,611.30
2027	17.99	22.37	1,430,443.73	79,493.16	944,066.28	42,207.70
2028	18.88	23.57	1,503,396.36	79,614.79	1,008,788.11	42,801.01
2029	19.80	24.81	1,578,566.18	79,734.21	1,076,630.68	43,390.97
2030	20.76	26.12	1,657,494.49	79,853.81	1,148,735.54	43,986.16

the service sector has established its dominating position in China, and the scale expansion of service sector is no longer the main contradiction in the development of services. We will increase services to maintain medium and high-speed growth; more importantly, we must be clear about how to achieve high-quality development, promote the transformation and upgrading, and improve the quality and efficiency of service sectors.

This sort of strategic transformation is based on our understanding of the development status of service sectors, especially the underdevelopment of the service sectors. It is an inevitable choice after changes have taken place in macro background, technical conditions and institutional environment of service sectors. It is also a strong support for China's economy to turn to a high-quality development stage. It is hard to imagine how to build a modern economic system if the development of service sector, which accounts for half of China's economy, stays at a low level, low efficiency and low energy level. How will high-quality economic development be realized? How will the people's yearning for a better life come true? Therefore, from any perspective, promoting the transformation and upgrading of service sector and implementing the upgrading strategy of service sector will be a major strategic transformation for the mid-to-long-term development of China's service sectors, and its practical significance and strategic guidance are self-evident.

8.2.2 *Main Tasks of the Transformation and Upgrading of China's Service Sectors*

(1) Application of digital technologies

First, digitization of important industries. Digital economy has become a world-recognized new economy, new business form, new kinetic energy and new engine. In the era of digital economy, the integration and penetration of digital technology and service sectors will promote rapid growth of service sectors and vigorous development of digital industry. The growing maturity of underlying technologies such as big data and cloud computation has promoted wide applications of digital technology in service sectors. The emergence of blockchain and artificial intelligence has almost fundamentally changed the traditional business model in the services such as finance and logistics, which will bring better and more novel service experiences to customers, and promote the efficiency of resource allocation.³ The service sector may help transform the mode of economic development, adjust the industrial structure and build a modern industrial system, so digital application in this sector will be of vital importance. We will strengthen the foundation of the development of information and communication services, promote the building of Digital China, and accelerate the integration and development of digital technology with finance, scientific and technological services, design creativity, modern logistics and other industries, so as to promote applications of digital and smart technologies in all service sectors.

Second, digitization of service trade. We will promote application of digital technologies in service trade. As digital technologies are increasingly used in the world economy, the digital trade is attracting great attention from countries all over the world. China is a big trading country and a big digital economy country. It has the basic conditions for rapid development of digital trade. With the promotion of digital service innovation, non-tradable service products will be made tradable for easily purchasing, consuming and paying cross-border services and data.⁴ In the era of digital economy, due to innovation and development of new technologies such as artificial intelligence and big data, digital trade has become a new commanding height for all countries in the world. China is a big trading country and a big digital economy country. It has the advantage of accelerating the development of digital trade. Digital trade should be the key choice of China's mid-to-long-term strategy.

Third, we will promote digital application in the service sector chain and digital transformation of traditional service sectors. To build a modern economic system, we will make efforts to promote cross-industry integration of digital service sector and vertical digital industry consolidation. Digital technologies will be used to reconstruct and improve the traditional service sectors. We will let digital economy play its role in improving total factor productivity and achieving high-quality development.⁵ The three-dimensional digital industrial chain will better meet the needs of economic and

³ Xia and Xiao (2019).

⁴ Jiang and Luo (2019b).

⁵ Xia et al. (2019a).

social transformation and development, and better meet people's expectations for a better life.

Fourth, we will strengthen the application and popularization of digital technology in the public service sector to enhance people's living standards and well-being. We will step up efforts to build digital China and smart society, release digital dividend, and promote the popularity of public services such as education and medical care in rural areas, so as to narrow the digital divide and build an all-round and three-dimensional digital industrial chain. Our ultimate aim is to ensure that digital services will improve people's living standards and realize people's yearning for a better life.

(2) Intelligentizing

First, we will enhance our basic understanding of service industry intelligence. With the application of computer, robot, sensor and other information technologies in service sectors, intelligentizing has become an inevitable trend of development. At present, the penetration of artificial intelligence technology in service sectors has promoted the intelligentizing of services. The alternative services of artificial intelligence have been wide used in data-intensive sectors such as finance, retail, medical care and education, and in labor-intensive fields such as legal services, HR management and translation. It is imperative for us to clearly recognize and objectively analyze the positive effects and impacts brought about by intelligent services.

Second, more efforts will be made to promote the penetration and integration of artificial intelligence technologies such as big data analysis, machine learning and IoT with service sectors. We will encourage application of artificial intelligence technology in data-intensive industries such as finance, retail, medical care and education. The development of intelligent service models based on artificial intelligence technology, such as optimizing manpower, assisting forecasting, dynamic pricing and personalized custom-made services will be encouraged to promote the transformation and upgrading of services and improve the productivity of service sector with intelligent technologies.

(3) Platformization

First, we will build platforms for development of productive service sector. The productive service sector is characterized by strong professionalism, active innovation and high degree of industrial integration, which is the key to realizing competitive advantage of the global value chain. The platform-based development is an important way to enhance the control of producer services. We will build an internet-based development platform for productive services and encourage upstream and downstream enterprises' participation. We will build an online service platform for integration of information, procurement, logistics, finance and e-commerce, so as to realize the integration of logistics, capital flow, information flow and workflow, and improve the coordinated development capability of R&D, manufacturing and services.

Second, we will build platform for the development of consumer-oriented services. With the development of modern information technologies such as big data, mobile Internet and artificial intelligence, the platform for consumer-oriented

services has become increasingly important. It is the consumer-oriented service platforms that have made it possible for services, which used to be realized by going to the site, such as consumer loans, credit information and social security inquiries are being replaced by mobile banking clients and various APPs. Platforms for consumer-oriented services have bridged huge quantities of unconnected supplies and demands, which has improved the efficiency of resource allocation and expanded the scope of service and transaction. Platforms for the development of consumer services have also increased the technical content of consumer services, improved residents' service experience and living standards, and reduced service transaction costs, which indicates an important trend for the transformation and upgrading of consumer-oriented services.

Third, we will build service functional areas and public service platforms for productive services, enhance the concentrated development function of service sectors, and promote the deep integration of various industries in the cluster area.⁶ Our efforts will be focused on the development of R&D and design, information, logistics, supply chain management, network marketing, commerce and finance, so as to promote flexible customization, develop shared public service platforms, improve the utilization level and efficiency of productive services, reform enterprises to service-oriented manufacturing or manufacturing services, and realize coexistence and mutual promotion of manufacturing and services.

(4) Integration

First, service-oriented manufacturing. Manufacturing and service sectors are important components of modern industrial system. Advanced manufacturing industry is the pillar and key of modern manufacturing industry, while productive service sector is the main trend of upgrading services, which represents the future trend of service development. To build a modern industrial system in China, we must seek support from advanced manufacturing and productive services. With continuous development of economy, especially with continuous progress and wide application of science and technology, modern manufacturing industry has been no longer a traditional manufacturing industry, and modern service sector is no longer a traditional service sector. Manufacturing and service sectors are increasingly interacted and integrated, and complement each other. On the one hand, manufacturing enterprises will gradually outsource some services, thus increasing the proportion of services. On the other hand, with the structural transformation of manufacturing industry, there will be an increasing demand for intermediate service investment in the production process. The integration of manufacturing and productive services is becoming an important feature of modern industrial system and high-quality development. It is also an important way for us to comply with the new round of scientific and technological revolution and industrial transformation, enhance our core competitiveness of manufacturing and expand new development potential of services. Service-oriented manufacturing was created when the boundary between manufacturing and

⁶ Liu et al. (2017).

service became blurred. It is an important direction of future industrial development. Despite disparity among different industries, quality service manufacturer and service-oriented manufacturing can significantly improve the performance indicators of manufacturing enterprises or service enterprises. We will promote manufacturing enterprises to extend towards both ends of the industrial chain, such as creative incubation, R&D and design, and after-sales service, and establish a new collaborative profit model of products and services. Qualified manufacturing enterprises are encouraged to become general contractors of integrated services such as design consultation, equipment manufacturing and procurement, construction and installation, maintenance and management. Leading manufacturing enterprises are encouraged to expand their professional advantages so as to provide services such as market research, R&D and design, engineering contracting and system control for the whole industry. Manufacturing enterprises are encouraged to optimize their supply chain management, promote networked collaborative manufacturing, and actively outsource services. We will promote deep integration of IT application with industrialization, accelerate the development of intelligent services, and improve the level of manufacturing intelligence.

Second, integrating three industries in rural economy. The problem concerning “agriculture, rural areas and farmers” is a fundamental problem related to national economy and people’s livelihood. However, in the vast rural areas, it is restricted by many factors such as geographical location and resource endowment and industrial development, there are still some obvious shortcomings in agricultural development and farmers’ income increase, which are characterized by the large gap in service development between urban and rural areas and by the shortage of public services in rural areas. With further promotion of poverty reduction, the innovative model based on the integration of three industries in rural areas is playing an active role. There have emerged new business entities such as farmers’ cooperatives and family farms, and many new agricultural production methods such as green production, rural tourism, order production, leisure agriculture and processing of characteristic agricultural products. According to previous studies, leisure agriculture developed by virtue of modern agriculture is a powerful weapon to realize rural vitalization. With support from finance, banking, insurance as well as science and technology, the integrated development of the primary, secondary and tertiary industries in rural areas of China is becoming a powerful driving force to help rural areas shake off poverty and win the final fight against poverty in the new era.

(5) Standardization

First, we will pay high attention to the significance of service standardization. The service industry is heterogeneous so that it can hardly deliver standard and large-scale services. In addition, it has to bear high input of labor cost. Therefore, the service industry has a lower productivity than the manufacturing industry. Because of the great otherness and personalization of services, it is difficult to formulate a set of standards for service supply. However, these perceptions are being changed by technological progress and business model innovation. For example, by virtue of service innovation, a series of self-service devices developed with the help of

technology research and development in the field of financial services can provide a series of standard services from account inquiry, payment for municipal expenses, transfer and wealth management product purchase, and even credit application. The standardization of services has provided great convenience to individual residents. With continuous enhancement of service and innovation, such standardized services will be seen everywhere in China. Services standardization is greatly improving the overall development level of service sectors.

Second, we will promote alignment of service standards with international practice. Opening China's services to the outside world has long been subject to many factors, including lack of knowledge about service standardization and few opportunities to participate in formulating international service standards. We will seize the opportunity of wider opening of services to promote China's service standards to the world so as to increase China's voice and influence in global governance. We will also focus on international integration of service supply and service consumption behaviors, and adapt to the international standards and behavior rules of services, so as to better integrate into the international market and help Chinese services go global.

(6) Quality services

First, service quality is highly valued. In 2019, China's per capita GDP exceeded the threshold of 10,000 US dollars, pushing China towards a high-income country. Technological progress and business model innovation also have a profound impact on the development of services and service consumption. The reasonable effects of these factors will lead to the rapid upgrading of residents' consumption and the revolution of service quality. The increasing proportion of service consumption and high attention to the quality of service consumption will usher in great changes in urban and rural residents' consumption. In the financial services, for instance, the main mode of service innovation is mainly reflected in the large number of intelligent terminals, which not only improves the business processing efficiency of physical outlets of commercial banks, but also reduces the business processing time and greatly improves the customer service experience. In the power service sector, thanks to the innovation of power supply service mode of "Internet plus", power supply enterprises can improve their operation efficiency, while transparent and open information services help shorten the response time to customer service. In the field of property services, various intelligent monitoring devices are used to connect owners with property feedback terminals, thus expediting the response speed to owners' service needs. At the same time, based on the innovation of "service+", property services are also extended to providing owners with value-added services such as home care and booking air tickets and reserving hotels. On the whole, service innovation has pushed the service sector onto a high-quality development path.

Second, services are increasingly refined and targeted. With the improvement of residents' living standards, the demand for personalized services is increasing day by day. Unlike traditional service provision mode, service innovation can meet residents' growing demand for refined and "targeted" services through personalized specific service supply. For example, some hotels and catering enterprises have

won high recognition from the market by providing customers with unique, different and humanized services. In community management services, through innovation of management methods and implementation of grid-based social governance, responsibilities are decomposed to lower levels, services are delivered item by item, and residents' service needs can be fed back in the shortest time. The innovation of service mode makes it possible to refine services.

8.3 Paths and Policies to Promote the Transformation and Upgrading of Services

8.3.1 Paths of Service Transformation and Upgrading

(1) Industrial integration

With the development of science and technology, productive services have more similarities with manufacturing industry. With continuous development of intelligent manufacturing and the increasing attention of enterprises to value creation, an increasing number of jobs in manufacturing enterprises do not directly involve production activities; instead, they provide services for the manufacturing process, such as management, commercial and financial operations, sales-related services, administrative support, legal and accounting, computer and mathematics-related services, R&D design and engineering technology, etc. Technological progress has narrowed the industrial boundaries and the nature of work between manufacturing and service sector. In addition, whether large or small, some Chinese manufacturing enterprises are completely equipped; therefore, some productive services only circulate within manufacturing enterprises and fail to be separated into social service sectors. It is quite common for manufacturing and service sectors to interweave with each other. Moreover, productive services may have technological impact on the innovation of manufacturing enterprises. Benign interactions between the two sides will also have important impact on the management organization innovation and market innovation of manufacturing enterprises. The industrial structure dominated by knowledge-intensive service sector in Britain and America has inhibited the development of advanced manufacturing industry in China, so we propose it should be re-industrialized. To promote China's industry to the high end of the global value chain, we should focus on integration and development of the secondary and tertiary industries, and emphasize the role of service sectors in improving manufacturing productivity.

On the one hand, we will make use of new-generation information technology to promote cross-disciplinary and cross-industry integration of high-tech services, manufacturing industry and agriculture, and especially guide "digital" and "smart" changes in production process, so as to promote the development of industrial Internet and the innovation of production methods. For example, we will build an information

service system, support large-scale basic telecommunications enterprises to increase network infrastructure construction, promote the building of a comprehensive public service platform with large-scale Internet enterprises, and carry out “industrial cloud” innovative services. We make efforts to lay a solid foundation for integration and development of manufacturing and Internet services such as “core industrial software and hardware, industrial Internet, industrial cloud and intelligent service platform”, so as to encourage enterprises to move towards intelligent production and networked collaboration for the whole production process.

On the other hand, we should promote cross-border integration of productive services and manufacturing, and guide innovation of manufacturing industry in the whole industry chain driven by manufacturing service, service-oriented manufacturing, services outsourcing and customized production. A service platform will be created to encourage qualified and powerful manufacturing enterprises and service enterprises (institutions) to cross the industrial boundary. A business incubation platform and a collaborative innovation platform will be built to establish an industrial ecological environment for collaborative innovation with small and medium-sized enterprises. We will focus on intelligent manufacturing system integration and integrated solutions, and promote the transformation of integrated solutions towards service-oriented, platform-based and smart solutions.

(2) Service innovation

First, we will promote the innovation of technical means to improve innovation of service methods and service contents. Based on innovative application of new generation information technologies such as the Internet of Things, cloud computing, big data, mobile Internet and artificial intelligence in services, we will promote the rapid growth of emerging service sectors that have triggered industrial system changes, such as creative design, network audio-visual, digital entertainment, Internet finance, e-commerce, intellectual property services, human resources services, credit information services, inspection and testing, precision marketing, telemedicine, and smart communities. We will also create higher service value and promote deep integration and iterative innovation of service and technology.

Second, the innovation of services will be strengthened to develop supply chain management, business process reengineering and lean service. We will accelerate the transformation from single service link to full-process service, from general service to multi-level and comprehensive service. The vertically distributed industrial chain and value chain will be broken to promote multi-point breakthroughs, integration and interaction and cross-border development in multiple areas. We will encourage high-efficiency combination and collaborative innovation of service elements through platform economy, sharing economy, mergers and acquisitions, cross-border application, horizontal alliances, integrated innovation and iterative translation. With the cultivation of networked, intelligent and collaborative service forms, we will encourage traditional service areas to create new services and service activities through industry consolidation, supply chain integration, value chain upgrading and ecological chain maintenance. The development of new productive service forms will

be promoted, such as collaborative design, crowdsourcing, crowd-funding, solutions, demand management, system process services and life cycle management.

Third, we will promote innovation of business models, guide enterprises to scientifically subdivide the demand market, and create personalized professional service products. The consumer structure will be upgraded to encourage service enterprises to carry out experiential consumer services, group shared consumer services, and customized services for individual needs. We will establish a multi-level and multi-form service market and support the development of a comprehensive and characteristic service online platform so as to improve service capabilities and user experience in all respects. Consumer-oriented service providers will be encouraged to use idle resources and rely on existing e-commerce platforms or their own service platforms to carry out sharing economic practices as well as online and offline integration and innovation. We will promote the innovation and development of the social service sectors, and accelerate the formation of a comprehensive health care service system based on healthy Internet of Things and wearable devices. The educational service mode will be innovated by building a large-scale intelligent learning platform so as to promote new educational methods such as massive open online course and virtual universities, and realize the sharing of high-quality educational resources.

Fourth, we will foster service innovation entities, and promote organizational innovation and management innovation. Service enterprises will be guided to cultivate independent brands and independent intellectual property rights by virtue of advanced technologies, increase investment in research and development, and promote management innovation and technological innovation. We will provide support for service enterprises to make use of high technologies to optimize organizational structure, reengineer business processes, build agile and learning service enterprises, and enhance market competitiveness.⁷ A number of service enterprises engaged in overall solutions, technical service operation, content provision and customized services will be fostered to promote the expansion of new areas of service sector and the growth of new business form. We will support service enterprises to establish a large customer database, carry out user consumption behavior analysis, and establish marketing systems by using WeChat, Weibo and client-side Apps, so as to improve the level of accurate marketing and fine service.

(3) Transformation and upgrading of traditional service sectors

To promote the transformation and upgrading of service sector, we will not abandon traditional service sectors; instead, we will strengthen the upgrading and transformation of traditional service sector and enhance its efficiency and energy level.

First, we will liberalize administrative control and market monopoly of service sectors at home and abroad, and steadily push forward market-oriented reform of transportation, medical care, finance, telecommunications and other service fields, so as to promote upgrading of traditional service sector by opening wider to the outside world. Since China's entry into WTO, China's commitment to opening up

⁷ Liu and Xia (2018a).

the service industry under the multilateral framework has been much higher than that of developing countries. Especially in recent years, through the expansion of market access pilot, the opening up of service sector has made remarkable progress in trade, industry and investment, but there are still some “small doors” remaining closed in the details of domestic market operation. At present, except for wholesale, retail, trade, catering and transportation industries, the degree of marketization of many service sectors remains relatively low, such as finance, telecommunications, health, etc., which are basically in a state of monopoly, controlled operation and restricted operation. Facing the new requirements of industrial upgrading and the new demands of residents’ consumption upgrading, service supply can hardly keep up with the growth of demand in both quality and quantity. Expanding and opening up the service sector can increase high-quality service providers, create effective and high-quality service supply, promote reform through opening up, and form a good industrial ecological environment. Under the background that foreign direct investment (FDI) occupies a dominant position, we will open wider relevant systems and regulations for registration of foreign-funded enterprises based on expanding foreign investment access in consumer-oriented services such as education, culture and medical care. We will actively and steadily promote the opening of financial and telecommunications services. The application procedures and qualification standards for business licenses and other licenses should also be made transparent, standardized and streamlined.

Second, we will standardize the consumer-oriented services and improve service quality. The public platform of family services will be integrated, enriched and upgraded to improve the service network. We will promote scale operation and network development, and create a batch of well-known consumer-oriented service brands. The service quality governance and promotion system will be created to promote the quality service commitment and management system. We will advance high-end quality certification, carry out service certification in health, education, sports, finance, e-commerce and other fields, increase the supply of high-quality services, and build a benchmark for service quality. Certification means will be taken to promote regional brand building, encourage community-based demonstration projects of consumer-oriented service enterprises, create and publicize the best practice cases, and promote the formation of industry norms and standards. We will strengthen the building of service quality credit system, and implement information publicity and public commitment system of practitioners. We will set up the credit files of consumer-oriented service enterprises and employees. Relevant information will be included in the national enterprise credit information publicity system and the employee credit inquiry system, so as to promote information sharing by improving the national unified credit information sharing and exchange platform. We will perfect the disciplinary mechanism for dishonest enterprises, such as permanent exit and lifelong prohibition, increase the cost of illegal dishonesty, and gradually form a development atmosphere of consumer-oriented services with honesty at their core. We will promote professional development of consumer-oriented services. With the help of leading enterprises and industry associations, we will offer special training for family service employees such as domestic service workers, elderly care workers

and patient service workers, with the aim to improve the vocational skill appraisal or special vocational ability assessment system, and encourage work with certificates. Small and micro businesses will be subsidized for employees training so as to enhance the sense of honor and dedication of employees.

Third, we will promote transformation and upgrading of traditional services with intelligent development. We will actively promote the penetration and integration of artificial intelligence technologies with services, such as big data analysis, machine learning and Internet of Things. The application of artificial intelligence technology will be improved in data-intensive sectors, such as finance, retail, medical care and education, so as to promote the development and growth of intelligent service models based on artificial intelligence technology, including manpower optimization, assisting forecasting, dynamic pricing and personalized customized services.

8.3.2 Policies for Promoting Transformation and Upgrading of Services

- (1) We will strictly protect investors' rights and interests, and stabilize the investment expectations of service enterprises. This is the cornerstone of healthy operation of market economy, the foundation of mutual trust between supply and demand sides, the premise of innovation and development of market players, and the key and premise of understanding all secrets of economic growth since the Industrial Revolution. Our ancestors believed that one shall have his peace of mind when he possesses a piece of land. Currently, however, as capital outflow occurs from time to time, many private entrepreneurs are worried about whether their investment rights can be effectively protected. Therefore, we will focus on standardizing the protection of property rights system, and implement the *Opinions on Perfecting the Property Rights Protection System and Protecting Property Rights according to Law* promulgated by the CPC Central Committee and the State Council on November 4, 2016. We will refine major policies and institutional arrangements proposed in the document, such as "equally protecting economic property rights of different ownership systems, standardizing legal procedures for property disposal, improving the system of property expropriation and requisition, strengthening intellectual property protection, and strengthening contract enforcement".
- (2) Deepening the reform of the "negative list" and relaxing control over market access

Administrative monopoly and market regulation are outstanding problems that restrict the development of service sector at present. In the fields of education, culture and media, medical and health care, finance, transportation and public utilities, monopoly problems are more prominent, thus leading to insufficient competition.

To change these conditions, we must enter the “deep-water zone” of reform.⁸ We will actively promote institutional innovation so as to gradually reduce administrative monopoly in the market access system, and relax market access as much as possible, with focus on the negative list management of market access. The catalogue of “negative” or “restricted” industries will be established for a few monopoly industries and key service sectors related to national security. For other industries, we will grant access to any entities outside the negative list, clarify the principle of “competition neutrality”, form a pattern of orderly competition among multiple subjects, release the vitality of service development, improve the development quality of services in competition, and promote the transformation and upgrading of services.

- (3) We will focus on fostering market players and enhancing the internal driving force of service sectors. The key to making service sector bigger and stronger is to let market mechanism play its decisive role and let enterprises be market players. Service enterprises vary great in size. Therefore, we will encourage the professional development of service enterprises, promote cross-regional, cross-industry and cross-ownership mergers and acquisitions of advantageous service enterprises, create cross-border integrated industrial groups and industrial alliances, and cultivate a number of leading service enterprises or enterprise groups. We will also actively develop SMEs in the service sector to make them full of vitality and efficiency. The government’s support for the development of small and medium-sized service enterprises will aim at improving the socialized service system and promoting the construction of public service platform for small and medium-sized enterprises, so as to connect production and demand of enterprises and achieve balance between supply and demand.
- (4) We will establish the social credit system, and open public information systems and data resources in an orderly manner.

The intangible characteristics of service products and online service transactions have determined the possibility of “information asymmetry”, “moral hazard” and “adverse selection” in service transactions. The credit system is an effective mechanism to reduce transaction risks and maintain transaction security. Practical and effective measures will be taken to improve the credit environment system of enterprises, society and individuals, including strict credit legislation, credit law enforcement and unified credit registration and disclosure. We will make use of big data management, make innovation of information sharing mechanism, break data islands, increase penalties for “dishonesty”, increase the cost of breach of trust, and establish a trustworthy and orderly service market order, so that no player “dares or is willing to default”. We will establish a “blacklist” system for enterprises with illegal quality services, reduce information asymmetry and transaction costs, and encourage enterprises to create high-quality services and well-known brands. An open public information system will be created to realize effective sharing of social resources. Diversified cooperation among qualified information platform service enterprises will be encouraged. The related systems of payment and clearing business will be provided

⁸ Feng and Li (2020b).

for qualified Internet financial enterprises to promote enterprises to effectively use public information and expand their business.

- (5) Following the development trend of new economy and new services, and innovating supervision methods and means

Under the traditional market supervision system, industrial and commercial registration, administrative licensing, commodity inspection, annual inspection, administrative punishment, criminal responsibility, special action and other supervision methods are implemented, mainly relying on administrative power or individual will. These methods are not necessarily applicable to new economy and new services derived from platform economy, sharing economy, experience economy or cross-border integration of industries. Because new services leverage the Internet platform to enlarge the trading system and realize off-site transactions, the past regulatory policies, regulatory means and even the regulatory team have been unable to manage the new economy and new services. In compliance with the new trend of service economy development, we will carry out reform of supervision ideas to make innovation of governance methods and rebuild service supervision system according to the principles of unity, efficiency, openness and inclusiveness, multi-participation, and coordination and mutual restraint. New economy and new service are unprecedented new things, so that failure or mistakes may occur during innovation. Therefore, we should tolerate errors during innovation, allow “grassroots” growth, and avoid mistakenly strangling new economic and new service enterprises or forms due to excessive and meticulous supervision. We advocate the principle that “the platform is managed by both the government the platform administrator” to supervise the emerging service forms of platform economy, sharing economy and experience economy.

- (6) Improving HR policies and cultivating talents for the development of service sector

We will improve the human resources policy for the development of service sector, speed up the development of talents in service sector, and train qualified talents for the development of modern services. High-quality development of modern service sector needs diversified talents, so we will train, introduce and reserve talents according to the characteristics of different industries. We will make innovation in incentive policies for high-end and scarce service talents, develop service-oriented applied talents in accordance with the law of market demand, and encourage training and reserve of new comprehensive talents that adapt to the trend of industrial integration and the development of new formats. According to the principle of “government-led multiple investment”, we will strengthen the development of rural human resources. The funding structure of education investment in rural areas will be optimized to encourage enterprises and investors to invest in education and scientific research in rural areas and western regions, encourage non-governmental organizations to donate money to promote education and invest in schools in rural areas in various ways and means, and encourage employers to carry out “order-based” training.

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Chapter 9

Mid-to-Long-Term Fiscal and Tax Reform and Financial Sustainability



Zhiyong Yang and Bin Zhang

The next 15 years will be a crucial period for China to move from building a moderately prosperous society in all respects to basically realizing socialist modernization. It is also a historical intersection period of the “Two Centenary Goals”, and an important opportunity period for China to comprehensively embark on a new journey to build a great modern socialist country.

From China’s external environment, the world is undergoing profound changes unseen in a century, and the political and economic structure and international order are also undergoing great changes. China should play a greater role in global governance. From China’s internal environment, the socialism with Chinese characteristics has entered a new era in which main social contradictions have changed. In the new era, the process of comprehensively deepening reform and promoting modernization of national governance system and governance capacity is progressing in a critical period of “laying foundation for a bright future”. Finance, as the foundation and an important pillar of national governance, should promote modernization of national governance and global economic governance, make fast response to major risks and challenges, address development problems through reform and innovation, and promote reforms in various fields so as to accelerate the establishment of a modern financial system.

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9.1 Basic Background for Mid-to-Long-Term Operations of Finance and Taxation

9.1.1 *Financial Positioning: The Foundation and Important Pillar of National Governance*

- (1) After building a moderately prosperous society in all respects: China's finance will support new development of Chinese economic society; socialism with Chinese characteristics will enter a new era; and the main social contradiction has been changed into "the contradiction between the people's growing needs for a better life and the unbalanced development".¹ The economy has shifted from a high-speed growth stage to a high-quality development stage, and the development kinetic energy needs to be changed urgently. The people's growing needs for a better life have not only raised higher requirements for material and cultural life, but also increased requirements for democracy, rule of law, fairness, justice, security and environment. After building a moderately prosperous society in all respects, China remains in the primary stage of socialism, which focuses on economic development.

Under this background, the medium and long-term fiscal and taxation reform should not merely be oriented to the high-quality economic development stage, but also to the transformation of the development stage of various undertakings in the social field. The financial function should be comprehensively and profoundly adjusted to provide sufficient financial guarantee for the new development of economic society.

- (2) Goal of state governance: to promote great social revolution

President Xi Jinping pointed out that upholding and developing socialism with Chinese characteristics in the new era is a great social revolution. According to the 4th Plenary Session of the 19th CPC Central Committee, "by the centenary of the founding of the People's Republic of China, the modernization of the national governance system and governance capacity will be fully realized, so that the socialist system with Chinese characteristics will be more consolidated and its superiority will be fully demonstrated".² As the foundation and important pillar of national governance, finance should step out of the limitation of fiscal and taxation reform as a part of economic system reform in the new era. The fiscal and taxation system not only provides financial support for the government to perform its functions, but also the fiscal revenue system, budget system and intergovernmental fiscal relations are the basic institutional arrangements involving the relations between government and market, government and society, government departments and governments at all levels. In the mid-to-long-term fiscal and taxation reform, we should develop

¹ Xi (2017a, b).

² People's Daily (2019).

socialist democracy, display superiority of the socialist system with Chinese characteristics, promote planning of the great social revolution, and advance institutional improvement in the fiscal and taxation sectors in accordance with the requirements of “guaranteeing the unity of Party leadership, the running of the country by the people, and law-based governance”.

Since the outbreak of the international financial crisis in 2008, the process of economic globalization has entered a new stage, characterized by rising protectionism, bitter backlash against globalization and the weakening of the driving force of globalization. In the meantime, the world economy has been in a long-term downturn; the income distribution gap remains high; populism gains strength; and the geopolitical pattern continues to be turbulent. The accelerated development of the new round of industrial revolution has led to the increasing competition among nation-states in the fields of science and technology and innovation, and we are witnessing major changes unfolding in our world. The global governance pattern has put forward new requirements for concrete realization of national governance and financial positioning.

9.1.2 Fiscal and Tax Operation Environment

(1) Impact of urbanization and regional balanced development

In the medium and long term, urbanization will continue developing rapidly to narrow the gap between the east and the west. It will also face the new problem of economic growth differentiation between the north and the south, which will put forward higher requirements for continuing to promote the equalization of basic public services and giving full play to the enthusiasm of the central and local governments. The report of the 19th National Congress of the Communist Party of China clearly put forward the requirement of establishing a central and local financial relationship with clear rights and liabilities, coordinated financial resources and balanced region.³ The Fourth Plenary Session of the 19th CPC Central Committee further required perfecting and giving full play to the enthusiasm of the central and local governments, including giving local governments more autonomy, supporting local governments to work creatively, and stabilizing the rights of governments at all levels, and form a system in which expenditure and financial resources are compatible.⁴ Therefore, from the overall situation of the medium and long-term fiscal and taxation system reform, China’s forms will focus on optimizing the financial relationship between the central and local governments, on building of local tax system and on promoting the equalization of basic public services.

³ Xi (2017a, b).

⁴ People’s Daily (2019).

(2) Changes in the fiscal and taxation operating environment in the stage of high-quality economic development

The transition of economy from high-speed growth stage to high-quality development stage means that the external environment of fiscal and taxation operation has undergone a fundamental change. For a long time, China's fiscal and taxation reform has been promoted under the environment of rapid economic and tax growth. During the 13th Five-Year Plan period, with the downward trend of economic growth and the implementation of large-scale tax reduction and fee reduction policies, the basic situation that the proportion of fiscal revenue to GDP is constantly increasing no longer exists.

For a considerable period of time, fiscal policy has continued its counter-cyclical adjustment role in "stabilizing growth", promote supply-side structural reform, stimulate market vitality and promote economic structure optimization. How to promote fiscal and tax reform under the background of economic growth and economic restructuring is a basic issue that needs to be studied in the medium and long term.

(3) Impact of population aging

In the medium and long term, China's population aging process will further accelerate, which will not only have a significant impact on China's factor endowment, resulting in profound changes in the structure of savings, investment and consumption, but also have a significant impact on the total amount and structure of fiscal expenditure. The gap between fiscal revenue and expenditure caused by the increase of aging social welfare expenditure will bring great challenges to fiscal sustainability. In order to change from "demographic dividend" to "talent dividend" as soon as possible, it is extremely urgent for China to optimize the structure of education expenditure.

As far as tax system reform is concerned, the accelerated development of population aging first requires accelerating the reform of social insurance payment system. While promoting the overall planning of the whole country and the unified tax collection by tax authorities, we should handle the relationship between moderately reducing the nominal rate of social security contributions and increasing the charge rate, and study and promote the transformation of social insurance fees into taxes. In addition, the dynamic changes brought about by population aging, such as the decrease of labor participation rate and the increase of the organic composition of enterprise capital, will profoundly affect the structure of labor returns and capital remuneration, savings and consumption, and tangible goods and services within consumption. This will have an important impact on the tax base of value-added tax and personal income tax. The tax system should be adjusted accordingly to adapt to this change.

(4) Impact of the digital economy and the new round of industrial revolution

In the future, a new round of industrial revolution represented by digital economy, new energy, new materials, quantum technology and bioengineering will develop rapidly, and the competition among major countries in the world for new technologies will become increasingly fierce, which is both an opportunity and a challenge for China. Therefore, promoting the innovation-driven development strategy and realizing the transformation of old and new kinetic energy will remain a key and important strategic task, in which fiscal and taxation policies have to play an important role. The creative destruction, the total employment and structural changes, and the expansion of income distribution gap caused by new technological revolution have also raised new requirements for the adjustment and optimization of the structure of fiscal expenditure.

In the future, we will pay special attention to the impact of the development of digital economy on the tax system. Digital technology has changed the production organization mode, the spatial structure of production factors and the connection mode between production and consumption in the era of industrial economy, and is reshaping the internal and international benefit distribution pattern of various countries, thus bringing revolutionary challenges to the current tax system and international tax rules based on industrial economy. At present, countries all over the world are generally faced with important tasks such as the transformation of tax system towards the digital economy era, deepening the coordination of global tax system and collection and management, etc. Meanwhile, digital technology has also provided tax authorities with brand-new tax-related information collection and processing technology, and brought about digital changes in tax collection and management.

(5) Impact of economic globalization and opening up in a new stage

In the future, the external environment facing China's economic and social development may be more complex due to more uncertainties and challenges. Under the background of economic globalization entering a new stage, China will promote a new round of high-level opening up and form a new structure of all-round opening. How to introduce an internationally competitive tax system and policy in the construction of Hainan Free Trade Port is an important task to meet the needs of the establishment of an open economic system.

To adapt to new changes in global economic governance, while participating in the global supply of public goods and promoting the reform of supply mechanism, we should carefully evaluate and judge the development trend of international tax system and enhance the international competitiveness of China's overall tax system. In order to meet the needs of the development of digital economy and the building of the Belt and Road, while enhancing the international competitiveness of China's tax system, we should strengthen the coordination of international tax system from a global perspective, and lay a tax system foundation for promoting connectivity, openness and inclusive development of the global economy.

9.1.3 Medium and Long-Term Fiscal Policy Control System

Fiscal policy and the reform of fiscal and taxation system are two relatively independent and closely related aspects. Fiscal policy in a narrow sense aims at coping with short-term macroeconomic fluctuations and focuses on demand management, while the fiscal and taxation reform is a change of system and mechanism and a long-term institutional change. In the medium and long term, China's external environment may be more complex. Under the circumstances of more uncertainties and challenges, it is necessary for China to optimize its fiscal policy regulation system, strengthen the overall coordination between fiscal and taxation system reform and fiscal policy, and handle the relationship between short-term impact and long-term system optimization in response to economic and social risks.

China's fiscal policy will be more flexible so as to meet the changes of domestic and international economic situation. We will deepen our understanding of different types of fiscal policy tools, optimize the policy combination, and consolidate and expand the policy effect in terms of "improving quality and increasing efficiency". We will improve the scientific nature of the formulation and implementation of fiscal policies, delimit the functional boundaries of policies, and clarify what fiscal policies can do, what they are not good at, what they are efficient in and what they are ineffective in. In addition, by deepening reform of the fiscal and taxation system, especially reforms of the tax system reform, the reform of financial relationship between the central and local governments, and the supporting reforms of state-owned enterprises, financial system, market quasi-personnel, etc., we will smooth the transmission mechanism of fiscal policy in the middle and micro fields, strengthen the quantitative evaluation of policy effects, and lay an institutional and technical foundation for "improving quality and increasing efficiency" of fiscal policy. More attention will be given to the role of fiscal policy as macroeconomic policy so as to further strengthen the coordination between fiscal policy and monetary policy.

There are two main principles for the establishment of the division of labor and cooperation mechanism between fiscal policy and monetary policy. First, we should establish the division of labor between "big finance" and "big monetary".⁵ The fiscal departments and the monetary and financial departments will be well coordinated. Cost sharing and risk control of counter-cyclical adjustment are particularly important issues in the process of division of labor. Second, we will set out to establish the division of labor framework and working procedures to deal with the crisis. China's fiscal policy will continue to guarantee economy and society, and make good use of the advantages of the administrative system. The monetary policy will focus on stabilizing market confidence and supplementing liquidity, and make good use of the advantages of financial markets.

⁵ Yang (2018a, b).

We will strengthen the construction of a reciprocal coordination mechanism. We will begin with resolving specific problems such as local government debts and improving cooperation between financial departments and financial institutions, e.g. setting up working relations and cooperation mechanisms, and when conditions permit, establishing a “fiscal policy committee” with the participation of relevant departments.

9.1.4 Challenges Facing Public Finance

In the medium and long term, public finance faces four challenges when profound changes have taken place in internal and external environments.

First, there exists the financial sustainability problems brought about by the declining economic growth rate and the “steady growth” fiscal policy, such as the expansion of the pressure of fiscal deficit, the aging of the population, the sustained growth of the rigid expenditure for people’s livelihood in education, medical care and other aspects, and other problems caused by the interweaving of short-term, medium- and long-term factors, especially the local financial risks caused by the accumulation of local debts.

Second, it is getting more difficult for the reform of local fiscal and taxation system to seek balance among more complex and interactive contradictions, such as the relationship between large-scale tax reductions and fee reductions and fiscal sustainability, the relationship between tax reductions and fee reductions policy and medium- and long-term tax system optimization, the relationship between fiscal and taxation policies that encourage innovation and investment, especially the investment promotion policies of local governments and the decisive role of market in resource allocation, and the relationship between building an internationally competitive tax system and increasing the tax burden of capital and high-income groups to adjust income distribution.

Third, the reform of fiscal and taxation system has entered the deep water area. While playing the role of fiscal and taxation reform as the “breakthrough point” and “trailblazer” of comprehensive reform, the deepening of fiscal and taxation system reform urgently needs to strengthen overall coordination with reforms in various fields of state governance. For example, the division of authority of office and responsibility of expenditure between the central and local governments and the reform of local debt system need to be based on the reform of the relationship between the central and local governments at the constitutional level. If we can’t solve the problem that the higher-level government arbitrarily hands over its own fiscal powers and expenditure responsibilities to the lower-level government, the reform of the division of fiscal powers and expenditure responsibilities will be unenforceable. The reform of budget system, the establishment of local income system and the local debt management system of governments at all levels should be based on the improvement of relevant systems of the people’s congress system, and should be connected with the management system of state-owned assets enterprises.

Fourth, facing challenges brought about by economic globalization and opening to the outside world, fiscal and tax reform needs to broaden its “international” vision, so as not only to strengthen research on the influence of external environment on fiscal policy and the spillover of fiscal policy under the new pattern of opening to the outside world, but also to meet the needs of optimizing global economic governance rules and promoting the construction of a community with shared future for mankind.

9.2 Mid-to-Long-Term Reform of Fiscal and Taxation System

9.2.1 *Progress and Existing Problems of the Reform of Fiscal and Taxation System in the 13th Five-Year Plan Period*

- (1) Goals and tasks of the reform of fiscal and taxation system during the 13th Five-Year Plan period

The *13th Five-Year Plan for National Economic and Social Development* (hereinafter referred to as the “13th Five-Year Plan”) reviewed and approved at the National People’s Congress raised specific requirements for “accelerating reform of the fiscal and tax systems”, such as establishing “reasonable and orderly division of financial resources”, “a comprehensive, well-regulated and transparent budget system”, “tax and fee systems” and “mechanisms for financial sustainable development”.

The Report of the 19th National Congress of the Communist Party of China states that “we will expedite the creation of a modern public finance system, and establish a central and local financial relationship with clear powers and responsibilities, coordinated financial resources and regional balance. We will put in place a comprehensive, procedure-based, transparent budget system that uses well-conceived standards and imposes effective constraints; and we will implement performance-based management nationwide. We will deepen reform of the taxation system, and improve the local tax system.”⁶

The Fourth Plenary Session of the 19th CPC Central Committee states that “we will put in place a comprehensive, procedure-based, transparent budget system that uses well-conceived standards and imposes effective constraints. We will optimize the division of the authority of office and fiscal powers between governments at different levels, establish a central and local financial relationship with clear powers and responsibilities, coordinated financial resources and regional balance, and form a stable system in which the powers, expenditure responsibilities and financial resources of governments at all levels are compatible. We will improve the regulatory mechanism of income redistribution mainly by the means of taxation, social

⁶ Xi (2017a, b).

security and transfer payment, enhance the regulatory role of taxation, and perfect the direct tax system.”⁷

(2) Progress of the reform of fiscal and taxation system during the 13th Five-Year Plan period

In the reform of the financial relationship between the central and local governments, the reform on the division of fiscal authority and expenditure responsibilities between the central and local governments has been steadily advanced. The State Council’s *Guidelines on Advancing Reform for the Sharing of Fiscal Authority and Expenditure Responsibilities between the Central and Local Governments* were issued in August 2016, and then the General Office of the State Council has successively published specific reform plans in the fields of basic public services (January 2018), medical and health care (July 2018), science and technology (May 2019), education (May 2019) and transportation (June 2019). In 2020, the sharing of the central and local fiscal powers and expenditure responsibilities in major areas will be basically completed. We will rationalize the sharing ratio of value-added tax revenue between the central and local governments after comprehensively replacing the business tax with a value-added tax, adjust the method of returning value-added tax from the central government to the local original system, implement return of fixed amount of tax, and issue the *Reform Promotion Plan for Adjusting the Income Division between the Central and Local Governments after Implementing Large-scale Tax Reductions and Fee Reductions*. It will be decreased below 0.4 by 2035 and to a relatively reasonable level of about 0.35 by 2050. We will reform and improve the transfer payment system, clean up and integrate special transfer payments, and increase the proportion of general transfer payments.

In the reform of budget management system, we will further promote the openness of budget and standardize the operating procedures for the openness of local budgets and final accounts. We will fully implement budget performance management, speed up the establishment of an all-round, whole-process and full-coverage budget performance management system, and achieve full coverage of project expenditure performance target management of central departments. We will strengthen the establishment of local government debt management system, introduce emergency response plans for local government debt risks, carry out risk assessment and early warning, and actively prevent and resolve local government debt risks. Specific standards and application guidelines related to government accounting will be issued and implemented so as to carry out pilot projects for the preparation of government financial reports. The reform of full-scale budget management has been further deepened, and the overall coordination among budgets has been continuously strengthened.

In terms of the tax and fee system reform, we have carried out pilot reform of replacing business tax with value-added tax (VAT), and deepened adjustment of the VAT rate and reform of refunding tax credit to enterprises. We have made historic

⁷ People’s Daily (2019).

progress in the reform of personal income tax system, and established a special additional deduction system and a tax system combining synthesis and classification. We have completed the reform of ad valorem taxation of resource tax and the reform of replacing environmental protection fee with tax, and improved the preferential tax policy system focusing on promoting innovation and safeguarding people's livelihood. We have made great progress in implementing the principle of taxation legitimacy. By the end of 2019, many tax laws have been upgraded from regulations to laws, and it is expected that the taxation legitimacy work will be basically completed around 2020. The reform of state and local tax collection and management system has progressed smoothly. The level of informatization and digitization of tax collection and management has been significantly improved, and the tax business environment has been continuously optimized.

(3) Major problems in the reform of the fiscal and taxation system during the 13th Five-Year Plan period

First, in terms of financial relations between the central and local governments, the reform of dividing fiscal powers and expenditure responsibilities lacks support from deep-seated reforms related to the transformation of local government functions, and its coordination with the construction of budget expenditure standard system, with the division of central and local income, local tax system, local debt management system and with the reform of financial system below the provincial level needs to be further improved.

Second, in terms of budget management, we will promote budget openness. The construction of the system and mechanism for full implementation of budget performance management has lagged behind, and the role of people's congresses at all levels in budget review and supervision needs to be further strengthened. Basic work such as the construction of budget expenditure standard system, the government's comprehensive financial report and public sector financial management system, the implementation of inter-annual budget balance mechanism and medium-term financial planning management are progressing slowly. The positioning adjustment and overall coordination among budgets in the full-scale budget system need to be further optimized.

Third, in terms of government revenue system reform, VAT simplification and consolidated tax rate reform need to be accelerated, and the reform of real estate tax and social insurance collection system is relatively slow due to internal and external conditions. Improvements will be made in the coordination between large-scale tax cuts and fee reductions reform and medium-and long-term tax reform to increase the proportion of direct tax and optimize the tax system structure. The coordination between large-scale tax reduction and fee reduction reform and medium-and long-term tax reform to improve the proportion of direct tax and optimize the tax structure, the coordination between local tax system construction and tax reform (for example, the contradiction between moving backward the consumption tax collection link and steadily allocating it to the local government and the functional orientation of consumption tax), and the quality of tax legislation need to be improved.

9.2.2 Medium and Long-Term Reform of the Central-Local Financial Relations

(1) Reform on dividing fiscal powers and expenditure responsibilities

In the medium and long term, the division of fiscal powers and expenditure responsibilities between the central and local governments will be put under the overall framework of “perfecting and giving full play to the enthusiasm of the central and local governments”, We will make overall progress based on deep-level reforms, such as improving the national administrative system, optimizing the government responsibility system and government organizational structure, giving local governments more autonomy, supporting local creative work, and standardizing the vertical management system and local hierarchical management system.

According to the deployment of the Fourth Plenary Session of the 19th CPC Central Committee, the central government’s authority and powers in intellectual property protection, endowment insurance, cross-regional ecological environment protection, etc. should be appropriately strengthened, and the sharing powers of the central and local governments should be reduced and standardized. Optimization of the division of inter-government authorities and fiscal powers will aim to establish a fiscal relationship between the central and local governments, with clearly defined powers and responsibilities, appropriate financial resource allocation, and greater balance between regions as goal. Emphasis will be placed on optimizing the financial system below the provincial level, promoting the legalization of intergovernmental financial relations, strive to form a stable government power at all levels in the medium and long term, and establish a system in which expenditure responsibility and financial resources are compatible, and study and formulate the *Law on Intergovernmental Fiscal Relations* at an appropriate time.

The division of intergovernmental powers and expenditure responsibilities should comply with the requirements of building a standard system of budget expenditure and promoting the equalization of basic public services. The implementation plan will be refined according to the characteristics of different government powers. Such division should not be limited to the division of financial resources, but also make provisions on standard formulation, organization and staffing, funding guarantee, performance evaluation and supervision and accountability, covering the whole process in which a government performs its functions.

(2) Division of central and local revenues

We will further rationalize the division of revenues between the central and local governments through reform on dividing their authority of office and expenditure responsibility and the reform of tax system and taking into consideration the tax categories. By maintaining the overall stability of the current financial pattern of the central and local governments, we will properly handle the relationship between the enthusiasm of local governments to develop economy according to local conditions

and maintaining market unity, reduce government intervention and let the market play a decisive role in resource allocation. Based on impact of the development of digital economy on the distribution of inter-regional tax sources, we will determine the rules of local tax source contribution ratio, seek for a more reasonable VAT income sharing model, improve the inter-regional income division model of enterprise income tax (headquarters economy), and innovate the income division model between central and local governments.

(3) Improvement of the local government debt management system

From the perspective of debt risk indicators, the current local debt risk is generally controllable. Due to low asset-liability ratio of local governments, there is still room for local debt issuance. Local debt risk can be gradually resolved with the rapid economic growth. In the future, while moderately expanding the local debt limit on the basis of evaluating the solvency of different places, we will focus on establishing the local debt management system and giving full play to the role of local people's congresses in debt management, strengthen the feasibility assessment of special debt projects, give full play to the market's role in identifying debt risks, and do a good job in risk control of specific projects. We will further improve the local government debt risk emergency response system and establish a mechanism to effectively constrain the internal expansion of local debt demand. In addition, we will establish a correlation mechanism between local debt risk and fiscal expenditure control to strengthen restraint of local fiscal expenditure with high debt risk.

(4) Equalization of public services and reform of transfer payment system

In the medium and long term, we will combine the requirements of urbanization and balanced regional development, and align with the reform of the division of government authority of office and responsibility of expenditure. Continuous efforts will be made to promote the construction of a national basic public service system with the list of basic public services as the core, and equalize basic public services in urban and rural areas. Based on key tasks and safeguard measures, we will build the national basic public service system supported by five implementation mechanisms, such as overall coordination, financial security, personnel development, diversified supply channels, as well as supervision and evaluation. The transfer payment system should focus on handling the relationship between region-based equalization and people-based equalization (supporting the citizenization of agricultural transfer population and eliminating differences in household registration system), realizing rational allocation of general transfer payment and special transfer payment, and improve the transparent, well-regulated and law-based transfer payment.

In the medium and long term, we will build and improve the mechanism for the central government to provide financial assistance for local governments.

9.2.3 Reform of the Budget System

(1) Improving the budgetary system of all revenue and expenditures

In the medium and long term, we will put in place a comprehensive, procedure-based, transparent budget system that uses well-conceived standards and imposes effective constraints in accordance with the Fourth Plenary Session of the 19th CPC Central Committee. While further strengthening the overall coordination between budget revenues and expenditures and the budget examination and supervision of people's congresses at all levels, and improving the budget openness, we will adjust and optimize the budget management system for all revenues and expenditures in light of the progress of comprehensive tax and fee reform. In general public budget, we will try to compile a tax expenditure budget that can reflect the items and quantities of tax reduction and exemption, and strengthen budget management of preferential tax policies.

In the financial field, the socialist public ownership means that China has a large number of state-owned assets and resource income. We will distinguish the revenues obtained by political power from the revenues of assets, and establish a complete and unified budget of state-owned assets (resources). Along with the mixed system reform of state-owned enterprises and the compilation of government balance sheet and natural resources balance sheet, we will include related revenues and expenditures of state-owned capital, assets, land and natural resources scattered in general public budget and government fund budget into a unified state-owned assets (resources) budget. We will establish an institutionalized linkage mechanism between state-owned assets (resources) budget and other budgets, especially social insurance budget.

On the basis of cleaning up and integrating various special funds and government fund projects and in order to meet legislative review and supervision of medium and long-term major projects, the government fund budget will be transformed to the budget of major projects so as to build a budget review and supervision mechanism that covers the whole process of feasibility demonstration, investment scale, time limit, fund raising and debt repayment, and project construction progress, project final accounts and performance evaluation of major projects. From the perspective of fund raising, the budget of major projects should include funds invested by public finance budget, government funds collected from the society, special transfer payments from higher-level governments, various government debts directly related to the project and the investment of social capital. For the use of the fund, the budget of major projects should not only include expenditure progress of project construction funds, but also include financial arrangements for repaying principal and interest.

(2) Standardization of budget expenditure and comprehensive performance evaluation

We will distinguish between recurrent expenditure and different types of project expenditure, and prepare budget expenditure standards covering various fixed costs and variable costs. In addition, governments at all levels should rationally allocate

the right to formulate and revise budget expenditure standards on different expenditure items based on the reform of dividing authority of office and expenditure responsibilities and the requirements of equalization of basic public services. The central government should select places with advanced experience in different fields to work out budget expenditure standard models for each specific project, which will be popularized and used nationwide after being revised and improved.

Efforts will be increased to implement comprehensive performance management, establish and improve the system and mechanism whereby the National People's Congress, finance, auditing, government functional departments and social forces play a role in comprehensive performance management. We will focus on application of performance evaluation results, promote optimization of fiscal expenditure structure, and improve the efficiency of capital use.

(3) Cross-year budget balance mechanism and medium-term financial planning

It is clearly required in the 13th Five-Year Plan that "we will implement a mechanism for balancing budgets across fiscal years and put in place medium-term fiscal planning to achieve greater coordination between budgets and plans for economic and social development". But in the process of implementation, this reform involves many environmental, technical and institutional factors, such as the stability of internal and external environment, the formulation of budget expenditure standards, the accuracy of revenue and expenditure assessment and forecast, and the connection between career development planning and financial planning of various departments. On the basis of establishing the budget expenditure standard system and improving the ability of budget revenue and expenditure evaluation, we will make efforts to solve the institutional and institutional obstacles between the inter-annual budget balance mechanism and the medium-term financial planning, and to make overall plans and coordination between the career development planning and the financial planning of various departments by highlighting the role of the National People's Congress in budget preparation.

(4) Government financial reporting system and public sector financial management system

The comprehensiveness and accuracy of government financial revenue and expenditure information and sound financial management system of public departments are important foundations for modern financial system. In the medium and long term, we will further speed up the construction of accrual-based government comprehensive financial reporting system, draft government financial reports, establish and improve the analysis and application system of government financial reports, and formulate the audit system and disclosure system for issuing government financial reports. As the *Government Accounting Standards* was in place, we will promote reform of the financial management system of the public sector through further strengthening the accounting, internal control and fund management of the public sector, especially the accounting and management of assets and liabilities.

9.2.4 Reform of the Tax System

(1) Medium and long-term macro tax burden and comprehensive reform of taxes and fees

Since 2013, the growth rate of China's tax revenue has been lower than the nominal GDP growth rate, and the proportion of tax revenue in GDP has decreased from 18.7% in 2012 to 15.9% in 2018. The proportion of general public budget revenue to GDP has also decreased year by year since 2016, from 22.2% in 2015 to 19.2% in 2019.⁸ The proportion of government revenue to GDP in a broad sense (excluding land transfer income) decreased from 29.1% in 2015 to 28.0% in 2018.⁹ Due to continuous large-scale tax reductions and fee reductions, the macro tax burden level will further decline in 2020.

The medium and long-term macro tax burden is influenced by many factors, such as the scale of fiscal expenditure, the strength of proactive fiscal policy, and the progress of tax and fee system reform. From the evolution of the world political and economic pattern, there are great differences in development stages and government functions; however, as two largest economies, China and the United States are more comparable in promoting economic growth and scientific and technological innovation. At present, China's overall macro tax burden is close to that of the United States. Considering the increasingly fierce economic and technological competition between China and the United States and the fiscal expenditure pressure brought by the aging population, it is necessary for China to maintain the current macro tax burden level in the medium and long term.

The revenue structure of Chinese government is characterized by complexity and diversity. Under the constraint of fiscal sustainability, we will control the scale of fiscal deficit and debt. Therefore, the reform of government revenue system related to medium and long-term state-owned enterprises (including state-owned financial enterprises), state-owned resources and state-owned land is an important factor affecting the space of tax reductions and fee reductions and the mid-to-long-term tax and fee system reform.

After large-scale tax reductions and fee reductions, the institutional arrangement for improving the profit payment of state-owned enterprises should be based on the premise that all kinds of ownership enterprises carry out competition based on fair, open and transparent market rules and business environment ruled by law, and avoid obtaining greater excess profits by strengthening administrative monopoly position as a compensation channel for government revenue after tax reductions and fee

⁸ Data in 2019, calculated according to the number of budget reports in 2020. Ministry of Finance: Report on the Execution of the Central and Local Budgets for 2020 and on the Draft Central and Local Budgets for 2021, At the Third Session of the 13th National People's Congress on May 22, 2020, May 30, 2020, official website of the Ministry of Finance of the People's Republic of China, http://www.mof.gov.cn/gkml/caizhengshuju/202005/120200530_3523307.

⁹ Financial data sourced from official website of the Ministry of Finance of the People's Republic of China, www.mof.gov.cn; GDP figures are from the National Bureau of Statistics, www.stats.gov.cn.

reductions. We will continue to observe the guiding idea of “abolishing fees and replace them with taxes”, extend the principle of taxation legitimacy to all kinds of special income collected free of charge and government fund projects, and give local people’s congresses the legislative power over all kinds of non-tax income set up by local governments.

(2) Reform of the tax system and improvement of the local tax system

In 2019, after the VAT rate was lowered to 13, 9 and 6%, China’s VAT rate was close to the level of Goods and Services Tax (GST) in non-EU countries. Under the condition that the tax base is converging and the tax rate was significantly lower than the VAT in EU countries, it is expected that relative revenue scale of VAT will drop significantly in the future, thus leading to a major adjustment of the tax system structure. In the medium and long term, the focus of VAT reform is to simplify tax rates; however, if the reform cannot be implemented by raising tax rates, it will lead to further reduction of tax rates.

While the proportion of value-added tax in tax revenue is declining, the medium and long-term tax system reform should move along the direction of “gradually increasing the proportion of direct tax” and continue to promote the reform of personal income tax. Under the existing comprehensive and classified tax system framework, we will strengthen tax adjustments for high-income earners and gradually increase the income scale of personal income tax and its proportion in tax revenue. The reform of real estate tax will also be carried out when most of conditions are met. On the basis of improving the preferential income tax policy system for SMEs and encouraging innovation, the enterprise income tax rate will be moderately lowered. After perfecting the social security system, improving the overall planning level and promoting the reform of the social security collection and management system, we will further optimize the social insurance payment system, when conditions are ripe, the social insurance fee will be changed to tax.

After giving full play to the role of taxation in raising fiscal revenue, we will build and improve a compound tax system with different duties, coordination and complete functions in line with attributes of taxes, and continue to promote the reform of consumption tax, resource tax and environmental protection tax, improve the indirect tax system, and let taxation play a role in promoting resource conservation, environmental protection and guiding production and consumption in accordance with the requirements of “moderate adjustment”.

In the medium and long term, the establishment of local tax system should combine the progress in the reform of dividing authority of office and responsibility of expenditure with the reform of tax system. We will start with the government’s total financial revenue and expenditure management system and optimizing the local government’s financial structure. Then we will determine the reasonable scale of local tax by combining local government expenditure structure and the corresponding special revenue, asset revenue and debt revenue. According to the requirement of “giving local governments more autonomy to support them in carrying out creative work”

at the Fourth Plenary Session of the 19th CPC Central Committee, we will carry out pilot projects to expand the legislative power of local taxes and fees, give local people's congresses the power to add tax items, determine tax rates, levy or attach local taxes under certain conditions, establish a local income system that matches the national governance system and governance modernization, and better mobilize local enthusiasm.

(3) Preferential tax policies

As an important policy tool, taxation should be guided by “implementing the new development concept” and play its due role in “building a modern economic system” by establishing and perfecting a preferential tax policy system that encourages R&D and promotes innovation and entrepreneurship. In the medium and long term, under the principle of competition neutrality, we will comprehensively evaluate the effects of current preferential tax policies according to the functional industry policies, so as to narrow the scope of selective policies, improve the inclusiveness of preferential tax policies, and reduce unnecessary intervention in market players.

In order to promote the formation of a new pattern of all-round opening up, an internationally competitive tax system will be introduced in the construction of the pilot free trade zone and Hainan free trade port in the medium and long term. The management of local government's preferential fiscal and tax policies for attracting investment will be strengthened to make these policies more transparent, regulated and rules-based.

(4) Promoting the modernization of tax administration

Based on the merger of state tax and local tax offices, we will make full use of modern technologies such as the Internet, big data, blockchain and artificial intelligence to accelerate the modernization of tax administration by optimizing the tax management process and improving the tax service level and tax business environment, with the aim to improve taxpayers' tax compliance, reduce the cost of tax collection and management, and improve the efficiency of tax collection and management.

Tax collection and management offices should deeply participate in international cooperation and actively serve the opening-up strategy. In order to adapt to the development trend of economic globalization and digitalization and the requirements of China's opening to the outside world, taxation departments should actively participate in the formulation of international tax rules., strengthen international tax cooperation, and serve the opening-up strategy while severely cracking down on international tax evasion, so as to provide high-quality foreign-related services for Chinese enterprises to “go global”.

In the medium and long term, China will establish a tax system with strong international competitiveness.

9.3 Financial Sustainability

9.3.1 *Research on Government Balance Sheets*¹⁰

The compilation of government balance sheets is the basis of accurate judgment of the financial sustainability. According to economic strategy's research on China's balance sheet by Chinese Academy of Social Sciences, on the asset side, Chinese government has a huge amount of assets with reasonable structure, which is strong enough to resist debt risks. On the debtor side, Chinese government also has a huge scale of debts and its ratio to GDP has exceeded the warning line of 60%, which contains great risks. On the whole, the structure of Chinese government debt is mainly contingent and implicit debt, which reduces the size of debt risk on the one hand, and increases the uncertainty of debt risk on the other hand.

According to the results of joint analysis of the assets and liabilities of the Chinese government as a whole, in terms of total amount, no matter whether the gap of social security fund is taken into account or not, the total assets of Chinese government can completely cover its total liabilities, and there is still a large balance. Chinese government is strong enough to resist debt risks, and can effectively deal with debt risks.

From the perspective of liquidity, that is, only considering the matching between the most liquid assets of government assets and liabilities, the overall asset-liability ratio of Chinese government has been greatly improved, no matter whether the gap of social security funds is taken into account. However, it is not comprehensive to restrict assets only, which will enlarge the debt risk, because not all liabilities should be matched by liquid assets. From the perspective of liquid assets, when the conversion rate of contingent liabilities is 50% or less, Chinese government will face low debt risk; when the conversion rate of contingent liabilities exceeds 50% but below 75%, the debt risks will fluctuate within a controllable range; when the conversion rate of contingent liabilities reaches up to 75%, the debt risk will begin to break through the critical point and enter the dangerous area, which deserves high attention.

9.3.2 *Prevention Against Major Financial Risks*

In the medium and long term, we will attach great importance to the prevention against major financial risks, including local debt risks, aging and social security risks, and risks brought by major internal and external shocks.

(1) Assessment and prevention of local debt risks

No matter whether the gap of social security fund is taken into account or not, the local government still has many available resources after deducting the need to match

¹⁰ Tang (2019).

the total liabilities, and the debt risk it faces is lower than that of the government as a whole. This is based on the comparison result that all contingent liabilities are regarded as direct liabilities. In reality, however, it is almost impossible for a local government's contingent liabilities to be converted into direct liabilities, and the actual total government liabilities should be much smaller. Therefore, the total assets of local governments in China can completely cover their total liabilities, and there is still a large space, so local governments have strong ability to resist debt risks.

From the structural point of view, because local government only bears local debt payment responsibility, part of local debts with weak financial resources may be under heavier burdens; in particular, the social security expenditure in three northeastern provinces is under great pressure and needs the support of the central government. Therefore, it is necessary to construct corresponding risk prevention and resolution mechanism as soon as possible on the premise of avoiding formation of soft budget constraint mechanism.

When liquid assets are taken into consideration, the situation may change greatly as compared with the situation when total assets are considered. From 2010 to 2017, when the social security fund gap is not considered, the current assets/liabilities of local governments reached an average level of about 60%, higher than the average total asset-liability ratio of about 20%. When the social security fund gap is considered, the current assets/liabilities of local governments further increased to an average level of over 100%, with a maximum of nearly 120% and a minimum of about 70%. In this case, it is difficult for local government assets to cover all their government liabilities. This means that the most risk-resistant resources controlled by local governments are not sufficient enough to fully cover all debt risks. When the conversion rate of contingent liabilities is below 50%, the risks faced by local governments will be still within the safe and controllable range. When the conversion rate of contingent liabilities exceeds 50%, local governments need to pay attention to and even guard against debt risks.¹¹

(2) Aging and social security risks

In the medium and long term, with the acceleration of China's aging population, the gap between income and expenditure under the current social security system will continue to expand, and other expenditures on people's livelihood (aging) will also continue to increase. From the perspective of social security financing, social discussions caused by the unified collection of social security premiums by tax authority in 2018 have reflected the huge gap between nominal rates and actual rates in the operation of social security system for a long time. It is the goal of the future reform of social security payment system to greatly reduce the nominal rate and increase the actual collection rate, so as to create a fair competitive market environment for enterprises.

While measures such as reducing the endowment insurance rate paid by enterprises to 16% for urban workers and lowering the social security payment base have been introduced, the nominal rate of social security payment in China remains at a

¹¹ Tang (2019).

high level, and problems in the operation of social security payment system have not been fundamentally solved. In the medium and long term, while promoting the overall planning of social security nationwide, unified collection of tax authorities and reform of social insurance fees into taxes, we will give full consideration to profound changes in the size and structure of jobs brought about by new technological revolution, and seek establishment of a multi-channel social security fund raising model including state-owned assets income and general public budget income on the basis of actuarial balance of social insurance to cope with social security risks brought by aging.

(3) Impacts of internal and external major risk

In the medium and long term, the public finance authority should make sufficient reserves and plans to cope with the impact of major risks from internal and external, local or global sources. These risks include regional financial risk, local or national public health risk, and external risk brought about by drastic changes in international environment.

9.3.3 Tracking Study of the Financial Revenue and Expenditure Situations

Tracking the situation of fiscal revenue and expenditure is the basic work of China's fiscal sustainability research. At present, it is necessary for us to do a good job in analyzing the impact of large-scale tax reductions and fee reductions on fiscal sustainability. Temporary tax reduction policies aimed at coping with economic cyclical problems and stabilizing aggregate demand are often accompanied by the expansion of fiscal expenditure, and the resulting fiscal deficit is usually remedied by issuing additional public debt. Short-term temporary tax reduction policies have little impact on long-term fiscal sustainability in theory. The permanent institutional tax reduction focusing on the supply side has a significant impact on the long-term fiscal sustainability. Theoretically, the tax reduction policy for the supply-side structural reform should accord with the reduction of fiscal expenditure scale, so as to stabilize the deficit and the issuance scale of public debts.

Seeing from the policy practice of western mature market economy countries, we have found great difference between the political pressure of tax reduction and expenditure reduction because the welfare expenditure of residents accounts for a high proportion in the fiscal expenditure. With economic globalization and free flow of capital, the income distribution gap within a country continues to widen. Under the pressure of international tax competition, we find it impossible to adjust by increasing tax burden on capital, so it depends more on welfare expenditure to maintain social stability. As a result, many western countries saw serious "structural deficits", and experienced the fiscal evolution from countries supported by public tax to indebted countries.

With the development of new technologies such as digital economy, automation and artificial intelligence in recent years, the digital transformation of economy and society led by structural changes in job market is about in full swing. This will have a far-reaching impact on the government's tax revenue from labor remuneration and the expenditure on unemployment relief and education and training. In addition, the accelerated development of population aging will have a further impact on the current fiscal revenue and expenditure system, structure and fiscal sustainability.

Therefore, China's tax reductions and fee reductions policy should attach great importance to its impact on fiscal sustainability and its countermeasures. On the basis of fully summarizing the practice of tax reduction policies in western countries, combining the digital transformation of economy and society, the application of new technologies such as artificial intelligence and the specific national conditions of China at present, taking into account both short-term and long-term reasonable arrangements.

9.3.4 Optimization of Fiscal Revenue and Expenditure Structure and Institutional Reform to Promote Fiscal Sustainability

In the medium and long term, we will promote the optimization of fiscal revenue and expenditure structure and related supporting reforms in accordance with the requirement of fiscal sustainability. In terms of fiscal revenue, we will further optimize the policy for tax reductions and fee reductions, and promote the tax system reform with income increase effect to increase revenue. This includes optimizing specific tax systems such as environmental protection tax and consumption tax under the direction of "green tax system" construction, and increasing tax revenue with regulatory effect. We will also carry out reform to levy real estate tax on residential houses on the premise of fully considering the stable and healthy development of the real estate market and social stability, and continue to promote the reform of personal income tax under the framework of comprehensive and classified tax system. While meeting the requirement of competition neutrality, we will sell some state-owned assets, speed up the reform of mixed ownership, obtain some government revenue, and ease financial pressure.

In terms of fiscal expenditure, we will pay attention to reducing non-rigid and non-key expenditures, reasonably determine the boundary between market and government, clarify the list of government powers, responsibilities and negative lists, and reduce government's unnecessary expenditures, so as to focus on key areas and key links such as industrial transformation and upgrading, scientific and technological innovation, major infrastructure construction and people's livelihood. We will strengthen the evaluation of financial affordability of major expenditure projects, and prevent blindly increasing investment in construction projects. In addition, we will lay an institutional foundation for the optimization of fiscal expenditure structure by

perfecting budget management of all revenues and expenditures. We will implement budget performance management, promote the establishment of budget expenditure standard system, implement cross-year budget balance mechanism and medium-term financial planning, and compile tax expenditure budget.

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Chapter 10

Research on Several Major Financial Reform Issues in the Medium and Long Term



Bin Hu, Liansheng Zheng, and Lian Cheng

President Xi Jinping emphasized that the financial system is an important fundamental system for economic and social development. In the new historical period, with the reconstruction of international political and economic order, the efficient and stable operation of the financial system is crucial to the steady growth of China's economy and the smooth transformation of its economic structure. The fundamental tasks of financial work in the future include: preventing and resolving systemic financial risks, implementing the new development concept, serving the real economy and people's lives, deepening the structural reform of the financial supply side, further expanding financial opening, and embarking on the road of financial development with Chinese characteristics.

10.1 Current Situation of Financial Reform and Development

Since the 3rd Plenary Session of the 18th Central Committee of the Communist Party of China in November 2013, the financial reform has been further deepened and achieved significant progress. The ability of the financial industry to serve real economy and resist risks has been greatly improved, and a financial system compatible with the socialist market economy has been basically established.

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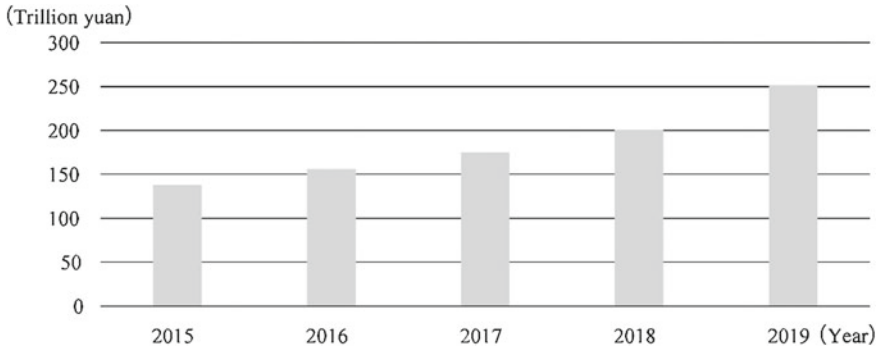


Fig. 10.1 Changes of the stocks of China's social aggregate financing since 2015. *Source* People's Bank of China

10.1.1 Financial Scale Growth and Financial Depth

In recent years, China has made positive progress in the establishment of a multi-level capital market system with complete financing functions, solid basic system, effective market supervision and effective protection of investors' legitimate rights and interests. The bond market has developed rapidly, the stock market science and technology innovation board successfully opened, and the registration system reform has been accelerated. At the end of 2009, the stock of social aggregate financing in China was 251.31 trillion yuan, up 81.74% from 138.28 trillion yuan at the end of 2015. Among them, the balance of RMB loans granted to real economy was 151.57 trillion yuan; the balance of foreign currency loans granted to real economy was 2.11 trillion yuan; the balance of entrusted loans was 11.44 trillion yuan; the balance of trust loans was 7.45 trillion yuan; the balance of undiscounted bank acceptance bills was 3.33 trillion yuan; the balance of corporate bonds was 23.47 trillion yuan; the balance of government bonds was 37.73 trillion yuan; and the balance of domestic stocks of non-financial enterprises was 7.36 trillion yuan.¹ (Fig. 10.1).

At the end of 2019, the total assets of China's financial institutions reached 317.32 trillion yuan, including 290 trillion yuan of banking institutions, 7.26 trillion yuan of securities institutions and 20.06 trillion yuan of insurance institutions. Compared with the scale in 2015, it increased by 45.35, 45.47, 13.08 and 59.97% respectively. It is clear that the banking industry still occupies a dominant position in China's financial system.

In order to better depict China's financial depth, the author adopted three groups of financial indicators to compare with GDP scale, i.e. the stock of social aggregate financing, the total assets of financial institutions, and credit loans of private non-financial sectors. It is also clear that the ratio of first two to GDP is similar to the Financial Interrelations Ratio index, while the ratio of private non-financial sectors'

¹ People's Bank of China (2020) People's Bank of China website. <http://www.pbc.gov.cn/zhengcehuobisi/125207/125227/125957/4021036/4021012/index.html>.

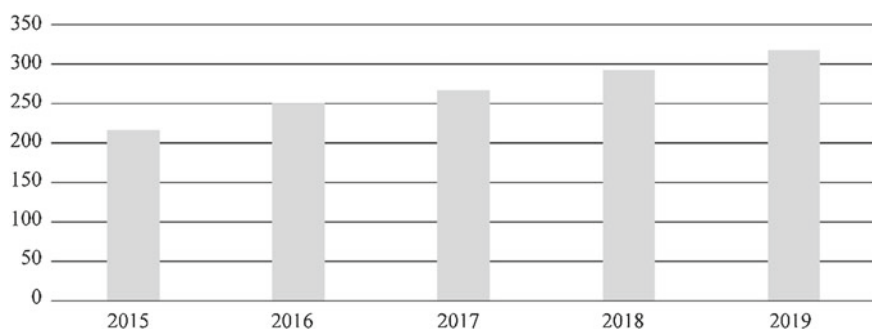


Fig. 10.2 Changes of total assets of Chinese financial institutions since 2015. *Source* People's Bank of China, Insurance Regulatory Commission of Bank of China, and Securities Association of China

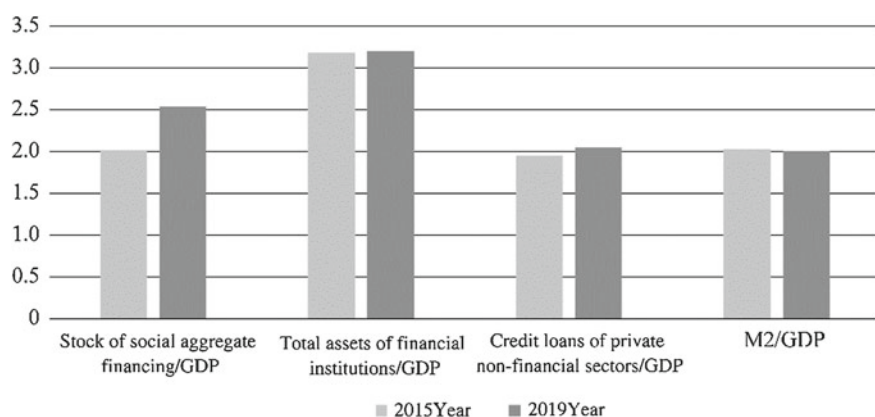


Fig. 10.3 Shows the changes of some indicators of China's financial depth. *Source* People's Bank of China, Insurance Regulatory Commission of Bank of China, Securities Association of China, and BIS

credit loans to GDP is similar to the Financial Depth index. As a reference, the author also calculated the ratio of M2 to GDP to reflect the monetization situation in China (Figs. 10.2 and 10.3).

Among above four groups of indicators, the highest is the ratio of total assets of financial institutions to GDP, 3.20, which is followed by the ratio of social aggregate financing to GDP, 2.54, while the ratio of credit loans of private non-financial sectors to GDP and the ratio of M2 to GDP are 2.05 and 2.00 respectively.² Accordingly, in 2015, China's stock of social aggregate financing, total assets of financial institutions, credit loans of private non-financial sectors and the ratio of M2 to GDP were 2.02, 3.18, 1.95 and 2.03 respectively. If we make international comparison based on

² The ratio of credit to GDP in China's private non-financial sector is sourced from the Bank for International Settlements, data by September 1, 2019.

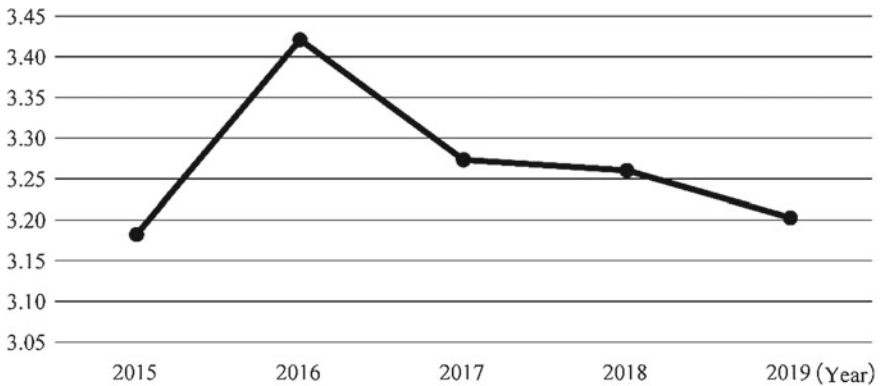


Fig. 10.4 Changes of the ratios of total assets to GDP of financial institutions. *Source* People’s Bank of China, Insurance Regulatory Commission of Bank of China, and Securities Association of China

these indicators, China’s financial depth stays at a higher level. For example, China ranks 12th in the world in terms of credit loans of private non-financial sectors as a percentage of GDP, according to BIS. According to statistics of the World Bank, in 2018, the ratio of domestic credits to GDP and the ratio of broad money stock to GDP provided by China’s financial sectors were among top three in the world (Fig. 10.4).

It is worth noting that above indicators are only a reference for understanding financial operations, and their values greatly depend on the financial structure of various countries and on the relationship between finance and real economy, so they are far from accurate measurements of the financial development. For example, in terms of the ratio of M2 to GDP, China’s data in 2019 were lower than data in 2015, but this obviously does not mean that the monetization level has regressed. Exactly the opposite is true. With the rise of third-party payment, especially mobile payment, the monetization of China’s economic operation has greatly deepened, and the change of the ratio of M2 to GDP is more a reflection of the adjustment of monetary policy and the change of currency circulation mode. Similarly, due to effective “deleveraging” policy of the central government, the ratio of total assets to GDP of Chinese financial institutions experienced a gradual decline from 2016 to 2019, but the stability and efficiency of the financial system were greatly improved, which reflects the complexity of measuring the level of financial depth.

10.1.2 Structure of Financial Industry

While giving full play to the leading role of state-owned banks and the guarantee function of non-commercial “policy banks”, China has improved the small and medium-sized banking system; in particular, the approval of the establishment of private banks has not only introduced private capital to improve the capital strength of banks, but

also injected vitality into the banking system and improved the efficiency of serving private enterprises. By the end of December 2019, there were 4607 legal persons of banking financial institutions in China, including: 1 development financial institution, 1 housing savings bank, 2 non-commercial “policy banks”, 6 large state-owned commercial banks, 12 joint-stock commercial banks, 18 private banks, 41 foreign-funded corporate banks, 134 city commercial banks, 68 trust companies, 70 financial leasing companies, 24 consumer finance companies, 25 auto finance companies, 5 money brokerage companies, 258 enterprise group finance companies, 4 financial asset management companies, 13 loan companies, 1630 village banks, 1478 rural commercial banks, 722 rural credit cooperatives, 44 rural mutual fund cooperatives, 28 rural cooperative banks, and 23 other financial institutions. At present, China has basically established a multi-level, wide-coverage and differentiated banking institution system. The reform of policy banks has been put in place, breakthroughs have been made in the establishment and development of private banks, and various institutional formats such as banks, securities, insurance, trusts, futures, funds and financial technology enterprises have flourished.

Generally speaking, the asset composition of China’s banking financial institutions presents the following features. First, since 2015, the asset composition of different types of banking financial institutions in China has remained basically stable, with insignificant fluctuations of asset proportion of various financial institutions. Second, large commercial banks still occupy a dominant position in banking financial institutions. In 2019, the assets of large commercial banks accounted for 40.3%, 22.4% points higher than that of joint-stock banks. Third, after a slow decline in previous years, the asset share of large commercial banks rebounded to a certain extent in 2019, which shows that the financial de-leveraging policy has led to regression of the shadow banking system in recent years, and this regression was mainly absorbed by large commercial banks (Table 10.1).

In terms of capital market, at the end of 2019, there were 3757 listed companies in Shanghai and Shenzhen Stock Exchanges, including 1953 listed companies on the main board market, 943 listed companies on small and medium-sized board, 791 listed companies on ChiNext Market and 70 listed companies on STAR Market. At the end of 2019, the market capitalization of listed companies totaled 48.34 trillion yuan, with an average price-earnings ratio of 17.50 times, and the annual cumulative turnover reached 126.83 trillion yuan. The normal, law-based and well-regulated operation of the New Third Board market has effectively expanded the depth and breadth of the capital market. By the end of 2019, there were 8953 listed companies on the New Third Board, with a total listed share capital of 561.6 billion shares, including 335.4 billion tradable shares. In 2019, listed companies completed 567 additional issuances of shares, with a total financing of 24.012 billion yuan. In terms of regional equity market, as of the end of 2019, there were 112,900 listed enterprises in 34 regional equity markets in China, with total assets of 2.48 trillion yuan and operating income of 278.9 billion yuan. The bond market has become a debt financing market next only to the banking system. By the end of 2019, there were 49,400 bonds on the market, with a balance of 97.10 trillion yuan, including 16.65 trillion yuan of

Table 10.1 Proportions of total assets of different types of banking financial institutions in China (*unit* %)

	Large commercial banks	Joint-stock commercial bank	City commercial bank	Rural financial institutions	Other types of financial institutions
2015	39.2	18.6	11.4	12.9	18.0
2016	37.3	18.7	12.2	12.9	19.0
2017	36.8	17.8	12.6	13.0	19.8
2018	36.7	17.5	12.8	12.9	20.1
2019	40.3	17.9	12.9	12.8	16.2

Source Wind information

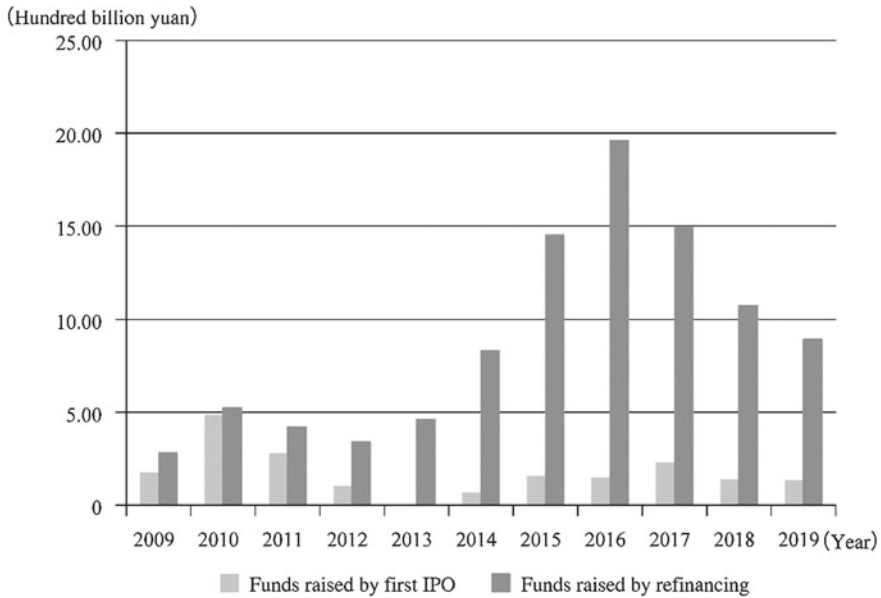


Fig. 10.5 Scale of equity financing on China's capital market. *Source* Wind information

national debt, 21.12 trillion yuan of local government bonds, 22.83 trillion yuan of financial bonds and 6.90 trillion yuan of corporate bonds (Fig. 10.5).

At the end of 2019, there were 12 insurance group companies, more than 90 property insurance companies, slightly over 100 life insurance companies, 12 reinsurance companies and more than 20 insurance asset management companies on the Chinese market. The distribution channels of Chinese insurance companies are divided into direct sales, personal agency, part-time agency, insurance agency, insurance brokerage agency and insurance assessment agency. The premiums contributed by Internet and telephone sales are also included in these six categories according to practicing entities of the sales behaviors. By the end of 2019, there were 6 insurance intermediary groups, more than 1700 insurance professional agencies, about 500 insurance brokerage companies and about 350 insurance assessment companies on the Chinese market. Among Fortune Global 500 in 2019, there are 55 insurance companies, with 7 in mainland China, including China Ping'an, China Life Insurance, PICC, China Pacific Insurance, Taiping Life Insurance, Taikang Life Insurance and Huaxia Life Insurance. In 2019, the original insurance premium income on China market was 4.26 trillion yuan, including property insurance premium income of 1.16 trillion yuan, life insurance premium income of 2.28 trillion yuan, health insurance premium income of 0.71 trillion yuan and accidental injury insurance premium income of 0.12 trillion yuan.

10.1.3 Reform of the Financial Regulatory System

Since 2015, with the increasing downward pressure on the domestic economy, there has appeared the pro-cyclical effect in the financial sector; the financial risks previously concealed under the background of high growth have become explicit; and the threat of systemic financial risks is increasing. Faced with this situation, the CPC Central Committee and the State Council quickly carried out prevention and resolution of systemic financial risks. Measures include monetary policy, fiscal policy and regulatory policy as well as policies on cutting overcapacity and excess inventory, deleveraging, reducing costs, and strengthening points of weakness, strengthen financial regulatory, aggregate deleveraging, shadow banking disposal, local government debt management, macro-prudential evaluation system, and unified regulatory of asset management, so as to effectively reduce the risk correlation within financial sector and between the financial sector and the real economy. Since the Third Plenary Session of the 18th CPC Central Committee, financial reform has been deepened step by step and made great progress. We established the Financial Stability Development Committee of the State Council to coordinate major issues of financial stability, reform and development. The CBRC and the CIRC were merged to form the local financial regulatory framework. We also established a new framework of financial regulatory coordination. The ability of the financial industry to serve real economy and resist risks has been greatly improved, and a financial system and regulatory framework compatible with the socialist market economy have been basically established.

10.1.4 Development of Financial Inclusion

We will improve the financial supply system, increase financial products, promote the availability of financial services, meet financial needs of small and micro-sized enterprises (SMEs), farmers and socially vulnerable groups, and enhance people's access to and satisfaction with financial services. The *Plan for Promoting Development of Financial Inclusion (2016–2020)* (referred to as the Plan) is a programmatic document for the development of China's inclusive finance at present. It consists of three major contents: the overall goal, the realization path and the measures to guarantee the development of financial inclusion during the 13th Five-Year Plan period. At present, the *Plan* proposed to establish a service system and guarantee system in inclusive finance that is compatible with building a moderately prosperous society in all respects by 2020, so as to ensure that the development of inclusive finance in China ranks in the middle and upper levels of the world. From the effect of policy implementation, China's diversified and wide-coverage organizational system is taking shape. Large and medium-sized commercial banks have successively set up business divisions of inclusive finance with different models; inclusive financial institutions have been widely extended downward to lower levels; the inclusive

financial organization system on the capital market has been gradually established; the infrastructure construction in inclusive finance has been steadily advanced; the scientific and technological innovation for inclusive finance has been actively carried out; and the demonstration pilot projects in inclusive finance and the construction of national pilot zones have been put into practice in an orderly manner. By the end of 2018, the coverage rates of banking financial institutions and insurance institutions in China were 96 and 95% respectively; the coverage rate of basic financial services in administrative villages in China was 97%³; the coverage rate of agricultural insurance grassroots service outlets in villages and towns was 95%; and the coverage rate at village level exceeded 50%. With the establishment of 24-h self-service banks and other outlets, the service quality and efficiency of financial inclusion in urban communities in China have been continuously improved, and the availability and convenience of residents' financial services have been significantly enhanced.

10.1.5 Construction of Financial Infrastructure

Payment and settlement, credit reporting, statistics, information, professional services and legal system have been continuously improved; financial technology represented by third-party payment has achieved explosive growth; and the application and business development of financial technology are at the leading level in the world. Since China National Advanced Payment System (CNAPS) was put into operation, China's payment and clearing system has been continuously improved; the online clearing platform has been registered and officially put into operation; the Shanghai Commercial Paper Exchange Corporation Ltd has been established and actively explored and innovated its business; the bond default transfer mechanism is under active exploration; and the RMB cross-border payment system has been officially put into operation. At present, the payment systems of the People's Bank of China include: High Value Payment System (HVPS), Bulk Electronic Payment System (BEPS), Internet Banking Payment System (IBPS), Intra-city Clearing System (ICCS), and China Foreign Exchange Payment System (CFXPS), among which HVPS is the main system of China's payment systems, covering banking institutions nationwide and connecting financial markets and real economy. In 2019, 1094 million transactions were processed on the HVPS, with an amount of 4950.72 trillion yuan; namely, 4,376,800 transactions were processed on a daily basis, totaling 19.80 trillion yuan. From the number of processed transactions and the processed amount, the HVPS ranks in the forefront of the real-time full settlement system in the world. Besides these payment systems of the People's Bank of China, other payment systems such as the intra-bank payment system, the bank card inter-bank payment

³ Bank of China Insurance Regulatory Commission, "China Insurance Regulatory Commission issues the Notice on Ensuring Banking and Insurance Serve Rural Vitalization and Help Poverty Reduction in 2019". March 18, 2019, the website of Bank of China Insurance Regulatory Commission. <http://www.cbirc.gov.cn/view/pages/ItemDetail.html?DocId=211870>.

system, the bill processing system of city commercial banks, and the payment and clearing system also play an important role in economic and financial operation.

In regard to the credit system construction, China's 2G credit reporting system has been initially established which has not only updated credit information but also contained more information. The People's Bank of China issued a number of documents, and further standardized the credit system construction of small and medium-sized enterprises and rural areas, so as to provide solutions to the problems of financing difficulties and high financing cost caused by insufficient assets and imperfect financial information of small and medium-sized enterprises, improve the construction of farmers' personal credit information system, and provide assistance for targeted poverty reduction. In the establishment and supervision of laws and regulations, the *Work Plan for Overall supervision and Management of Financial Infrastructure*, which was reviewed and approved in September 2019, proposed to establish unified access standards and information disclosure standards for platforms undertaking financial basic work. Regulation of operation rules will facilitate the connectivity between financial infrastructures, the establishment of financial information sharing mechanism, help establish dynamic supervision and management mechanism for financial activities, and strengthen applications of modern information technology and realization of thorough supervision.

10.1.6 Innovation and Development of Financial Technologies

Since 2013, China's financial technology has entered a stage of rapid development, and raised more investment and funds for financial technology. A large number of financial technology enterprises have been established in various places, covering various business types such as P2P lending, Internet banking, equity crowd-funding, third-party payment, blockchain, insurance technology and consumer finance. In addition, there have emerged an increasing number of financial technology service providers, third-party intermediary service institutions, financial technology industry organization alliances, and financial technology research institutions in various places, which provide business solutions and necessary support for the development of financial technology. Some financial technology applications represented by mobile payment are at the world leading level. Driven by market demand and innovation of technology application, China's financial technology has achieved important breakthroughs in the research and development and application of key core technologies in some fields, and the penetration rate of users has increased rapidly. Some financial technology applications represented by mobile payment are at the world leading level. Scientific and technological means, such as artificial intelligence, big data, cloud computing, and the Internet of Things are adopted by financial institutions to innovate financial products, change business methods and optimize business processes. The value of financial data has become more prominent, and financial

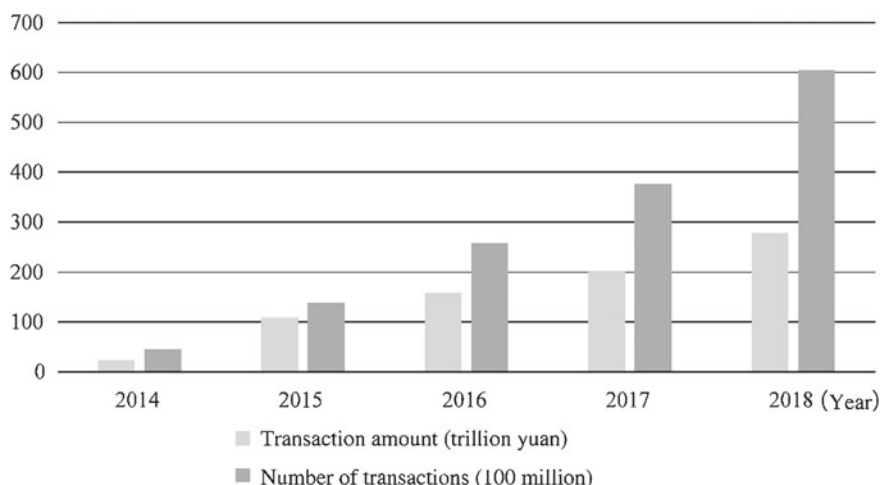


Fig. 10.6 Development of mobile payment in China. *Source* People’s Bank of China

products and services have moved towards intelligence, refinement, diversification and application in specific scenarios. Financial technology has become a new driving force for practicing financial inclusion and developing digital economy (Fig. 10.6).

10.1.7 Two-Way Opening-Up of Financial Market

We have relaxed restrictions on foreign investment in financial services, and promoted two-way opening up of financial markets in an orderly manner. Some open and innovative mechanisms are launched, such as Shanghai-Hong Kong Stock Connect, Shenzhen-Hong Kong Stock Connect, Bond Connect and Shanghai-London Stock Connect. The quotas of QFII, RQFII and QDII have been continuously increased until they are completely abolished. Since 2015, RMB has become an SDR basket currency, and A shares have been included in MSCI Emerging Markets Index. This is a landmark event of China’s financial opening to the outside world. During this period, we promoted the reform of RMB exchange rate formation mechanism, enhanced the flexibility of RMB exchange rate against US dollar, and improved the formation mechanism of exchange rate central parity, which has effectively coordinated and promoted economic opening to the outside world, promoted macroeconomic internal and external balance, and provided assistance for RMB internationalization. The reform of foreign exchange management system with capital account opening as the core has reached a new height, The management follows the idea of “giving priority to inflow capital, long-term project, direct investment and investment from institutions” to promote the opening of capital projects. In this process, we should take the “Belt and Road” Initiative as an opportunity to cooperate with countries along

the route to actively promote the cross-border use of RMB. The turnover of foreign exchange market has expanded year by year, and the macro-prudential regulatory framework has been continuously improved, which has played an active role in improving exchange rate flexibility, promoting market-based reform of exchange rate, optimizing resource allocation, and preventing foreign debt risks, cross-border capital flow risks and exchange rate speculation risks.

The achievements of financial reform since the 3rd Plenary Session of the 8th Central Committee of the Communist Party of China have benefited from deepening the understanding of the nature and laws of finance, of the national conditions, and of financial development with Chinese characteristics. First, we will strengthen the Party's leadership over financial work. President Xi Jinping emphasized that finance is an important core competitiveness of the country, financial security is an important part of national security, and financial system is an important basic system in economic and social development. Persistent efforts will be made to strengthen the centralized, unified leadership of the CPC in financial work, perfect the system and mechanism for the Party's leadership in financial work, carry out regular research on the financial development strategy, and make sure that the financial reform advances along a correct direction. These are the key to the breakthrough progress of China's financial reform. Second, we will ensure the purpose of finance to serve the real economy. To achieve this purpose, we will improve the efficiency and level of financial services, allocate more financial resources to key areas and weak links of economic and social development, and better meet the diversified financial needs of the people and the real economy. Third, we will give play to the decisive role of market in the allocation of financial resources. While giving full play to governments' role, we will strengthen market mechanism, market function and market discipline, further promote market-based financial elements, establish financial market systems, financial institutional systems and financial products and services system, and form a financial system with a higher level of resource allocation. Fourth, we will adhere to worst-case scenario thinking. With focus on controlling systemic financial risks, we will accurately and effectively deal with risks in key areas, resolutely fight against major risks including financial risks, prevent both "black swan" and "grey rhinoceros", and firmly ensure that there will be no systemic financial risks.

10.2 Main Problems in Financial Reform and Development

Under the leadership of the CPC Central Committee and the State Council, China's financial reform has achieved great progress. However, China's financial reform and opening-up were carried out only in specific department or sector due to lack of overall coordination. In addition, there existed omissions in implementation of document, policy and reform measures, which has affected the pace and implementation effect of reforms.

10.2.1 The Imbalanced and Inadequate Development of Capital Market Remains an Outstanding Problem

First, compared with the banking system, the capital market is weaker than the banking system in the financing ability and capital allocation efficiency. In 2019, RMB loans, foreign currency loans, entrusted loans and trust loans accounted for 68.7% of aggregate social financing, while corporate bonds, government bonds and non-financial enterprise stock financing accounted for 27.3%, far lower than the proportion of loan financing. In recent years, the increasing proportion of direct financing is mainly due to the increasing proportion of government bond financing. It is still difficult to issue bonds across markets, especially cross-market issuance. The limited amount of bonds issued is distributed in two markets, thus leading to a decline in the issuance of a single bond, which is not conducive to the improvement of bond liquidity. The development of the New Third Board market encountered bottlenecks, such as insufficient liquidity and restricted financing function, moving away from the basic orientation of serving SMEs (Table 10.2).

Second, a unified and efficient bond market system has not really been established. As the main support of direct financing market and the second largest bond market in the world, China's bond market are faced with such problems as multiple, segmented management without overall coordination. The bond market lacks transparency and uniform information disclosure rules, and there are different requirements for information disclosure among institutions and regulatory agencies. The differences in regulatory norms and disclosure systems may lead to the inefficiency of investment institutions in collecting public information, which also increases the bond issuer's own issuance and information disclosure costs in the process. Moreover, the lack of transparency on the bond market will give issuers the opportunity for regulatory arbitrage.

Third, there are still many problems in the basic system of stock market. First, the listing standards need to be improved. The current listing standards and rules may attract more enterprises that will cash out soon, so quite a few innovative enterprises can only go to overseas market for listing. Second, there are many deficiencies in the orientation, players, requirements and quality of information supply in market information disclosure. Under the current approval system, the information disclosure of market players is orientated to meeting the substantive audit requirements of regulatory agencies, while tedious information is difficult to understand and it mostly involves the rules and regulations of regulatory agencies, and effective information for investors is short of supply. Third, the delisting efficiency is low. Complicated delisting procedures and low delisting rate of listed companies crippled the formation of delisting mechanism. The fluctuating stock prices of some low-quality listed companies distorted the pricing function of capital market, and the delisting mechanism played an insignificant role.

Finally, the framework of capital market regulatory system needs to be improved. First, the issuance audit and listing audit have not been separated. The role of exchanges in listing audit and market self-discipline needs to be confirmed and

Table 10.2 Changes in the composition of aggregate social financing in China from 2017 to 2019 (*unit %*)

	RMB loans	Foreign currency loans converted into RMB	Entrusted loans	Trust loans	Undiscounted bank acceptance bill	Corporate bonds	Government bonds	Stock financing of non-financial enterprises	Asset-backed securities of deposit financial institutions	Loans written off	Total
2017	57.8	1.2	6.8	4.1	2.2	9.2	3.7	3.2	0.3	1.0	100
2018	59.3	1.0	5.5	3.4	1.7	9.1	14.5	3.1	0.6	1.3	100
2019	60.3	0.8	4.6	3.0	1.3	9.3	15.0	2.9	0.7	1.6	100

Source People's Bank of China

strengthened, and the effective supervision of market transactions needs to be deepened and enhanced. Second, the regulatory coordination between securities regulatory authorities and monetary policy and fiscal policy management departments, as well as between macro-prudential management and local and enterprise micro-behavior supervision need to be strengthened. Third, grass-roots regulatory forces and local supervision need to be strengthened to prevent risks before they occur. Fourth, the regulatory accountability system needs to be established. The education, supervision and management of the principal responsible persons and senior and middle-level managers of financial regulatory authorities need to be strengthened, so as to avoid behaviors that may cause major risks, such as ineffective regulatory, concealment and failure to report, and mistakes in decision-making. Fifth, the strength and effectiveness of law enforcement need to be strengthened. Light punishment of illegal players by securities regulatory agencies is not conducive to the establishment of authority and seriousness of supervision and law enforcement.

10.2.2 Regulatory System of Comprehensive Operation Needs to Be Established and Improved

Since the reform and opening-up in 1978, China's financial industry has experienced a cycle from "mixed operation to separate operation and once again back to mixed operation". In the twenty-first century, the tide of mixed operation in financial industry is irresistible and bred four types of financial holdings companies, including financial holding platform (the group company is a pure financial control platform that does not operate specific business but is responsible for strategy formulation and equity investment management), bank holding companies (subsidiaries established or invested by commercial banks as parent companies to expand their integrated operations and form an "all-round banking financial holding company model"), local financial control platform, and industrial financial holding platform. Integrated operation has become a basic fact and development direction of China's financial system. However, after the institutional reform, the financial supervision system of "each railway police in charge of a section" has not been fundamentally changed, and it is difficult to cope with the regulatory challenges brought about by the integration and collectivization of financial institutions and the cross-border development of financial technology. The reform of the financial regulatory system still needs to be further deepened.

The deepening of mixed operation makes the organizational structure of financial institutions increasingly complex, and the risks of different businesses may cross-infect within financial groups. Specifically, the complexity of organizational structure will produce the following risks: First, principal-agent risk. Compared with conventional financial institutions, financial holding companies have diversified organizational structures and numerous internal levels, so the principal-agent problem is correspondingly more prominent. The principal-agent relationship of

financial holding companies includes two types, namely, the principal-agent relationship between shareholders and operators, and the principal-agent relationship between parent companies and subsidiaries. Among them, the principal-agent relationship between a parent company and a subsidiary company is not available in conventional financial institutions, because of excessive credit granting by parent company to subsidiary company. The second is the risk of related party transactions. The complexity of organizational structure leads to numerous internal institutions of financial holding groups, and relationships are more complicated and related transactions are more frequent. The risk of related party transactions caused by this is also more prominent. Meanwhile, once the funds of a subsidiary under the financial holding company rupture, the existence of related party transactions will strengthen the spread of risks and have an impact on the capital situation of the whole group and lead to a crisis. The third is the risk of transparency. The complexity of organizational structure makes it difficult for the overall financial information of financial groups to be transparent, which makes it difficult for investors and regulators to clarify the internal relations of the group, thus unable to accurately grasp the real business situation. The fourth is the risk of regulatory arbitrage. In China, commercial banks are subject to stricter supervision and restrictions than other financial institutions. However, financial holding companies with complex organizational structure can take advantage of their own particularity to transfer some strictly regulated businesses from bank subsidiaries to other loosely regulated subsidiaries for free operation. This protects the overall interests of the group to a certain extent, but it also increases the risks faced by the group.

10.2.3 Division of Central and Local Financial Regulatory Responsibilities and the Definition of Risk Disposal Responsibilities Need to Be Clarified

China's financial regulatory system is changing from central single-supervision to double-supervision mode, but there is a vague division of powers between central and local governments in the field of financial supervision, and the boundaries between central and local governments are unclear. First of all, this situation exists due to the lack of relevant legal basis. At present, there is no law to clearly stipulate the entity, content, means and methods of local financial supervision, which leads to the failure of local financial regulatory authorities to rely on their functions, powers and responsibilities. In addition, there is a lack of unified system design in local financial supervision, and local governments set up their own regulatory organization system. There is a conflict of interests between local financial development and overall financial stability, resulting to the lack of integrity of local regulatory system, unclear organization orientation and unclear regulatory function.

Another important problem is the poor coordination mechanism of local financial supervision. First of all, the coordination between the central and local regulatory

authorities is not smooth. Due to the existence of geographical distance and the lack of relevant institutional arrangements, it is difficult for the central regulatory authority to understand the local financial information and give effective guidance to the local regulatory work. On the contrary, this difficulty in communication and coordination makes the regulatory policies formulated by the central government easy to be compatible with the local actual situation, and it is difficult to respond to the local financial risks in time. The coordination mechanism between local government and central regulatory agencies has not been institutionalized. The local finance office takes the lead, and the joint meeting mechanism established by the agencies of the People's Bank of China, the Banking Regulatory Bureau, the Securities Regulatory Bureau and the Insurance Regulatory Bureau is arbitrary in time, theme and content, which limits its role. The coordination problem between the central departments is also reflected on the supervision of local financial activities, which leads to the phenomenon of multiple government departments, duplication of supervision and vacuum of supervision. In addition, there are coordination problems between local regulatory authorities and other local government departments and within them. Regulatory authorities are subject to authority and resources, and it is difficult to independently undertake the responsibility of risk disposal without the cooperation of other departments, but they lack corresponding coordination ability and mechanism.

10.2.4 Unbalanced Financial Innovation and Supervision

Although China has made certain achievements in financial technology, we must be soberly aware that there still exists the problem of insufficiency and imbalance in the development of financial technology in China, e.g. lack of top-level design and overall planning, imbalance of various market players in scientific and technological capabilities, innovation impetus, talent team, system and mechanism, etc. In addition, weak industrial base led to the failure in forming an ecosystem with international influence and creating foresight in R&D arrangement. The infrastructure, policies, regulations and standard system that adapt to the development of financial science and technology need to be improved urgently.

With the rapid development of financial technology represented by Internet finance, the boundaries of financial businesses are gradually blurred; the number and heterogeneity of market participants are greatly increased; and the transmission channels of financial risks are more complex. All these have raised new challenges to monetary policy, financial market, financial stability and financial supervision. The illegal operation of P2P online lending institutions and a large number of defaults in 2019 not only revealed aforesaid risks that financial technology may bring, but also exposed shortcomings in China's financial technology supervision. Internet finance has developed rapidly, but the corresponding financial regulatory system is extremely imperfect, which has caused a lot of financial risks and losses. At present, the crucial stage of stockpile clearing and risk mitigation in the special rectification and rectification of Internet finance has come to an end and is entering the final stage. However,

the end of stockpile clearing and risk mitigation does not mean that Internet financial risks will no longer erupt. To standardize the development of financial science and technology, we find that the key lies in establishing effective institutional arrangements. Fundamentally speaking, standardizing the development of financial science and technology in the medium and long term will depend on deepening financial reform and opening-up and providing mechanism guarantee and power support through reform. Optimizing the governance system, establishing a long-term mechanism, improving the regulatory capability and preventing the resurgence of original problems will be China's central tasks in the next step.

10.2.5 Insufficient Financial Consumer Protection Mechanism

First, there is the lack of special financial consumer protection laws. The *Law on Protection the Rights and Interests of Consumers* is a basic law to protect consumers' rights and interests in China, but there are some problems such as insufficient pertinence in protecting financial consumers. The *Guiding Opinions of the General Office of the State Council on Strengthening the Protection of Financial Consumer Rights and Interests*, the *Implementation Measures of the People's Bank of China on the Protection of Financial Consumer Rights and Interests* and the *Administrative Measures of the People's Bank of China on the Protection of Financial Consumer Rights and Interests* have been promulgated in recent years. In addition, traditional financial legal systems such as the *Law of Commercial Banks*, *Regulatory Measures for Banking Business Operation*, *Insurance Law*, *Complaints Handling Measures* and *Securities Law* are also partly related to financial consumer protection. However, most of these guiding programs and departmental rules and regulations are principle-based, abstract and not operable, or mainly aim at the norms of financial institutions' business behavior, and do not provide clear and specific protection for financial consumers.⁴

Second, the regulatory authorities lack an effective coordination mechanism. Although consumer protection departments are set up in major financial regulatory agencies, it is difficult to achieve the goal of financial consumer education and protection by a single institution due to complex structure of financial investors and consumers in China and relatively low level of financial awareness, and it is necessary to establish a more systematic and comprehensive consumer protection mechanism. Meanwhile, the laggardness of financial technology application, especially of Internet financial supervision, has objectively brought new problems such as information security and privacy protection to consumer protection, which needs to be dealt with by relevant departments in a unified and coordinated manner. Take online loan consumer protection as an example. In April 2018, the China Banking Regulatory Commission (CBRC) and China Insurance Regulatory Commission (CIRC) were

⁴ He (2019).

merged, and in November, the P2P online loan industry was formally brought under the jurisdiction of the CBRC, and its regulatory systems were formulated by inclusive finance department for its business activities. However, the supervision in the fields of direct financing and indirect financing still lacked an effective coordination mechanism.⁵

Third, there is a lack of effective mechanism for resolving financial consumer disputes. At present, the settlement of financial disputes in China mainly depends on the internal treatment of financial institutions, complaints filed to financial regulatory authority, arbitration or litigation, etc. It is costly and time-consuming to resolve financial disputes through arbitration or litigation. In addition, financial consumers as individuals have limited ability to provide evidence, so there is high risk of failure in arbitration or litigation. Complaints filed to financial regulatory authorities are often handed over to relevant financial institutions for treatment under the supervision of regulatory authority. When financial consumers are infringed, there are few authoritative institutions and effective systems to protect their interests, and they can only adopt sporadic and spontaneous measures for rights protection, which makes it difficult to realize their rights and interests.

Finally, there is the lack of a financial consumer education system. At present, China lacks systematic financial consumer education. As a result, the overall level of national financial literacy remains low, and investors have an immature mentality and lack the awareness of risk and responsibility. Chinese financial institutions have also carried out various consumer education activities, such as the publicity of the People's Bank of China before and after "March 15 (Consumer Rights Day)"; however, due to lack of systematicness and resultant force of the financial industry, these activities often become formalistic and achieve poor results. In recent years, financial consumers have improved the awareness of safeguarding their rights, but they still lack financial and legal knowledge to effectively safeguard their rights, and even fail to realize that their rights and interests have been infringed.

10.3 Policy Suggestions on Further Deepening Financial Reform

In the future construction of financial system, we should further consolidate the existing reform achievements. Efforts will be continued to implement various financial reforms since the 19th National Congress of the Communist Party of China so as to achieve goals of system integration, coordination and high efficiency. We will deepen the structural reform of the financial supply side, dredge the transmission mechanism of monetary policy, and comprehensively promote the construction of financial system and mechanism.

⁵ He (2019).

10.3.1 Accelerating Modernization of the Financial Governance System and Capacity

It was pointed out at the Fourth Plenary Session of the 19th CPC Central Committee that upholding and improving socialist system with Chinese characteristics and promoting modernization of the national governance system and capacity are major strategic tasks of the whole Party, of which the financial governance system and capacity are important components. Under strong leadership of the CPC Central Committee with Comrade Xi Jinping at its core, we will constantly improve the financial macro-control mechanism and build a modern central bank system, so as to improve the modern financial system with high adaptability, competitiveness and inclusiveness, further enhance the governance capacity of the financial industry, and promote the sustained and healthy development of the financial industry by supporting high-quality economic development, preventing and resolving various risks in time.

First, we will further integrate and improve the financial regulatory framework. Based on the development trend of comprehensive operation of financial sectors in the future, we will integrate the regulatory functions of banking, securities and insurance to establish a unified micro-prudential regulatory institution, explore establishment of market behavior regulatory institutions, and strengthen the protection of consumers' rights and interests. The coordination mechanism of financial supervision will be improved to strengthen coordination among various regulatory bodies under the leadership of the Financial Stability Board (FSB). Corresponding incentive mechanism will be established to effectively restrain the behaviors of all parties of financial regulatory institutions, and be accountable to the financial regulatory institutions that do not cooperate or cooperate negatively in the process of regulatory cooperation. We will clarify the design principles and use principles of financial regulatory tools to form a dynamic adjustment mechanism of financial regulatory tools, and evaluate and analyze the existing financial regulatory tools. We will also make further detailed classification, eliminate inapplicable regulatory tools, and explore and supplement new regulatory tools suitable for the new era and new characteristics through international reference and research.⁶ Emphasis will be placed on the consistency and continuity of financial regulation. With regard to consistency, we should emphasize the principle of penetrating regulation and substantive regulation. For similar financial business, the regulatory efforts must be consistent to prevent excessive evasion of regulation. With regard to sustainability, while strengthening regulation of quantitative indicators, we should emphasize the supervision of risk management and corporate governance framework of financial institutions to ensure long-term sustained and stable operation of financial institutions.

⁶ Ma and Liu (2019).

Secondly, we should further rationalize the responsibility relationship between the central and local financial supervision, support reform of local financial supervision, and focus on the implementation of laws, talents, funds and technical support for local supervision. Promote the legal system construction of local financial supervision, determine the division of responsibilities between central and local financial supervision, and avoid the problems of long-term supervision and lack of supervision. At the same time, we will clarify the regulatory object, legal status and scope of powers and responsibilities of local financial regulatory authorities, integrate financial management responsibilities scattered in multiple functional departments, and ensure clear powers and responsibilities of local financial regulation. Local financial supervision guidance and regulations will be introduced to form a unified national legal supervision system, and enhance the operability and authority of supervision. Cooperation mechanisms between the central and local governments and between local governments will be established to promote information communication and experience sharing.⁷

Thirdly, we will establish a long-term mechanism to manage financial risk. The policy decision-making and coordination functions of the Financial Stability Board of the State Council will be strengthened, with focus on dealing with systemic financial risks and financial risks with significant social stability impacts, so as to build an effective risk early warning system and comprehensive risk treatment mechanism. We will strengthen expected management of financial regulation by setting up expected management mechanisms in various supervision agencies. We will enhance communication and coordination between financial regulators and the market, release relevant financial regulatory policy or information in advance according to supervision requirements, and then adjust financial regulatory policy according to the market's response. We will publish the minutes of government meetings related to supervision policies, disseminate the original intention and goal of policy formulation of the FSB through the media, and strengthen the information exchange between the public and the government to guide the public's policy expectations.

Finally, we will further improve the financial legal system. (1) We will take a long-term perspective, global perspective and macro perspective in the legislative concept, strengthen combination of institutional legislation and functional legislation, and improve the long-term applicability of financial laws. (2) In the legislative co-ordination, we should abandon the prejudice among industries, departments and institutions, and strive to build a financial legal system that is unified with functional supervision, so as to ensure that different departments have unified supervision standards for the same or similar financial businesses. (3) We will strengthen consumer protection legislation, with focus on improving consumer rights protection, and build a legal environment with fair market environment, stable market operation mechanism and strong consumer protection. (4) The system design and disciplinary punishment of supervision and punishment in the financial sector will be strengthened to increase the intensity of administrative punishment and increase the cost of violating laws and regulations. (5) We will strengthen legislation of risk disposal,

⁷ Jin (2019).

institutional recovery and exit mechanism of financial institutions or enterprises, smooth the mechanism of survival of the fittest in the market, and let market play a decisive role in resource allocation. 6) With focus on core laws and key areas, we will effectively make up for our shortcomings or gaps in regulatory legislation, such as improvement of the *Law on Commercial Bank*, *Securities Law*, *Insurance Law*, *Law on Administrative Punishment*, *Measures for Punishment of Financial Violations*, *Regulations on Management of Banks*, and regulatory legislation in emerging innovative fields such as financial technology. Seventh, we will improve the legislation of local financial regulation and risk control. There is a need for special laws to apply to the supervision, guidance and law enforcement inspection of local financial supervision and management, and it is necessary to accelerate the promotion of local financial legislation. (7) We should promote the *Rules on Counteracting Unjustified Extra-territorial Application of Foreign Legislation and Other Measures* to deal with external shocks and long-arm jurisdiction, so as to explicitly deny the applicability of unilateral laws of other countries to Chinese entities in legal form, and break the effectiveness of unilateral sanctions of other countries through legislation.

10.3.2 Improving Basic Systems of the Capital Market

First, we will make clear that the construction of capital market must fully implement the principles of innovative, coordinated, green, open, and shared development. These new development principles should be fully reflected in systems such as the market basic system, regulatory system, and product and service system. Innovative development should focus on getting rid of simple imitation of developed markets, promoting market system construction and product innovation in line with China's national conditions, and better adapting to the needs of the transformation of the real economy. Green development should emphasize the promotion of socially responsible investment and provide convenient and low-cost financing channels for eco-environmental projects. Coordinated development should highlight coordination of the interests of various market players to achieve win-win cooperation. Open development should stress high-level opening of the capital market, encouraging integration of domestic and foreign markets, and providing more choices for Chinese enterprises and investors. Shared development should emphasize that the fruits of capital market development are shared by all participants, and it is not allowed to harm the public interest for the benefit of a small number of people.

Second, we will actively promote reform of the basic systems of capital market. In terms of listing system, on the basis of existing pilot reform of registration system on the STAR market, the issuance and listing system on STAR market will be improved step by step. We will clarify differences and connections between issuance audit and listing audit in terms of work objectives, work contents, work processes and working mechanisms. On the premise that the reform plan is basically incubated, we will organize stock exchanges such as Shanghai and Shenzhen Stock Exchanges and National Equities Exchange and Quotations to establish a unified audit process

and quantifiable audit standards, so as to connect with the audit procedures of China Securities Regulatory Commission (CSRC). Meanwhile, according to the principle of separating issuance from listing, each trading venue is organized to put forward its own listing system reform plan, so as to promote the differentiation and diversification of listing systems on stock markets at all levels. We will conduct strict oversight over the information disclosure behavior of listed companies to minimize irregular information disclosure and frequent correction of information. We will carry out quality evaluation of information disclosure of listed companies, and link it with the audit of major issues such as refinancing of listed companies, and urge listed companies to pay attention to information disclosure. By organizing advanced market sector and limiting qualifications of investors in high-risk stocks, the number of public shareholders of delisting risk stocks will be gradually reduced, and the transfer system will be improved to lower the delisting threshold of the advanced market sector in an orderly manner. The delisting process will be simplified to allow exit of low-quality companies from the market.

Third, we will integrate the bond market, clarify the internal mechanism, investor structure, transaction methods and regulatory requirement of different bond markets, and improve the financial infrastructure construction of bond market, such as registration and custody, clearing and settlement, transaction report database, central counterparty, rating agencies and information disclosure platform. We will continue to improve the information disclosure and credit rating system, and deepen the bond issuance mechanism based on information disclosure. The standardized and legal credit risk disposal system will be perfected to optimize and improve the market restraint mechanism and risk sharing mechanism, strengthen supervision and coordination, and safeguard the legitimate rights and interests of investors. We will constantly improve the bond yield curve, especially the national debt yield curve as the market benchmark, continuously improve the price index system that reflects the operation of bond market, and do a good job in market leverage and risk monitoring.⁸

Finally, we will prevent and resolve potential risks on the capital market. A response plan for systemic risks in the capital market will be put in place. Its main contents include maintaining high transparency on the progress of market risk disposal, risk isolation for defaulting institutions and related financial instruments, conditionally rescuing financial institutions by the People's Bank of China, purchase of a fixed amount of credit bonds when necessary to maintain market liquidity by the People's Bank of China, and punitive measures for the main unit and principal responsible person held accountable. We will establish a monitoring system for stock pledge financing, and strengthen counter-cyclical management. The charging mode of accounting firms' authentication business and securities companies' verification business will be rationalized to implement separate charging for single business, clarify and raise the charging standard, ensure that the charging can cover the business cost of intermediaries, and establish a compensation mechanism for breach of contract of listed companies. We will effectively guard against the risk of stock price collapse of listed companies, and improve and optimize the system of rules

⁸ Chen (2017).

on the internal control of listed companies. We will explore the establishment of a long-term mechanism to deal with default risk on the bond market. An effective standard procedure will be established for dealing with default risk, which should include several key links, such as establishing a list of high-risk enterprises under dynamic management, mandatory information disclosure, supervision and government assistance, compensation of investor protection funds and judicial disposal. The responsibility for handling bond default risk will be borne by specific organization.

10.3.3 Enhancing the International Competitiveness of the Financial Industry Based on Breakthroughs in Financial Technologies

First of all, a national strategy for the development of financial technology will be formulated to support the development of financial technology, with an open and inclusive attitude, and further consolidate the leading level of financial technology of China. More emphasis will be placed to basic theory, applied theory and frontier theory research of financial technology, and form a research consensus and a stable analysis framework, so as to effectively guide innovation practice and policy making. Universities, scientific research institutions and financial technology enterprises will be encouraged to cooperate, set up related disciplines or majors, so as to promote cross-border exchanges and integration of government, industry, university and research in financial technology. We will consolidate major infrastructure of financial technology, strengthen the construction of innovative facilities, focus on supporting enterprises and research institutions, carry out R&D of key technologies and cutting-edge technologies, so as to create a batch of intellectual property rights and patents in new technologies as soon as possible, and accelerate the transformation of scientific and technological achievements. We will promote the standardization of financial technology, judge the feasibility of financial technology application through the construction of corresponding technical and business standards, promote the launch of innovative projects, and ensure safety and controllable risks. The first-tier cities will be encouraged to give more support and guarantee policies to financial technology professionals, and promote the education, training and international exchange mechanism construction of financial technology professionals at the national level.⁹

Second, we will clarify the boundary of cooperation between financial institutions and technology companies. First, businesses that are essentially consumer finance and require licensing by existing laws and regulations, including payment and clearing services, fund absorption, loan issuance, credit enhancement and data credit reporting, must be operated by licensed institutions. Second, for businesses that are not required to be licensed by existing laws and regulations, licensed institutions should be allowed to cooperate with various non-licensed institutions with

⁹ Yang (2019).

professional advantages, such as customer acquisition, credit technology and post-loan management, and encourage market competition to improve efficiency. Finally, different supervision policies can be adopted for inter-agency cooperation according to the nature of cooperation. The cooperation between one licensed financial institution and another shall be managed separately by corresponding regulatory authority, but it is necessary to maintain the coordination of policies. For cooperation between a licensed institution and a non-licensed one, the licensed institution shall be the object of supervision, which can be required to establish a white list system according to the principle of prudence, excluding institutions with poor qualifications and high potential risks.¹⁰ For the loan assistance mode (licensed institutions provide funds to borrowers, and loan assistance institutions provide customers and data services, etc.), please refer to relevant document requirements of the regulatory authorities on outsourcing business regulation, e.g. outsourcing business cannot hinder the core capacity building of banks, and responsibilities of information technology management cannot be outsourced.

Third, we will properly handle the risks of developing financial science and technology innovation. (1) We will adhere to the concept that science and technology serve finance. We will explore the ways and paths of integration of finance and technology from reducing the cost and improving the efficiency of financial services. (2) We will rationalize applications of science and technology. For innovative ways that can't accurately manage risks for the time being, we should adopt a phased implementation method, namely, experimented in a small scale and then carried out in a large scale. We can learn from the experience of Britain, Australia and other countries to attract the "regulatory sandbox" mechanism. (3) We will regularly check and evaluate the effect of science and technology applications. In particular, the setting of models and parameters should be diagnosed regularly, and problems should be found and dealt with in time. (4) We will establish a risk disposal plan. When using scientific and technological means to innovate financial products and business models, we should make risk disposal plans, and in particular protect the legitimate rights and interests of financial consumers. (5) We will strengthen oversight of network mutual assistance, peer-to-peer lending (P2P) and network wealth management. Relevant government departments should check the platform qualifications for consumers, and integrate regulatory resources to strengthen the supervision of qualification access, capital security, information security and privacy protection.

Finally, we will improve China's international voice in the field of financial technology, establish a dialogue and communication mechanism between Chinese regulatory authority and international organization, and promote financial technology companies to actively go global and play a more important role in the international market. We will actively formulate technical and data standards for China's financial technology development, improve the regulatory and management system and technical standard system, and promote them globally in due course. On the basis of learning from international experience, we will actively promote the Chinese version

¹⁰ Zeng (2020).

of the “regulatory sandbox” plan, and select projects with controllable risks and innovative value to enter the sandbox for pilot projects. We will guide application and development of regulatory technology, and take the lead in the formulation of regulatory technology standards. The financial technology laws and regulations will be in place to improve the legal environment and privacy protection level in the field of financial technology.

10.3.4 Building a Policy System to Deal with External Risks

First, we will step up efforts in the two-way opening of financial markets to promote financial institutions to “go global” and make effective use of both domestic and foreign markets. To implement the management system of pre-establishment national treatment and a negative list, we must first steadily push forward the abolition of share ratio restrictions, and completely abolish the shareholding ratio restrictions of insurance securities companies in 2020 according to the plan, and then, when time is ripe, we will fully liberalize restrictions on business scope but retain restrictions on a few high-risk businesses through negative list. However, it should be noted that widening market access does not mean lax regulation. Efforts will be made to ensure regulatory efficiency matches the degree of openness, strengthen operational and post-operational oversight of foreign-funded financial institutions, and prevent short-term speculative institutions from entering and disrupting the market order. The pre-establishment national treatment needs to equally treat Chinese-funded institutions and foreign-funded institutions. On the one hand, same rules will be adopted in terms of shareholding ratio, establishment form, shareholder qualification, business scope and number of licenses. As long as it is outside the negative list, both Chinese-funded and foreign-funded financial institutions, especially some domestic-funded private institutions, can have access on an equal footing, that is, “market entities can do anything which is not prohibited by the law”, without discrimination. At the same time, same standards should be set for regulatory indicators such as capital adequacy ratio and provision coverage ratio, that is, foreign-funded financial institutions should “do as the Romans do when in Rome” and accept the same regulatory requirements. On the other hand, in terms of preferential policies and tax incentives, we will neither favor Chinese-funded enterprises nor provide “super-national treatment” to attract foreign investment; instead, we will provide a level playing field so that they can compete fairly and not damage the enthusiasm of any party. This will improve the international competition and strength of Chinese-funded financial institutions.

Second, we will coordinate the reform process of RMB exchange rate formation mechanism, capital account opening and RMB internationalization, with focus on controlling capital account management as the “last firewall”, and promoting capital account opening in a progressive way. We will steadily push forward the reform of RMB marketization mechanism, so that the exchange rate can fully reflect market supply and demand, and then realize more efficient allocation of foreign exchange

resources to promote the balance of international payments. We will create an integrated account management system of local and foreign currencies for the reform of foreign exchange management system. First, we will effectively improve the convertibility of RMB, and promote the internationalization of RMB while promoting cross-border use of RMB. Second, local and foreign currency funds will be managed in accordance with unified business rules, and aligned with international rules, subjects and calibers for balance of payments. Third, we will unify relevant policies, including trade credit, foreign debt management and other policies, without differential treatment of local and foreign currencies, and prevent market players from using policy differences to speculate. Finally, relevant regulatory authorities should jointly unify information collection and monitoring, eliminate regulatory duplication and make up for regulatory gaps.

Third, we will speed up the establishment of credit rating agency with international voice. China has been committed to promoting the construction of credit information system and cultivating credit rating agencies. At present, however, the credit rating is still in its infancy, and there are some problems, such as insufficient credibility, low independence, doubtful rating quality and inconsistent regulatory rules. In the “new eleven measures for opening financial sector to the outside world” published in July 2019, foreign-funded institutions are allowed to carry out credit rating business in China. Therefore, it is urgent to establish a rating agency that gives China a bigger voice and greater influence in the international arena, so that China has the pricing power of products in the international financial market. First, we will establish a unified rating standard system as soon as possible with reference to scoring indicators and processes of international rating agencies, so as to standardize the behavior of rating agencies, improve the independence and credibility of ratings, strengthen operational and post-operational oversight, and severely punish credit agencies that maliciously manipulate and buy and sell ratings. This will form enough deterrence and ensure the rating quality. Second, under the background of big data technology maturation and the gradual popularization of mobile payment, there are diverse sources of available information, so we need to change the way of thinking by giving full play to the positive role of financial technology in credit rating, and strive to improve the rating quality and credibility.

Fourth, there has formed the trend of long-term international trade friction and future conflicts may extend to the financial sector, so it is necessary to make policy plans. From the opening of financial sector to the opening of capital account and further to the building of international financial center, the construction of payment and clearing system is a key link. At present, external uncertainty is increasing, so it is risky to rely blindly on external payment and clearing system. China’s initiative to establish the Cross-border Interbank Payment System (CIPS) is of great forward-looking and strategic significance. But at present, it is small in scale, and still impossible to completely get rid of the dependence on SWIFT system in the short term. In the future, based on the “Belt and Road” Initiative, we will seize the opportunity of “de-dollarization” in some countries and overseas expansion of third-party payment platforms such as Alipay to make the best of China’s leading advantages in mobile payment, and continue to promote the construction and use of CIPS system

by adopting new technologies such as blockchain, artificial intelligence and cloud computing. Specifically, we will promote connectivity between CIPS system and more overseas financial infrastructure as soon as possible, and minimize settlement intermediate links to realize direct processing, optimize CIPS message transmission system, develop new products and services for financial opening measures to attract more enterprises and individuals to use RMB for settlement, and increase the use ratio of CIPS system in RMB cross-border business. In a word, we aim to create a safe, efficient and independent international payment and settlement system, so as to realize the global development of CIPS system and firmly grasp the initiative in international trade. Meanwhile, in order to cope with external shocks, we should speed up the establishment of a dynamic exchange rate emergency mechanism, and build a timelier, complete and effective balance of payments risk monitoring system and a balanced management mechanism for cross-border capital flows.

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Chapter 11

Industrial Policy and Competition Policy for Deepening the Process of Industrialization



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The year 2020 is the last year for China to complete building a moderately prosperous society in all respects and the last year of the 13st Five-Year Plan, and it is also a crucial period for China to basically realize industrialization. Next, China will embark on a new journey to build China into a modern socialist country in all respects, which requires continuing to deepen the process of industrialization, i.e. from basically realizing industrialization to fully realizing industrialization. China will face a series of new challenges in deepening industrialization in the future. China's industrialization strategy needs to change from high-speed industrialization to high-quality industrialization. The process of high-quality industrialization needs adjustment of policy system and innovation of policy measures. This requires strengthening the fundamental status of competition policy and accelerating the innovation and transformation of selective industrial policies to meet requirements of China's own industrial development and the trend of global governance adjustment.

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11.1 Achievements and Problems of China's Industrialization

11.1.1 *Great Achievements of China's Industrialization*

Since the founding of the People's Republic of China over 70 years ago, China's industrialization has made great achievements that attract worldwide attention. Industrialization has not only enhanced the comprehensive strength of the country, but also improved people's living standards. On the road of bitter exploration, the process of China's industrialization has leaped forward from a country with a very low level of industrialization to a big developing country in the late stage of industrialization. During the 13th Five-Year Plan period, the benign interaction between industrialization and urbanization, agricultural modernization and IT application has led to profound adjustments and changes in China's economic structure, social structure and spatial structure, and the simultaneous development of the "Four Modernizations" is becoming the driving force for China's modernization.

According to the basic theory of industrialization, the process of industrialization in a country can be divided into four stages: pre-industrial stage, early stage of industrialization, middle stage of industrialization, late stage of industrialization and post-industrial stage. We use five indicators to construct a comprehensive industrialization index: per capita GDP, the proportion of output value of three industries, the proportion of manufacturing added value to total commodity added value, population urbanization rate, and the proportion of primary industry employment to total employment. It is estimated that the whole industry will be in the late stage of industrialization during the 13th Five-Year Plan period, and the industrialization index will be 95 by 2020, which can be considered as having basically realized industrialization. It is an unprecedented miracle in the history of human industrialization that a large developing country with a population of more than one billion has pushed industrialization from the initial stage to the late stage in just a few decades, and leapt to the first manufacturing country in the world and the second largest economy in the world.

Since the 18th CPC National Congress, China's industrial scale advantage and complete industrial system have been further enhanced, and industrial transformation and upgrading have driven continuous structural optimization. Driven by multiple factors such as industrial accumulation and strong consumer demand, the added value of China's manufacturing industry accounted for 30.4% of global total in 2018. From 2013 to 2018, the average annual growth rate of China's industrial added value was 6.7%, higher than the world industrial average growth rate (2%–4%) in the same period. Meanwhile, the share of China's industrial added value in the world has increased significantly, and the proportion of industrial added value in the world has increased from 18.3% in 2012 to 23.5% in 2018. Driven by the innovation-driven development strategy and the manufacturing power strategy, the growth rate of China's traditional industries such as steel, non-ferrous metals and building materials tends to decline. In 2018, the proportion of six high energy-consuming industries

and mining industry dropped to 28.1% and 7.2% respectively, while the proportion of equipment manufacturing and high-tech industries increased significantly, whose added value in 2018 accounted for 32.9 and 12.4% of industrial enterprises above designated size. Since 2016, the equipment manufacturing industry has contributed 50% of industrial economic growth, and the high-tech manufacturing industry has done 21.6%. Regional industries are developing towards more coordination and higher quality. Since the 18th CPC National Congress in November 2012, China has increased efforts to promote the “Belt and Road” Initiative and regional strategies, such as the Yangtze River Economic Belt, the coordinated development of Beijing-Tianjin-Hebei region, the construction of Guangdong-Hong Kong-Macau Greater Bay Area and the integrated development of the Yangtze River Delta. This has also driven eastern industries to move towards central and western regions or abroad, and driven principal cities to spread to the peripheral areas, thus solving the problem of unbalanced and insufficient development of industrial regional layout to a certain extent. In 2018, the growth rate of added value of industrial enterprises above designated size in central and western China increased by 7.4% and 6.9% respectively over the previous year, 1.8 and 1.3% points faster than those in eastern China. The main business income of industrial enterprises above designated size in central and western China accounted for 22.8% and 17.5% of the national industry respectively, rising by 8.9 and 6.2% points respectively over 2010.

11.1.2 Main Problems of China's Industrialization

China's industrialization has made great achievements, and China will complete building a moderately prosperous society in all respects and basically realize industrialization by 2020, but there are still insufficiency and imbalances in China's industrialization, and the quality of industrialization needs to be improved urgently.

First, the industrialization process in different regions is unbalanced, and the industrialization development in some regions is insufficient. Due to the phased development strategy and the differences in resource endowment and industrial development bases in different regions, China's industrialization process remains extremely unbalanced in different regions, showing a gradient gap in the eastern, central and western regions. By the end of the 13th Five-Year Plan, provinces and municipalities such as Shanghai, Beijing, Tianjin, Guangdong, Zhejiang and Jiangsu had stepped into the post-industrialization stage, while other eastern provinces and most central provinces were basically in the late stage of industrialization, but a considerable number of central and western provinces remained basically in the middle stage of industrialization.

Second, the structure of industrial development was unbalanced, and the innovation ability and high-end industry development were insufficient. Due to the long-term low-cost export-oriented industrialization strategy, China's independent innovation capability needs to be improved, resulting in a low high-end level of China's industrial structure. On the one hand, the problem of low-level overcapacity has

existed in steel, petrochemical, building materials and other industries for a long time, so there are a large number of “zombie enterprises”. On the other hand, there are other problems, including poor development of high-end industries, insufficient possession of high-end links in the industrial value chain, heavy dependence of key equipment, core components and basic software are heavily dependent on import and foreign-funded enterprises, and serious bottleneck problems in lithography machines in integrated circuit industry, high-end chips in communication equipment industry, bearings and operation control systems in rail transit equipment industry, thermal components of gas turbines in power equipment industry, and design and simulation software in aircraft, automobile and other industries.

Third, there are unbalanced development of real economy and virtual economy, and insufficient supply of high-quality real economy. First, there was the problem of unbalanced structure of real economy and virtual economy. As China’s industrialization enters the late stage, China’s economy has begun to show a tendency of “deviating from real economy to virtual economy”. In 2018, the added value of financial services accounted for 7.68% of GDP, significantly higher than that of developed countries, for example, it is less than 7% in the United States and about 5% in Japan. The added value of the real estate industry increased significantly, up to 6.65% in 2018. Second, there was the problem of unbalanced development ability of real economy and virtual economy. According to the statistics of “Top 500 Enterprises in China in 2019” published by *Fortune* magazine, top 20 enterprises with the highest total profits are all financial, Internet or energy mining enterprises, and none of them are manufacturing enterprises. Also, according to the statistics of “Top 500 Enterprises in the World in 2019” published by *Fortune*, there are 11 banking enterprises in China, with a total profit of 200 billion US dollars, which accounted for 50% of the total profits of Chinese enterprises. Due to overcapacity and homogeneous competition, a large number of small and medium-sized industrial enterprises earned low profits, due to difficult and expensive financing.

Fourth, the speed of industrialization is unbalanced with the carrying capacity of resources and environment, and the development of green economy is insufficient. The rapid industrialization process of China, a country with a population of 1.4 billion, poses great challenges to the carrying capacity of resources and environment. Although China has always advocated the implementation of a new and environmentally friendly road to industrialization, the improvement of energy efficiency has not changed the trend of total energy consumption growth. The contradiction between the compression of resource carrying capacity and environmental capacity and the lack of ecological governance capacity has become increasingly prominent.

Fifth, the development of “integrating the development of industrialization, IT application, urbanization and agricultural modernization” is insufficient. Industrialization and IT application need to be further integrated. We will deepen the integration of the Internet, big data, artificial intelligence and the real economy, and improve the IT application and intelligent manufacturing capability of the manufacturing industry. The level of China’s industrial software is seriously backward, and most industrial software depends largely on the supply of foreign enterprises. This situation needs to be changed urgently. The benign interactive development between

urbanization and industrialization is not sufficient, and there is a double dislocation between industry and urban development, which is “out of sync in time” and “has no interaction in space”. There is a trend that industries are isolated by cities, and cities are hollowed out due to lack of industries. Agricultural modernization has become a shortcoming that restricts China’s modernization process; the level of mechanization, scientification, water conservancy and electrification of agriculture, the level of industrialization of agriculture, and the level of greening and informatization of agriculture all need to be improved, as it is incompatible with the development of China’s overall industrialization level in the last stage. The structural imbalance of agricultural supply, extensive agricultural development mode, agricultural non-point source pollution and agricultural product quality and safety risks need to be solved by further improving the level of agricultural modernization.

11.2 Major Challenges and Strategic Choices of Deepening Industrialization

China will basically realize industrialization after 2020; however, as analyzed above, there will be problems of imbalance and insufficiency in industrialization. We have not entered the “post-industrialization era” in the true sense. China needs to further deepen the industrialization process and solve the problem of insufficiency and imbalance in industrialization, so as to promote the industrialization process from basically realizing industrialization to fully realizing industrialization and embark on a new journey to fully build a modern socialist country. In addition, from the perspective of modernization theory, industrialization and modernization are closely related. Modernization is a historical process in which human society changes from a traditional society to a modern society, and its important driving force is economic growth and structural change, that is, industrialization. In other words, modernization is a process of changing from industrialization to a modern society, and industrialization can also be regarded as economic modernization. Then, from the perspective of time process, industrialization should be realized prior to or at least along with modernization. This has enlightened us that in order to develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful, we must actively promote industrialization and improve the dynamic mechanism of modernization.

The 19th National Congress of the Communist Party of China set the strategic goal of realizing the Second Centenary Goal in two stages, basically realizing socialist modernization in 2035, and building a moderately prosperous society in all respects in the mid-twenty-first century. The medium and long term is the beginning period of building a strong modern socialist country in all respects. It is also the period of further deepening the industrialization process after building a moderately prosperous society in all respects and basically realizing industrialization, which is crucial

for realizing industrialization in all respects. We predict that, in 10–15 years of deepening industrialization, all indicators of China’s industrialization will reach the post-industrialization stage. From various provincial regions, most provinces will enter the post-industrialization stage, which means that China will fully realize industrialization after 2030, thus providing a solid economic foundation for basically realizing the socialist modernization. However, like any country that has fully realized industrialization in history, China will also meet various obstacles and challenges in the process of deepening industrialization. Specifically, major challenges worthy of attention in China’s deepening industrialization in the future include “de-industrialization”, “great changes” in globalization, new industrial revolution, etc. China needs to actively respond to these challenges and promote high-quality industrialization strategy.

11.2.1 Challenge of the “Deindustrialization” Trend¹

According to developed countries’ experience in industrialization, the number of employed persons in the manufacturing industry and per capita income show an inverted U-shaped relationship. With the advancement of industrialization, per capita income continues to increase; after it reaches a certain level, the proportion of manufacturing employment and added value will decline. Since 1960s, the employment of manufacturing industry in industrialized countries has decreased by about 25 million jobs, while that in EU states has decreased by at least about one third. The proportion of manufacturing and secondary industry in the added value of three industries has gradually decreased, which is considered as “de-industrialization”. Moreover, with the passage of time, the late-developing countries will show a typical characteristic fact of “deindustrialization” at a lower level of economic development than early industrialized countries. When a country’s per capita income reaches a certain level, and if there are obvious innovation spillover effect, industrial linkage effect and foreign exchange reserve effect brought by manufacturing industry, the improvement of service industry efficiency can be the engine to support economic growth; at this time, the reduction of manufacturing industry proportion is considered as “mature deindustrialization”. On the contrary, it is “premature deindustrialization”. If there is a period of rapid decline in the proportion of manufacturing industry compared with “mature deindustrialization”, it can be considered as “too fast deindustrialization”. In the case of “premature deindustrialization” or “too fast deindustrialization”, the manufacturing industry may be replaced by low-skilled, low-productivity and low-trade services. These services cannot replace the manufacturing industry as a new engine of economic growth, nor can it guarantee sustainable economic growth, which is very likely to make developing countries fall into the “middle income trap”.

¹ The core of “de-industrialization” is “de-manufacturing”. Considering that this chapter discusses industrialization and that the data of local manufacturing development in China are difficult to obtain, “de-industrialization” is used here instead of “de-manufacturing”.

In recent years, China's industrial structure has undergone remarkable changes. During the 13th Five-Year Plan period, the proportion of employment in the secondary industry dropped from 29.3% in 2015 to 27.6% in 2018, while the proportion of employment in the tertiary industry increased from 42.2 to 46.3% in the same period. According to results of the fourth national economic census, the number of employees in legal entities and self-employed industrial enterprises reached 131.95 million in 2018, down 11.96% from the end of 2013, while the number of employees in manufacturing decreased by 13.44 million, accounting for 75% of the net decrease in industrial employees. Although it is a general law of economic development that the proportion of secondary industry and primary industry declines and the proportion of service industry increases, the proportion of manufacturing industry declines rapidly when China's economic efficiency and industrialization level are low, which indicates that China's economic restructuring generally presents a tendency of premature or too fast "de-industrialization". According to World Bank data, the per capita GDP of the United States in 2018 was US\$62,641, and the manufacturing industry accounted for about 11.3% of GDP. In 2017, Germany's per capita GDP was US\$44,470, and manufacturing accounted for 20.7% of GDP. In 2016, Japan's per capita GDP was US\$38,972, and manufacturing accounted for 21.0% of GDP. In 2017, the per capita GDP of South Korea was US\$29,743, and the manufacturing industry accounted for 27.6% of GDP. It is thus clear that Germany, Japan and South Korea maintained a high proportion of manufacturing industry at a high level of per capita GDP, except for the low proportion of manufacturing industry in the United States. We believe that the proportion of American manufacturing industry has relatively little reference significance for China, because the competitive advantage of American manufacturing enterprises mostly depends on their excellent IT applications (software advantage within manufacturing industry or service industry) and business model building ability, while China's manufacturing advantage is closer to Germany, Japan and South Korea, that is, it mainly depends on hardware development and manufacturing, so the output value and employment scale of manufacturing industry will be higher. In 2017, China's per capita GDP was only US\$8,827, and manufacturing accounted for 29.3% of GDP, only slightly higher than that of South Korea. With reference to the characteristics of the industrial structures of three manufacturing powers, and considering the speed of China's "de-industrialization" and the level of economic development at the time of its occurrence, it can be judged that China's "de-industrialization" in the past few years was generally "premature" or "too fast".

In order to further reveal the structural characteristics of China's "de-industrialization", we selected changes in the proportion of employees in urban units in 288 prefecture-level cities and above from 2010 to 2017 for our analysis. The results show that about 48.3% of prefecture-level cities have different degrees of "de-industrialization", and the problems of "premature deindustrialization" and "too fast deindustrialization" exist in areas with different development levels. Among them, 70 prefecture-level cities with per capita GDP of US\$10,000 have experienced mature "deindustrialization", and 69 prefecture-level cities with per capita GDP of less than US\$10,000 have experienced premature "deindustrialization". Chongqing is the only megacity with premature "deindustrialization". Fourteen prefecture-level

cities with per capita GDP exceeding US\$10,000 have experienced “too fast deindustrialization”, including Guangzhou, Qingdao, Fuzhou, Lanzhou, Xiamen, Quanzhou and Zhuhai.

The proportion of employees in urban manufacturing industry has dropped by more than 10%. Ten prefecture-level cities have the problem of too fast and premature “deindustrialization”, including old industrial bases such as Mianyang, Siping and Panzhihua.

Faced with the tendency of “deindustrialization”, we should attach great importance to it and take effective measures to prevent it. As a developing country that has not yet fully realized industrialization, China must unswervingly promote the development of real economy with manufacturing at its core, and stabilize the proportion of manufacturing in a reasonable range. Considering the development level of China’s per capita GDP of US\$10,000 and with reference to the target of 25% manufacturing proportion set by Germany’s *National Industrial Strategy 2030* and the manufacturing proportion close to 28% in South Korea, the proportion of China’s manufacturing industry in GDP is suggested to remain basically stable at the current level before 2025, and should not continue to decline. After 2030, the proportion of China’s manufacturing added value should remain at least above 25%.

11.2.2 Challenge of “Great Changes” in the World

China’s industrialization process is closely related to the process of economic globalization. China has given full play to its comparative advantages, and has deeply participated in the division of labor in the global manufacturing value chain. While promoting its own industrialization process, China has also made important contributions to the world economic growth and economic globalization process, and actively promoted the global inclusive and sustainable industrialization process. In 2009, China’s manufacturing industry surpassed that of the United States and became the largest manufacturing country in the world. According to the United Nations Industrial Development Organization (UNIDO) data, in the added value of world manufacturing industry in 2017, industrialized countries contributed 55.3%, newly industrialized countries did 16.3%, China contributed 24.8%, other developing economies did 2.8%, and least developed countries did 0.8%. Compared with 2005, the proportion of China’s global manufacturing value added increased by 13.2% points, while that of all industrialized countries decreased by 14.3%. Of 22 manufacturing industries in the International Standard Industrial Classification, the added value of 14 industries in China ranked first, 7 industries ranked second and 1 industry ranked fifth in the world. The added value of some industries was far ahead of the second-ranked countries.

Along with the rise of China’s manufacturing industry, there have been some “great changes” in globalization, and a major structural adjustment appeared in the global value chain. The forces of trade protectionism and de-globalization represented by the United States are increasing. The multilateral global governance rules

based on cooperation, reciprocity and consultation are being violated, and the multi-lateral trading system is being seriously challenged, with the efficiency and authority of WTO greatly affected. According to the Global Trade Alert report released by the British Center for Economic Policy Research (CEPR) in July 2017, from November 2008 to June 2017, 19 member countries of G20 (excluding the European Union) introduced a total of 6,616 trade and investment restrictions, compared with only 2254 measures for trade and investment liberalization. The United States has become the main force to promote global protectionism. After the financial crisis, the United States introduced a total of 1,191 trade and investment restrictions, ranking first in the world, accounting for 18% of all protectionist measures of G20 member countries, and 462 more than the second-ranked India. According to a new study by OECD, although the reshoring has not replaced offshoring as the dominant paradigm of global value chain division of labor, an increasing quantity of new manufacturing investment has flowed into developed countries. According to the *World Investment Report 2018*, in the past decade, the expanding trend of global value chain, which has lasted for 30 years, stagnated. In 2017, the foreign value added (FVA) in the global value chain was 30%, down 1% point year on year, the first decline of this indicator since 1990. Meanwhile, although the overall participation of global value chains is still increasing, its growth rate has dropped sharply. From 2000 to 2010, the average growth rate of developed countries' participation in global value chain reached 11%, and dropped sharply to 1% from 2010 to 2017, while the growth rate of developing countries' participation dropped from 13 to 3% in the same period. Among them, the participations of the United States and Japan are only 46% and 48% respectively. With the gradual stagnation of global value chain expansion, the role of regional value chain division of labor has become increasingly prominent, and the international production and trade system is being reshaped. There are increasing negotiations on "zero tariff, zero subsidy and zero barrier" within the region. However, some economists have put forward the "Impossible Triangle" theory of globalization, i.e. you cannot get hyper-globalization, western democracy and national sovereignty at same time, of which a country can only have two at the same time. This shows its unsustainability in the long run to a certain extent. In the "great changes" of globalization, the Sino-US trade friction provoked by the United States has a great impact on China's industrialization process. The unilateral trade policy of the United States is breaking the global supply chain, industrial chain and innovation chain based on efficient global value chain division of labor, which will have a great impact on globalization and global economic growth.

It is also noted that in recent years the popularization of industrial Internet, artificial intelligence, cloud computing, big data and other technologies in the United States has promoted the improvement of local labor productivity, and the labor cost advantage of developing countries is constantly being weakened. At the same time, the shale oil technology revolution has greatly reduced the energy cost of the United States, thus changing the United States from an oil importer to a major oil exporter in the world. The energy cost advantage of developing countries will be hard to continue with their energy cost advantages. After the international financial crisis, the United States and other developed countries increased efforts to promote

quantitative easing monetary policy in order to stimulate their own employment and economic growth, which reduced the capital cost of domestic enterprises and lowered the comprehensive tax burden of enterprises. With the support of “innovation policy” of “re-industrialization”, the manufacturing environment in developed countries has been greatly improved. In July, 2018, the Brookings Institution of the United States released the *Global Manufacturing Scorecard: How the US Compares to 18 Other Nations*, which evaluated the policy environment of the global manufacturing industry. By comparing and analyzing 20 indicators related to manufacturing in 19 major countries in the world, the results show that the United States ranks third in the manufacturing environment ranking with a high score of 77 points, second only to Britain and Switzerland (both countries scored 78 points), while China ranks 13th, with a score of 61 points. Under the background of globalization, the “re-industrialization” of developed countries has formed a competitive situation of high-end suppression on China’s deep “industrialization”. In addition, China’s domestic industrial transformation has accelerated, leading to a rising comprehensive cost. According to our calculation, from 2002 to 2017, the labor cost in most manufacturing industries increased by 5–7 times; the overall labor productivity only increased four times; the traditional comparative advantage with labor cost as the core has obviously weakened, thus expediting emigration of China’s labor-intensive industries such as textiles, clothing, food and beverage to southeast Asian countries such as Vietnam, Cambodia and Bangladesh. The low-cost competition from developing countries in Southeast Asia and other regions has made China’s rapid and low-cost industrialization strategy hard to sustain.

This “great change” of globalization will cause great uncertainty to China’s industrialization process in the future. To achieve the Second Centenary Goal, China should ensure the future industrialization strategy will lead and adapt to this “great change” of globalization on the premise of resolutely safeguarding the multilateral governance mechanism. In the medium and long term, it is a crucial period for China to further deepen the industrialization process and promote full realization of industrialization on the basis of China’s basic realization of industrialization. How to make China’s deepening industrialization strategy adapt to this “great change” of globalization is an important task.

11.2.3 Challenge of the “New Industrial Revolution”

Since the second half of the twentieth century, the “new industrial revolution”, characterized by the integration of IT application and industrialization, has been developing. From the perspective of technical and economic paradigm, this round of industrial revolution has promoted the transformation of social productivity based on breakthrough application of information technology, improved the efficiency of social and economic operation with information (data) as the core input factor, and constructed a modern industrial system based on intelligent manufacturing.

In the face of the worldwide trend of new industrial revolution, new technologies, new industries and new business forms have become the arena for competition among great powers. Although China and other emerging economies have increased their scientific and technological strengths and gradually narrowed the gap with the world advanced level, major industrial powers are also constantly consolidating their industrial cornerstone of the new economy with their traditional advantages. The leading technologies in the United States mainly include new generation information technology (chip design, big data, cloud computing, etc.), 3D printing, intelligent hardware (unmanned driving, etc.), biological (medical) technology, etc. Germany's strengths focus on high-end equipment, robots and smart factory solutions, while Japan has technical and industrial advantages in high-end robots, precision parts (including high-end sensors) and new materials. Moreover, in recent years, the United States, Germany and Japan have successively launched the strategy of revitalizing real economy and the "New Industrial Policy". Although there are differences in key areas and policy tools, they aim to strengthen advantages and make up for shortcomings, so as to occupy a commanding height of global competition in new industries. According to statistical data of UNCTAD, the World Bank and other institutions, there were 101 economies in the world (accounting for more than 90% of world GDP) that formulated and implemented industrial policies from 2008 to 2017. In 2019, developed countries released a number of special plans on big data and artificial intelligence, and the Office of Science and Technology Policy of the United States released the *American AI Initiative* signed by President Trump personally. On the White House website, the *American AI Initiative* is regarded as an "executive order", which is issued to American people under the title of the "Executive Order on Maintaining American Leadership in Artificial Intelligence", while Europe has issued comprehensive strategies such as *A Franco-German Manifesto for a European Industrial policy fit for the 21st Century* and *National Industrial Strategy 2030*. These plans and strategies have conveyed clear policy signals: large industrial countries will further strengthen the government's role in cutting-edge technologies and emerging industries, and increase investment in innovation, financing support and other positive means together with non-tariff measures such as investment review and high-tech export control for competitors to ensure industrial competition in the new industrial revolution.

According to the development trend in recent years, rapid breakthroughs in 5G and artificial intelligence technologies and their large-scale commercial application has become the main battlefield of the "new industrial revolution". It must also be the main battlefield for China to deepen its industrialization process. 5G will become the most important infrastructure and underlying technology for manufacturing and the whole national economy. Rapid breakthroughs and application of artificial intelligence as an enabling technology will greatly enhance the commercial application value of 5G, greatly improve the industrial R&D efficiency, production efficiency, engineering efficiency and innovation breakthrough of business model, and become the most important driving force to change the form and structure of manufacturing industry. In the future, 5G and its commercial application will become an important new kinetic energy for China's economic growth. According to China Academy

of Information and Communications Technology (CAICT)'s calculation in 2018, China's GDP indirectly driven by 5G will reach 2.1 trillion yuan by 2025. With the development of artificial intelligence from special intelligence to general intelligence, from artificial intelligence to man-machine hybrid intelligence, and with the accelerating cross-penetration of artificial intelligence into other disciplines, artificial intelligence innovation and entrepreneurship are in full swing, and the artificial intelligence industry will flourish. In September 2016, Accenture, a consulting firm, released a report stating that the application of artificial intelligence technology will inject new impetus into economic development and increase labor productivity by 40% on the existing basis, and that By 2035 the average annual economic growth rate of 12 developed countries such as the United States, Japan, Britain, Germany and France will nearly double. The global industrial community is fully aware of the great significance of 5G and artificial intelligence technologies that will usher in a new round of industrial transformation. Major developed countries in the world regard the development of 5G and artificial intelligence as a major strategy to enhance national competitiveness and safeguard national security. The United States has issued a series of policies and measures to, on the one hand, suppress Chinese enterprises and destroy China's supply chain system and technology system, and on the other hand, strengthen its technological and industrial advantages through institutional innovation and policies, which has posed great challenges to China's deepening industrialization process under the background of new industrial revolution. It must be noted that the "new industrial revolution" has brought great opportunities to China's industrialization process, but this opportunity is also a great challenge. We must stand up to this challenge, deepen China's industrialization process during superpower games, and build China into a modern powerful socialist country.

11.2.4 From High-Speed Industrialization to High-Quality Industrialization

In response to imbalance and insufficiency in China's industrialization development and with major challenges of "de-industrialization", "great changes" of globalization and "new industrial revolution" in China's industrialization process in the future, China will face new industrialization strategy choice in deepening industrialization in the medium and long term, i.e. China needs to promote the transformation of industrialization strategy from high-speed industrialization to high-quality industrialization. The 19th National Congress of the Communist Party of China made a strategic plan for the development of socialism with Chinese characteristics in the new era, and set the strategic goal of building a moderately prosperous society in all respects, basically realizing modernization, and then building China into a modern socialist country in all respects under the guidance of the new development concepts of innovation, coordination, green, openness and sharing. The high-quality industrialization strategy, which definitely embodies the requirement of the

five development concepts, features that: innovation is the first driving force, coordination becomes an endogenous need, green becomes the universal form, opening becomes the only way, and sharing becomes the fundamental purpose. The high-quality industrialization strategy should focus on meeting requirements including: (1) challenge of the new industrial revolution as well as optimization, intelligence, service and green of industrial structure through technological innovation; (2) inclusive and sustainable industrialization requirement raised by the UN 2030 Agenda for Sustainable Development; and (3) synchronous and coordinated development with IT application, new urbanization and agricultural modernization. Specifically, to realize transformation from high-speed industrialization to high-quality industrialization and implement high-quality industrialization strategy, efforts should be made in the following aspects:

First, we need to realize the transformation of investment-driven to innovation-driven industrialization. Innovation is the first driving force for development, and high-quality industrialization requires transformation of the driving force mechanism for development. We must improve our innovation capability in order to meet changes of globalization or meet challenges of the new industrial revolution. This requires deepening the supply-side structural reform and implementing the innovation-driven strategy so as to establish an industrialized innovation-driven mechanism, promote high-end, intelligent, green and service-oriented industries in China, and create a modern economic system with high-quality innovation-driven development.

Second, we will promote the process of high-quality industrialization to improve supply quality of our real economy. With the rapid industrialization process, China has become a large country of real economy in the world, but China is not yet a real economy power. The supply quality of China's real economy needs to be improved at all levels of enterprises, industries and products, which have also aggravated the tendency of China's economy "diverted out of the real economy" in recent years. Therefore, to achieve the transition from high-speed industrialization to the high-quality industrialization, we must focus on improving the supply quality of the real economy, which is the main direction of supply-side structural reform. Building an industrial system with coordinated development of the real economy, scientific and technological innovation, modern finance and human resources required by a modern economic system also requires improving the supply quality of the real economy.

Third, we will realize the coordinated development of new industrialization with IT application, urbanization and agricultural modernization. The high-quality industrialization process must be a new type of industrialization that is deeply integrated with IT applications, promotes the realization of agricultural modernization and develops harmoniously with urbanization. We will take innovation as the first driving force for development and ensure innovation-driven development based on IT applications so as to promote the innovation and diffusion of intelligent, digital and networked manufacturing technologies, go with the general trend of integration and innovation, and promote coordinated development of four modernizations through integration and innovation. The development of integration and innovation requires much attention to the innovation of general and common technologies and to the cultivation of general and compound talents. At present, the main constraints on the

development of integration and innovation in China include: insufficient supply of common technologies and shortage of inter-disciplinary talents. The development of four modernizations also requires China to increase investment in this regard, accelerate the improvement of the socialist market economic system, carry out reform of the system and mechanism with the market orientation, and create a market-oriented allocation mechanism of factors conducive to improving the level of four modernizations.

Fourth, we will promote sustainable industrialization by developing green manufacturing industry. Green manufacturing integrates green design, green technology and process, green production, green management, green supply chain and green employment into the whole life cycle of products, so as to minimize environmental impact, maximize utilization of resources and energy, and achieve coordinated optimization of economic benefits, ecological benefits and social benefits. Green manufacturing plays an important role in promoting the development of green economy and sustainable industrialization, and is an important supporting sector in the modern economic system. Therefore, to promote high-quality industrialization, we must build a modern green manufacturing system by developing green products, building green factories, developing green parks, building green supply chains, expanding green enterprises and strengthening green supervision, so as to promote the sustainability of the whole industrialization process.

Fifth, we will improve the inclusiveness of industrialization through the coordinated regional development strategy. We will coordinate allocation of production factors in different regions, promote effective flow of production factors across regions, and resolve structural contradictions of unbalanced and uncoordinated resource allocation among regions. This is the basic requirement of industrial inclusiveness and the basic content of regional layout of the modern economic system. With the deepening of the balanced development strategy and the formation of the balanced development pattern in China's eastern, central and western regions, China's regional development strategy should give more prominence to the cultivation of internal growth poles in the eastern, central and western regions. In other words, by promoting the development of regional central cities and urban agglomerations, the urban agglomeration strategy will be organically linked with major regional development strategies, such as the coordinated development of the Beijing-Tianjin-Hebei region, the protection and development of the Yangtze River Economic Belt, the development of the Guangdong-Hong Kong-Macao Greater Bay Area, the vitalization of old industrial bases in northeast China, and the rise of the central region. Through development of regional integration, we will strengthen the leading role of central cities, realize the balanced two-wheel drive between regions and within regions, and promote the continuous improvement of the supply quality of regional factors. In the process of implementing the strategy of regional coordinated development, China will increase efforts to support development of old revolutionary base areas, ethnic minority areas, border areas and poverty-stricken areas, and promote development of the western region. This is undoubtedly of great significance for China to improve the inclusiveness of China's industrialization.

11.3 Industrial Policy and Competition Policy for Deepening Industrialization

China's industrial policy needs to be transformed and innovated in the future to adapt to its high-quality industrialization strategy. High-quality industrialization should rely more on competition policy. To let competition policy play its basic role, the industrial policy needs to be transformed and innovated so as to adapt to the fundamental status of competition policy. This is necessary to cope with the great changes of globalization and the new industrial revolution, and to adapt to the staged changes of China's industrialization process itself.

11.3.1 Boundary Between Industrial Policy and Competition Policy and Its Choice

Industrial policy is generally divided into selective industrial policy and functional industrial policy. For the selective industrial policy, the government selects specific industries or enterprises to promote the concentration of resources to specific industries and enterprises through administrative intervention in factor markets and product markets (such as subsidy policies for specific industries and enterprises). For the functional industry policy, the government provides public services such as science and technology and human capital for the whole industry by market or non-market means (manufacturing innovation system), thus directly improving the overall enterprise capability in the industry. From the perspective of policy rationality, selective industrial policy distorts the market, and its applicable scenario is that the government corrects market failure by intervening in factor markets and products when a market failure occurs. The basic policy goal of functional industry policy is to strengthen the market, and its rationality lies in that when there is "system failure", the government provides specific services for industries and enterprises to enhance their capabilities by building the innovation system or public service system. The policy instruments of selective industrial policies include guiding catalogue, tax incentives, financial subsidies, etc. The main policy instruments of functional industrial policies involve establishment of the industrial innovation system and the public service system, such as common technology research and development institutions, technology diffusion service institutions and projects, legal and accounting services for small and medium-sized enterprises, etc. It is thus clear that selective industrial policies intervene in the market more by means of "administrative instructions", while functional industrial policies mainly make up for the market by means of "non-mandatory service."

Competition policy is a policy to maintain fair competition on the market, and its core is anti-monopoly and anti-unfair competition policies. The rationality of competition policy is to restore the market. Its basic assumption is that fair competition is the most effective way to allocate resources, and competition policy plays

a role in preventing market and non-market forces from destroying fair competition. Policy instruments of the competition policy are mainly anti-monopoly and anti-unfair competition, and more intervention in the market through “law”. Unlike the core role of selective industrial policy that is to correct market failure, the core role of competition policy is to maintain fair competition. The use of industrial policy and competition policy is a complex and dynamic process of choice based on timing, conformable to a country’s industrialization stage and international competition rules. In other words, a country’s industrialization stage (or the industrial development level) and international competition rules are main factors shaping a country’s industrial policy system and competition policy.

From the industrialization stage, China will basically realize industrialization as a whole in the medium and long term, and start a period of deepening high-quality industrialization. Selective industrial policies, such as subsidies, are becoming more and more inapplicable. Industrial policy resources are more oriented to the establishment of science and technology service system. Industrial policies should be transformed from being selective to functional, while competition policies will play a more and more fundamental role. In terms of rationale, the more incomplete a country’s industrial structure is, the lower its industrial technology level and the more active its selective industrial policy will be. With the perfection of its industrial structure and its industrial technology approaching the global technological frontier, competition policy and functional policy will be more dominant policies. The reason is that when the industrial structure is incomplete and the technical level is relatively backward, the government can select industries and technologies for priority development with reference to developed industrial countries. In the late industrialization or post-industrialization period, original innovation and disruptive innovation are needed, and competition policy and functional industry policy become more effective. From the perspective of international competition rules, in the face of the “great change” of globalization, global trade rules and competition order are constantly changing and even in the process of order reconstruction, and all major countries are trying to master and strengthen their dominance in emerging technologies and industries.

From the perspective of international competition rules, due to “great changes” of globalization, the global trade rules and competition order are constantly changing and even in the process of order rebuilding, and all major countries are striving to master and enhance their leading power in the fields of emerging technologies and industries. Under such circumstances, China will actively integrate into new multilateral trade and investment rules by opening its market wider and at a higher level in the medium and long term, strengthen IPR protection, and enhance competition policies. The purpose of international trade and investment rules with WTO agreement as the core is to maintain a free, fair and transparent global market order and strive to form a set of market economy development rules. On the premise of no legitimate purpose, China’s industrial policy should not violate the principles of most-favored-nation treatment, national treatment and transparency established in WTO agreements, and the subsidies by Chinese government or public institutions should not be specific to

enterprises or industries. Only in this way can China's industrial policies, especially subsidy policies, gain legitimacy in international law.

11.3.2 Implementation Principles and Transformation of China's Industrial Policies in the Future

In line with the requirements of modernizing China's governance systems and capacity and innovation-driven development, the formulation and implementation of industrial policies should be formulated and implemented according to the following principles.

First, we will exercise strict control over the number of selective industrial policies. China has basically passed the stage of implementing a large number of industrial policies. Its industrial policies should be few but good. To reduce repetitive and inefficient industrial policies and policy planning, the research, formulation and promulgation of industrial policies should be put under centralized management, and no departments should issue industrial policies without deliberation by the State Council.

Second, the quality of industrial policies will be highlighted. It is better not to introduce policies with low quality. We will further improve the scientific, democratic and legal decision-making mechanism, and perfect the systems of public participation, expert discussion, risk assessment, legality review and collective discussion and decision, so as to take into consideration the demands of various stakeholders, and step up efforts to improve the quality of policies.

Third, we will strengthen the coordination of industrial policies. Poor effect of many industrial policies is due to the fact that one policy is formulated by multiple institutions and that policy effects offset each other. We will improve the coordination mechanism among departments, strengthen policy coordination, fully consider the actual situation of related industries and fields when formulating and adjusting policies, and try to avoid the use of "one-size-fits-all" solution. In order to seize the opportunity of digital economy and platform economy and control their negative impacts, industrial policies must be further coordinated with employment and other related policies to achieve mutual promotion and complement.

Fourth, we will strengthen the whole process management of industrial policies. Strengthening the whole process management is of great significance for improving the quality of industrial policies and ensuring the implementation effect. We will integrate management and supervision into industrial policies, and constantly improve the level and authority of the legalization of industrial policies in the whole process from research, decision-making, implementation, organization to evaluation. In the meantime, the whole process cost-benefit analysis is regarded as an important aspect of strengthening management.

On the basis of above principles, China's industrial policy transformation in the future can be summarized as follows:

We will shift from selective industrial policy to functional industrial policy to the utmost extent. Taking the functional industry policy as the basic framework, we will focus on promoting the formation of high-quality elements, avoid interference in the combination of elements as much as possible, and establish and perfect a complete set of industrial policy system that meets the requirement of modernizing the national governance system. In contrary to the government's practice of directly selecting industries and designating enterprises through the Guiding Catalogue of Industries, we will implement the negative list system of market access, reform the production license system, reduce the pre-access restrictions of most industries, and minimize the government's direct allocation of market resources and direct intervention in market activities. The roles of industrial policies in improving market functions and making up for market failures include improving the survival of the fittest mechanism and backward production capacity exit mechanism, improving bankruptcy system, important information disclosure mechanism of industrial development, building a "going global" platform, and improving the open sharing mechanism of public scientific and technological resources. We will provide support for basic research, increase R&D tax credits, and encourage enterprises to carry out technological innovation and achievement transformation.

The "rigid" industrial policy will be changed into "flexible" industrial policy to the utmost extent. The formulation and implementation of industrial policies should fully reflect the fundamental status of competition policy and create a fair competitive market environment. We will increase efforts in the IPR protection, establish a punitive compensation system for IPR infringements, and strengthen the protection of business secrets of enterprises. In combination with other policy instruments, we will guide local governments to reduce the "preferential condition competition" in attracting investment and talents, encourage local governments to shape a good industrial ecology and competitive environment, and develop advantageous and characteristic industries in their region according to local conditions. The leading role of various standards will be strengthened to enhance the basic industrial capacity and the modernization level of the industrial chain.

We will shift from industrial policy under a closed environment to industrial policy under the open conditions to the utmost extent. The high openness of industrial policies will be treated as an important part of opening to the outside world. Efforts will be made to realize the compatibility between industrial policies and international prevailing rules and practices, improve the inclusiveness of industrial policies, and reduce financial subsidies, tax incentives and other policies for competitive industries. We will eliminate a number of outdated, vague, extensive and inefficient industrial policies in a timely manner, strengthen the filing and examination of normative documents, and establish a long-term mechanism for cleaning up relevant policies. The communication mechanism between government and enterprises will be improved so as to solicit opinions of various enterprises and trade associations at home and abroad, and enhance the transparency and public participation in industrial policy formulation. High-end talents will be attracted globally into the international big science programs and big science projects led by China. We will improve the

systems of national security review, anti-monopoly review, national technical security list management, unreliable entity list and other systems for foreign investment.

We will make sure that selective industrial policies are implemented in very few key areas related to the overall development of the country and national industrial security. At present and for a long time to come, it will be more likely for China to be “strangled” by the United States in key core technologies. In case of extraordinary situations, we must take exceptional actions. Efforts will be continued to increase investment in basic research and improve the system and mechanism of encouraging and supporting basic research and original innovation. In the meantime, we will give full play to China’s institutional advantages and economic scale advantages, and implement selective industrial policies on the premise of combining market mechanisms as much as possible by improving the national laboratory system and coordinating the whole industrial chain. From the perspective of industrial safety management, we will ensure safety management of China’s industrial chain. While developed countries put industrial chain safety at the core of industrial policy and competition policy, and accelerate improvement of the item-level design and comprehensive system of industrial chain safety management, China’s industrial management still focused on “decentralized support for the development of various industries”. Industrial chain safety management stays actually in a “marginal” state in industrial policy and competition policy and in a “blank” state in the system, featuring insufficient resources investment and talent guarantee due to the lack of a powerful general institution and an effective inter-departmental coordination mechanism as well as the deficiency of laws, regulations and management system of industrial chain safety management. In the medium and long-term development in the future, we will focus on top-level design, institutional setup, collaborative mechanism, investigation and evaluation. It is of urgent and important strategic significance for China to establish an industrial chain safety management system in line with its national condition, so that the industrial chain safety management can create a solid and reliable pre-foundation for the formulation and implementation of manufacturing development planning, anti-monopoly and other industrial policies and competition policies. By learning from other countries’ experiences, we will enhance the international competitiveness of China’s industries, and ensure the safety of the industrial chain. For this purpose, a full-coverage industrial chain safety management framework has been established. It is suggested that the safety management scope of China’s industrial chain include the following “two categories and five aspects”. The first category is inward industrial chain security, that is, the situation that active competitive behavior or uncontrollable factors from abroad may threaten the security of China’s industrial chain, which includes: first, industrial chain security risks caused by dependence on foreign core technologies, basic materials, parts (devices) or high-end equipment, second, foreign enterprises’ adjustment of the underlying technology route of general technology or specific industries that has a fundamental impact on China’s industrial chain based on traditional technology route, third, competitive countries that have mastered and controlled key international technical standards and thus actually controlled and suppressed the formation of China’s industrial chain, and forth, China’s supply chain security threats caused by uncontrollable factors abroad (such

as political turmoil, earthquakes, epidemics, etc.). The second category is the safety of outward industrial chain, i.e. Chinese industries' export of technology or products to the outside world, which damages their own industrial control or competitiveness. With the gradual improvement of the original innovation capability of Chinese enterprises, active intervention and intermediary of national policy forces are necessary in the core technologies, key materials or equipment related to the competitiveness of China's whole industrial chain, despite the need to protect their own intellectual property rights and competitive strategies.

11.3.3 Establishment of the Fundamental Status of Competition Policy

The fundamental status of competition policy means that competition policy is in a leading position as compared with other economic policies. From the perspective of coordination between industrial policy and competition policy, the fundamental status of competition policy is mainly manifested as: first, an important economic policy that breaks monopoly and unfair competition in an industry through anti-monopoly law, anti-unfair competition law, competition neutrality and deregulation, and also provides a competitive market environment for the high-quality development of the industry, and second, the core role of a market mechanism in protecting fair competition on the market. It is also used to guide industrial policy with the idea of competition, and to restrain and limit the elements and competition policy that are detrimental to fair competition in industrial policy.

In June 2016, the State Council issued the *Opinions of the State Council on Establishing A Fair Competition Examination System in the Building of the Market System* (hereinafter the "Opinions"), stating that these opinions were released "for the purposes of standardizing relevant acts of the government, preventing the issuance of policies and measures, eliminating or restricting competition, and gradually reviewing and repealing the provisions and practices that hinder the unified national market and fair competition". The State Council also proposed establishing a fair competition examination system in the building of the market system. These Opinions are generally regarded as a programmatic document for competition policy to restrain industrial policy. According to these Opinions, the constraints of competition policy on industrial policy are designed to: first, prevent introduction of industrial policies that exclude and restrict competition by releasing fair competition examination, and second, gradually eliminate and abolish remaining industrial policies hampering national unified market and fair competition. However, China's industrial policies have been formulated and implemented by administrative departments. Under such policy-making procedures and organizational mechanisms, each ministry or commission often seeks to maximize their own interests through policy formulation, such as empowering more authorities to its own department (intervening in market competition and regulating market competition), seeking to control more

financial funds (more power to selectively allocate policy resources) and taking less responsibilities. Within the current institutional framework, therefore, the constraints of the above-mentioned competition policy on industrial policy cannot be guaranteed by mechanism and solved fundamentally. The key to promoting the transformation of industrial policy lies in the reengineering of industrial policy-making procedures and organizational mechanisms, and in how to incorporate fair competition examination mechanism into the industrial policy-making mechanism.

We suggest that the organizational guarantee for coordination of industrial policy and competition policy can consider the following schemes. In order to achieve separation of powers and authorities of industrial policy formulation and implementation, we will establish a national competition policy and industrial development Committee based on combination of the current Anti-Monopoly Committee of the State Council and the National Manufacturing Strategy Advisory Committee, responsible for the formulation of competition policy and industrial policy, while relevant ministries and commissions are responsible for specific implementation of industrial policies. The difference between this scheme and the current governance system of China's competition policy and industrial policy is that the policy-making department is separated from the policy-implementing department, and the focus of policy coordination is adjusted from ex-post coordination after the issuance of the policy to coordination prior to the issuance of the policy. The scheme is designed specifically as follows:

First, a committee on competition policy and industrial development will be established. The formulation and decision-making power of industrial policy belongs to the Competition Policy and Industrial Development Committee, The corresponding administrative departments have the right to suggest and draft policies, but they are mainly responsible for the implementation of various competition policies and industrial policies, so as to avoid the administrative departments from formulating industrial policies that interfere, restrict and distort competition for the benefit of departments in the process of policy making and decision-making.

Second, the competition policy and industrial development committee governs a Competition Policy and Industrial Development Research Office, a Competition Policy and Industrial Policy Advisory Committee, and a Competition Policy and Industrial Policy Review Committee, and establishes the review Committee system. The Competition Policy and Industrial Development Research Office will be responsible for: long-term research of industrial development strategy, competition policy and industrial policy; drawing up the outline of industrial development strategy and important policy drafts, and extensively soliciting opinions and suggestions; collecting and evaluating general policy plans (draft policies), and soliciting opinions and suggestions from the public, academia, think tanks and relevant interest groups for some drafts submitted to the Competition Policy and Industrial Development Committee for deliberation. The research office should also be built as an important platform for communication among policy departments, academia, scientific and technological circles, enterprises and other departments. The Advisory Committee on Competition Policy and Industrial Policy will be composed of anti-monopoly experts, think tank experts, university scholars, industry experts and entrepreneurs'

representatives. It provides consulting services for the Competition Policy and Industrial Development Committee and the Competition Policy and Industrial Development Research Office. Its office can be located within the Competition Policy and Industrial Development Research Office.

Third, the Committee on Competition Policy and Industrial Development will set up a review conference and establish a review conference system. Members of the review conference are mainly representatives or professionals from industry, academia, finance, press, think tanks or research institutions as well as non-governmental organizations (trade associations, chambers of commerce, etc.). There must be anti-monopoly experts or representative members among the members of the review conference. When discussing special policies or issues, it is necessary to increase the participation of representatives from interest groups, administrative departments and private enterprises. The Competition Policy and Industrial Policy Review Committee will be responsible for consulting and reviewing the draft competition policy and industrial policy. Before the draft policy is submitted to the Competition Policy and Industrial Development Committee for voting, it must be considered by the Competition Policy and Industrial Policy Review Committee to obtain a more consistent opinion. Anti-monopoly experts of the review conference must submit written review opinions. When the draft policy is submitted to the Competition Policy and Industrial Development Committee, it must be attached with opinions of the review conference. In addition, the review conference on competition and industrial policies should be transparent and open to the public and media, and all comments should be recorded. When the exception clause of fair competition review is applied in formulating industrial policies, policy makers shall conduct a full discussion with all policy participants and relevant interest groups, and accurately judge the possible social welfare losses and benefits that may be caused by these policies.

Fourth, a supporting network for industrial development and policy research and consultation will be established, which is composed of key organizations such as industry associations, chambers of commerce, think tanks, research institutions, universities and some enterprises. The Competition Policy and Industrial Development Research Office is responsible for maintaining close contact and collaboration with institutions that provide research and information support for the research and formulation of industrial policies, among which industry associations, think tanks and other institutions can also submit suggestions and policy plans for initiation of policies to the Competition Policy and Industrial Development Committee.

Fifth, mid-stage and late-stage evaluation of policies will be conducted. The Competition Policy and Industrial Development Research Office will pay constant attention to the implementation and policy effects of important policies, and conduct mid-stage and late-stage evaluations. An independent third party may be entrusted to conduct mid-stage or late-stage evaluation. Problems found in the evaluation should be corrected and adjusted in a timely manner. For policies involving exceptions to fair competition review, a more comprehensive and in-depth evaluation of the benefits and costs of policies will also be necessary.

11.4 Policy Suggestions for High-Quality Development of the Manufacturing Industry

The manufacturing development is the decisive factor and core requirement of the industrialization process. In the medium and long term, efforts will be made to deepen the industrialization process and achieve high-quality development in China, with focus on promoting the high-quality development of manufacturing industry, and building China's high-quality industrialization strategy and policy system to make breakthroughs in core technologies.

11.4.1 Strengthening the Planning and Deployment of High-Quality Development of Manufacturing Industry

We will formulate a strategic plan for the high-quality development of manufacturing industry in our planning system to promote the transformation of manufacturing industry from high-speed growth to high-quality development. In the overall strategic orientation, we should weaken “benchmarking” or “catching up with” Europe, America and Japan, strengthen and highlight the core competence of China's manufacturing industry through overall deployment, and make China's original contribution to the development of global manufacturing industry. With emphasis on the policy orientation of “building up the core competence of China's manufacturing industry” in the new industrial revolution, we will reveal to the world China's vision of promoting human technological progress and industrial development along with global industrial countries through original innovation, and let domestic people understand that we will unite governments at all levels and enterprises to form strategic ambitions and achieve higher quality development of China's manufacturing industry.

In regard to overall development, we will weaken the choice of key industries and fields, and highlight the general technological innovation and overall industrial deployment under the background of the new round of industrial revolution. New technologies and new industrial revolution are common challenges faced by all countries in the world. The strategic planning of high-quality development of China's manufacturing industry should learn from experiences and common practices of the United States, Germany, Japan and other countries. In the formulation of strategic tasks, more emphasis will be placed on promoting original innovation and technological breakthroughs in general technologies and enabling technologies in digital, intelligent and networked application of manufacturing industry. More emphasis will be placed on the overall deployment of new technology innovation and application (rather than on industry). For example, when promoting innovation and application of 5G technologies, we should avoid using expressions such as supporting the development of specific 5G fields, and emphasize improving the task orientation of

5G innovation chain and industrial ecology by promoting the development of 5G application scenarios, infrastructure investment and reference architecture.

In terms of specific key tasks, while emphasizing intelligent manufacturing, green manufacturing and high-end manufacturing, we should also give more prominence to service-oriented manufacturing and quality revolution oriented by management innovation. Under the background of today's new industrial revolution, the high-quality development of China's manufacturing industry is undoubtedly oriented to intelligent, green and high-end manufacturing industry, which thus requires us to continuously improve the ability of scientific and technological innovation, develop intelligent, green and high-end manufacturing, and urge China's manufacturing industry to seize the great opportunity of the new industrial revolution in today's world. However, for the development of most manufacturing industries in China, we are still far away from the Cyber Physical Systems (CPS) advocated by German Industry 4.0 due to the lack of technical foundation of many industries, but the task of promoting service-oriented manufacturing with the integration of manufacturing and services and promoting quality improvement of Chinese manufacturing industries seems more urgent and practical. In today's era, the service-oriented manufacturing is also an important direction of manufacturing transformation and upgrading when manufacturing enterprises are gradually evolving from focusing on production and products to focusing on "product + service", which has greatly promoted the added value of manufacturing industry, and then enhanced the total factor productivity and high-quality development of manufacturing industry. In addition, unlike other developed industrial countries, China's manufacturing quality problems have not been substantially and comprehensively solved. Improving the quality of manufacturing products and services in all respects through the manufacturing quality revolution remains an important lesson that China must make up for when it becomes a manufacturing power.

11.4.2 Increasing Efforts to Improve the Modern Manufacturing Innovation System

On the one hand, we will accelerate transformation from industrial policy to innovation policy, and gradually shift the direction of policy resource allocation from specific industries to technological innovation. At present, China's industrial policies are designed for industrial sectors. On the other hand, the industrial policies as well as selective industrial policies and measures of the United States, Japan, Germany and other countries, such as taxation and finance, are specific to technology developments in these industries or fields. Whether industrial policy is linked to industries or technological innovation in these industries may have completely different effects. If it is linked to industry, it will induce enterprises to expand productive investment, which is an important reason for overcapacity in emerging industries such as photovoltaics and industrial robots in China in recent years.

On the other hand, we will speed up deployment of scientific and technological facilities and institutions that meet technical and economic requirements of strategic frontier technologies, general technologies and common technologies. With China's industrial structure becoming more and more complete and its technical level approaching to the international frontier, more public policy resources that aim to promote industrial development should be allocated to the construction of public service system rather than to tax incentives and financial subsidies. We will increase fund input in basic research by building an open, collaborative and efficient common technology research and development platform, so as to improve the demand-oriented and enterprise-oriented integrated innovation mechanism of production, education and research, pay close attention to the layout of national laboratories, and reorganize the state key laboratory system. In addition, efforts will be made to make up for shortcomings in the establishment of public science and technology service system in China, including lack of specific entities and functions of the science and technology service system. It is suggested that small and medium-sized enterprises should be provided with consultation and training in quality management, on-site management, process optimization, etc. by building a "manufacturing innovation network" and certifying technical consultants and management consultants of small and medium-sized enterprises, so as to effectively improve China's manufacturing level and efficiency from the level of production technology rather than production equipment.

11.4.3 Advancing Strong Industrial Foundation and Reengineering Protects

In the medium and long term, in order to solve bottleneck problems in underlying technology and core components of China's manufacturing industry, we will increase resource input, effectively promote industrial foundation and reengineering projects, and strive to achieve breakthroughs in four areas: core basic components (components and parts), key basic materials, advanced basic processes and industrial technology foundation.

First, improving the basic service systems such as test verification, measurement, standards, inspection and testing, certification and information services. China's national industrial basic service system falls far behind developed industrial countries, such as poor management, chaotic system and low level. In the future, we will attach great importance to the industrial basic service system in the national strategy, especially the improvement of national quality infrastructure. We will also actively promote standards, metrology, certification and accreditation, inspection and testing, improve the government quality supervision and management system, and make innovate of the government quality governance system to meet needs of industrial upgrading, so as to accelerate formulation and implementation of industrial quality, safety, hygiene, environmental protection and energy conservation standards

in line with the international advanced level. Full play will be given to the guiding role of standards for the purpose of increasing our voice in the international field, further improving China's calibration and measurement capabilities, strengthening the international influence of China's certification and its leading roles in trade rules, and enhancing the international competitiveness of China's inspection and testing.

Second, expanding and deepening the building of robust industrial foundations in our manufacturing power strategy. We will establish the institutional mechanism of collaborative research in the whole society in response to key bottlenecks hampering the manufacturing process, such as key basic materials, core basic parts (components) and advanced basic processes. Efforts will be continued to jointly promote the technical cooperation of upstream and downstream enterprises in the industrial chain, so as to advance technological innovation, management innovation and institutional innovation of enterprises, and promote the cultivation of entrepreneurial spirit of continuous innovation and carry forward the craftsman spirit of excellence and dedication. Resolute efforts will be made to improve social and cultural environment and economic incentive mechanism, so as to effectively solve the structural problem of "imbalance between real economy and virtual economy" caused by "deviating from real economy to virtual economy", reform and improve the vocational training system, vocational social security, salary and reward system, etc., and form an incentive system conducive to cultivating the "craftsmanship spirit" of modern industrial workers.

Third, establishing the fundamental status of competition policy to cultivate the environment for stimulating disruptive technological innovation. There are path differences between iterative technological innovation and disruptive technological innovation. Iterative technology is prone to path dependence, so it is difficult to achieve major technological breakthroughs. Facing the opportunity of the new industrial revolution, we will create a favorable environment to stimulate disruptive technological innovation. Small and medium-sized enterprises are of great significance in disruptive innovation, so we will increase support for innovation in small and medium-sized enterprises. We will further strengthen IPR protection and application, improve competition policies such as anti-monopoly, and form an effective innovation incentive mechanism. In the final analysis, we will promote the establishment of the fundamental status of competition policy, and establish a coordination mechanism between competition policy and industrial policy. It must be recognized that establishment of the fundamental status of competition policy is to ensure the institutional environment for the fundamental and effective industrial base reengineering project. It should be noted that faced with opportunities and challenges of the new industrial revolution, some developed countries have implemented strategies to promote the development of advanced manufacturing industries in recent years, including *American Strategy for Leadership in Advanced Manufacturing* in 2018, and German *National Industrial Strategy 2030* in 2019. This has been interpreted as the intervention of developed countries in manufacturing development through government power of industrial policies. But in fact, the scope, strength and mechanism of the implementation of these so-called industrial policies are strictly constrained by competition policies including anti-monopoly policy. The market-based role of

the competition policy formed by developed countries for a long time has not been damaged.

Forth, establishing an evaluation system of industrial basic capacity. We will first establish an evaluation system of industrial basic capacity, and then, based on this system, investigate and evaluate the industrial chain, supply chain and key technologies in all respects twice in a year so as to accurately evaluate the current situation of China's industrial chain, supply chain and key technologies, analyze the distribution of innovation chain, supply chain, industrial chain and value chain of industries. This will be of great significance for the reengineering of industrial base, and also conducive to taking the initiative in Sino-US trade friction and actively responding to the containment made by the United States on China's industrial chain, supply chain and technological innovation.

Fifth, building the core factory for industrial basic capacity reengineering by reference to Japan's "parent factory" system. The so-called "parent factory" is an enterprise or a modern factory established in home country, which plays the role of development, trial production, technical support and maintenance of the advanced technology. With the function of continuously optimizing technology and improving capability at the manufacturing level, it can be considered as a modern core factory that integrates key core technologies and processes and can continuously optimize itself. Overseas factories are generally the replication of "parent factory" technology and management. Using this system for reference, Chinese enterprises should build a "parent factory" that covers all industrial chains and key links in China, and make it a core factory to improve basic industrial capabilities. This core factory, on the one hand, can integrate elements, optimize processes and cultivate talents to strengthen "core basic parts and components, advanced basic technological process, key technical materials, and key industrial basic technologies" at the manufacturing level, so as to improve China's industrial basic capabilities under the professional integration and long-term achievements. On the other hand, it can reduce the negative impact of "manufacturing hollowing-out" on industrial safety under the background of Chinese enterprises' "going global" and "migrating like flying geese". Even if the industry is relocated, the core technology and basic capability of the industry will remain in the core factory, and the safety of domestic industry will not be significantly affected.

Chapter 12

Mid-to-Long-Term Trends and Optimization Policy of the Ownership Composition



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The practice of more than 40 years of reform and opening-up shows that unwaveringly consolidating and developing the public sector of the economy, unwaveringly encouraging, supporting and guiding the development of the non-public sector of the economy, and adhering to and perfecting the socialist basic economic system of “public sector as the main body and multiple ownership economies developing together” are an important experience for China to create a miracle of economic growth. In China, the change of ownership composition should adapt to the high-quality development of its economy. Therefore, in the medium and long term, we need to answer such major questions as how to deepen the strategic adjustment of state-owned economy, how to create a fair competition environment between state-owned economy and non-state-owned economy to achieve common development, and how to improve the ownership policy to adapt to the high-quality development stage. For this end, this chapter will focus on four points as follows: the institutional basis of the evolution of China’s ownership composition, the present situation and problems of China’s ownership composition, the basic trend of China’s ownership composition change in the future, and the major policies to improve the ownership composition.

12.1 Institutional Basis for the Evolution of Ownership Composition

The practice of more than 40 years of reform and opening-up shows that unwaveringly consolidating and developing the public sector of the economy, unwaveringly encouraging, supporting and guiding the development of the non-public sector of

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the economy, and the coexistence and common development of the public sector of the economy and the non-public sector of the economy are an important experience to create the miracle of China's economic growth. "Two unwavering" has undoubtedly become an important connotation of China's wisdom and China's plan. It was stated at the 4th Plenary Session of the 19th CPC Central Committee that the basic economic system of socialism with Chinese characteristics includes: (1) the mixed ownership economy, whereby the public ownership plays a dominant role and different economic sectors developing side by side, (2) the distribution system in which distribution according to work is dominant and multiple forms of distribution coexist, and (3) the socialist market economy system. The combination and institutionalization of the economic operational mechanism or the resource allocation mode and the distribution system has reflected the superiority, inclusiveness and special quality of the socialist system, and also highlighted the great significance of the mixed ownership economy with public ownership playing a dominant role and different economic sectors developing side by side for building the socialism with Chinese characteristics.

By collating the Party's documents on deepening economic system reform, we can see the shift of ownership composition from pure public ownership economy to an economy featuring common development of the public sector, individual sector, private sector and different forms of overseas investment economy.

The 14th National Congress of the Communist Party of China pointed out that "the public ownership includes ownership by the whole people and collective ownership, supplemented by individual, private and foreign-funded sectors".¹ This has clarified the relationship between the public sector and non-public sector of the economy; in other words, Chinese economy is based on the former and supplemented by the latter. The Third Plenary Session of the 14th CPC Central Committee explained the dominant position of the public ownership, that is, "the public ownership accounts for a considerable proportion in total social assets, and the state-owned economy dominates national economy and plays a leading role in economic development".² The policy for further adjustment of the ownership composition is defined as "encouraging the development of individual, private and foreign-funded economies, and strengthening administration of them according to law while actively promoting the development of state-owned economy and collective economy."³

The 15th National Congress of the Communist Party of China finalized the basic economic system in the primary stage of socialism, i.e. "public ownership playing a

¹ Jiang Zemin, *Accelerating the Reform, the Opening to the Outside World and the Drive for Modernization, So As to Achieve Greater Successes in Building Socialism with Chinese Characteristics*, Selected Works of Jiang Zemin (Volume I), People's Publishing House, 2006, p. 227.

² Decision of the Central Committee of the Communist Party of China on Several Issues Concerning the Construction of Socialist Market Economic System, *People's Daily*, November 17, 1993.

³ Decision of the Central Committee of the Communist Party of China on Several Issues Concerning the Construction of Socialist Market Economic System, *People's Daily*, November 17, 1993.

dominant role and different economic sectors developing side by side”.⁴ The public ownership, as the foundation of the socialist economic system, plays a dominant role in Chinese economy because public assets account for a considerable proportion in total social assets and state-owned economy dominates national economy and plays a leading role in economic development. The non-public economy is an important part of China’s socialist market economy. It is noted that the *Proposal by the CPC Central Committee on the 15th Five-Year Plan for National Economic and Social Development* adopted at the Fifth Plenary Session of the 15th CPC Central Committee theoretically explained that the diversity of ownership composition is determined by the multi-level productivity in the primary stage of socialism in China. This has provided a theoretical basis for the rapid development of the non-public economy. Since then, upholding and improving the basic economic system has become the main policy for adjusting the ownership composition.

The 16th National Congress of the Communist Party of China further put forward “working unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector”, and stated that various forms of non-public-owned economy, such as individual and private sectors, are important components of the socialist market economy.⁵ Ever since then, the non-public economy has no longer existed in opposition to the public economy, but constituted a part of the socialist market economy. In 2003, the Third Plenary Session of the 16th CPC Central Committee further pointed out that “property rights are the core and main content of ownership”,⁶ and that the inherent requirement of perfecting the basic economic system was establishing a modern property right system with clear ownership, clear rights and responsibilities, strict protection and smooth circulation. In order to promote the development of non-public economy, we broadened market access, allowing non-public capital to enter the infrastructure, public utilities and other industries and fields not prohibited by laws and regulations. Non-public enterprises will have equal rights with other enterprises in investment and financing, taxation, land use and foreign trade. In order to promote the development of non-public economy, the State Council passed and issued the *Several Opinions on Encouraging, Supporting and Guiding the Development of Individual and Private Non-public Economy* (hereinafter “36 Guidelines on encouraging and supporting the development of nonpublic sector”), and began building relevant supporting systems. As a result, most monopolized industries (except those related to economic security) were open to private economy at theoretical and policy level. In 2010, the State Council issued the *Several Opinions of the State Council on Encouraging and*

⁴ Jiang Zemin, *Hold High the Great Banner of Deng Xiaoping Theory for an All-round Advancement of the Cause of Building Socialism with Chinese Characteristics into the 20th Century*, Selected Works of Jiang Zemin (Volume II), People’s Publishing House, 2006, p. 19.

⁵ Jiang Zemin, *Build a Well-off Society in an All-Round Way and Create a New Situation in Building Socialism with Chinese Characteristics*, Selected Works of Jiang Zemin (Volume III), People’s Publishing House, 2006, pp. 547–548.

⁶ Decision of the CPC Central Committee on Several Issues of Perfecting the Socialist Market Economic System, *People’s Daily*, October 22, 2003.

Guiding the Healthy Development of Private Investment (hereinafter “36 new Guidelines on the development of non-public economy”, numbered GuoFa [2010] No.13), aiming to further broaden the field and scope of private investment, encourage and guide the development of private capital in various fields. Nearly all fields in the private sector have been covered. From the 16th to 17th National Congress of the Communist Party of China, perfection of the basic economic system focused on creating an fair environment for the development of different ownership economies, emphasizing equal protection of property rights on the premise of working unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector.

The *Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform* (hereinafter the “Decision”), adopted at the Third Plenary Session of the 18th Central Committee of the Communist Party of China on November 12, 2013, further emphasizes that “the basic economic system with public ownership playing a dominant role and different economic sectors developing side by side is an important pillar of the socialist system with Chinese characteristics and is the foundation of the socialist market economy”.⁷ This means that the non-public economy has been treated equally as the public economy. Therefore, the “Decision” further pointed out: “both the public and non-public sectors are key components of the socialist market economy, and are important bases for the economic and social development of China” and “the property rights of the public sector are inviolable, as are those of the non-public sector.”⁸ In addition, the Decision also pointed out that the mixed ownership economy is an important way to materialize the basic economic system of China. This has laid an ideological and policy foundation for the further integration of public-owned economy and non-public-owned economy, especially the state-owned economy and non-state-owned economy, won a fair development environment for the non-public-owned economy, and cleared away institutional obstacles for abolishing various unreasonable regulations and eliminating various hidden barriers. Obviously, in order to encourage non-public economy to participate in the reform of state-owned enterprises, and especially to develop mixed ownership enterprises controlled by the non-public economy, we must improve the modern corporate system of all enterprises so as to achieve supervision of them within one institutional system. Moreover, to deepen the reform of state-owned enterprises, we should implement classified supervision on the basis of accurately defining the functions of enterprises, and improve the asset management system of state-owned enterprises by managing capital, so as to further open up competitive fields, and concentrate state-owned capital investment in important industries and key fields related to national security and to the lifeline of national economy.

⁷ Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform, *People's Daily*, November 16, 2013

⁸ Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform, *People's Daily*, November 16, 2013

The important value of the 4th Plenary Session of the 18th Central Committee of the Communist Party of China lies in establishing the important role of law in the market economy, emphasizing that “the socialist market economy is essentially an economy ruled by law”.⁹ To fulfill the decision made at the 3rd Plenary Session of the 18th Central Committee of the Communist Party of China, i.e. “let the market play the decisive role in allocating resources and let the government play its functions better”, we will improve the legal system of socialist market economy, standardize market payers’ behaviors, and ensure equal status of different entities before the law, that is, adhering to the property rights protection system with fairness at its core, and protecting the property rights of economic organizations and natural persons of different ownership.

The 19th National Congress of the Communist Party of China outlined the basic strategy of upholding and developing socialism with Chinese characteristics in the new era. One of the important contents is to uphold and improve China’s socialist basic economic system and distribution system. Under the improvement of the socialist market economic system, we should work unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector, promote the reform of mixed ownership, and focus perfection of the state-owned assets management system on the reform of the authorized management system of state-owned capital, so as to promote the state-owned capital to grow bigger, stronger and better, and cultivate world-class enterprises with global competitiveness. According to the content of the report of the 19th National Congress of the Communist Party of China, the basic economic system (mainly ownership composition), distribution system and market economic system have been regarded as the basic strategies for upholding and developing socialism with Chinese characteristics in the new era, which have become the main contents of China’s socialist economic system.

At the 4th Plenary Session of the 19th CPC Central Committee, the “public ownership plays a dominant role and different economic sectors develop side by side, distribution according to work is the mainstay while multiple forms of distribution exist alongside it, and the socialist market economic system”¹⁰ were combined into the socialist basic economic system, which is a process of policy institutionalization. It can be said that the market economic system, mixed ownership and distribution systems have formed an organic whole, which reflects the productivity standards for continuously liberating and developing social productive forces, and embodies socialist characteristics, so as to make the market play its decisive role in resource allocation and let government better play its role. Only when these two points are clarified can we avoid misunderstanding and negative effect of the market economy while ensuring high efficiency of the market’s role in resources allocation, and provide

⁹ Resolution of the Central Committee of the Communist Party of China on Major Issues Concerning Comprehensively Advancing the Rule of Law, *People’s Daily*, October 29, 2014

¹⁰ “Decision of the Central Committee of the Communist Party of China on Major Issues Concerning Upholding and Improving Socialism with Chinese Characteristics and Modernizing the State Governance System and Capacity”, *People’s Daily*, November 6, 2019.

institutional guarantee for thoroughly implementing the new development concept, carrying out supply-side structural reform and building a modern economic system.

Behind above documents and policies is the rapid development of state-owned economy and non-state-owned economy. On the one hand, China works unswervingly to consolidate and develop the public sector of the economy, with focus on deepening the reform of state-owned enterprises. As the central link of China's economic system reform, the reform of state-owned enterprises has experienced a complicated and tortuous course of more than 40 years, which is an unprecedented great change.

Over the past 40 years, state-owned enterprises have gradually changed from appendants of the traditional planned economy system to modern enterprises under the market economy system—"new state-owned enterprises".

This process has roughly gone through four periods: the period from 1978 to 1993 marks a period of decentralizing power and transferring profits to enterprises while carrying out reform of expanding the autonomy of state-owned enterprises; the period from 1993 to 2003 is a period of institutional innovation to establish the modern enterprise system; the period from 2003 to 2013 is a period for oversight of the state-owned assets with focus on the establishment of new state-owned assets management system, and period from 2013 to now marks a period of classified reform focusing on the deepening of state-owned enterprises.

After above four periods, especially since the 18th National Congress of the Communist Party of China called for deepening the reform of mixed ownership and promoting the strategic restructuring of the state-owned economy, great achievements have been made in the development of the public economy, and state-owned enterprises have played a greater role in social and economic development, national economy and people's livelihood, scientific and technological progress and national security. On the other hand, under the support, encouragement and guidance of the Party's policies, the non-public economy has witnessed a development process from scratch to growing bigger and stronger.

The year of 1978 marked the prelude of non-public economy development. The 12th National Congress of the Communist Party of China affirmed that the individual economy is an indispensable supplement to the socialist public economy. The 13th National Congress of the Communist Party of China made it clear that the private economy is a necessary and beneficial supplement to the public economy. The 15th National Congress of the Communist Party of China further pointed out that the non-public economy is an important part of China's socialist market economy.

In 2002, the 16th National Congress of the Communist Party of China formally proposed "working unswervingly to consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector". After the 17th National Congress of the Communist Party of China, the *Property Law of the People's Republic of China* and the *Law of the People's Republic of China on Enterprise Income*, regulating equal competition, were promulgated, which established the equal market position of non-public economy from the legal level and set up an all-round, multi-level and operable policy framework to support the development of the non-public economy.

The 18th National Congress of the Communist Party of China proposed “working unswervingly to consolidate the development of the public sector and encourage, support, and guide the development of the non-public sector”, which further pointed out the direction and focus of upholding and improving the basic economic system and developing the non-public economy. Since the 18th CPC National Congress, President Xi Jinping has repeatedly stressed that both the public economy and non-public economy are important components of the socialist market economy, that the position and role of the non-public economy in China’s economic and social development have not changed; our principles and policies to encourage, support and guide the development of the non-public economy have not changed, and that our principles and policies to create a good environment and provide more opportunities for the development of the non-public economy have not changed.

Xi Jinping’s thoughts on socialist economy with Chinese characteristics in the new era have deeply expounded how to uphold and improve the basic economic system of socialism with Chinese characteristics in the new era, and scientifically answered the most urgent and realistic major theoretical and practical problems in the development of non-public economy. Under the support and guidance of the Party’s policy, China’s non-public economy has made great achievements and played a very important role in stabilizing growth, promoting innovation, increasing employment and improving people’s living standards.

In a word, China’s ownership composition has changed from a simple public ownership economic pattern to a mixed ownership economic pattern with the public ownership as the core and common development of multiple ownership systems. This is a process of unswervingly consolidating and developing the public sector of the economy with focus on the reform of state-owned enterprises, and a process in which the non-public economy has developed from scratch to growing bigger and stronger under the support, encouragement and guidance of the Party’s policies. It is also a process in which our Party constantly explores and consolidates the basic economic system in the primary stage of socialism.

12.2 Status Quo and Problems of the Ownership Composition

According to the ownership composition of state-owned, private and foreign-funded economy, there has been a general trend that the proportion of state-owned economy has declined, while the proportion of private and foreign-funded economy has increased rapidly. In recent years, especially during the 13th Five-Year Plan period, this trend has shown some new changes. On the whole, the ownership composition presented a relatively stable trend, and the state-owned economy experienced a process from rapidly declining to relatively stabilizing, while the private economy and foreign-funded economy moved from rapidly growing to relatively stabilizing. From the perspective of enterprise registration, there was a rapidly growing proportion

of mixed ownership economy registered as joint-stock companies, limited liability companies, joint-stock cooperative enterprises and joint ventures. Specifically, the present situation of China's ownership composition mainly presents the following characteristics and problems.

12.2.1 Overall Situation of the Ownership Composition

During the 13th Five-Year Plan period, the basic structure of China's national economy (state-owned economy, private economy and foreign-funded economy) tended to be stable. Due to industry differences and differences in assets, employment and specific business indicators, there are differences in specific proportions of three types of economic entities, and the proportions of various indicators have fluctuated in recent years. However, the proportional relationship among state-owned, private and foreign ownership in overall economy no longer shows a trend of substantial changes. China's ownership composition has basically matured, whereby the public ownership plays a dominant role and different economic sectors develop side by side.

First of all, from asset composition of Chinese industrial enterprises as shown in Fig. 12.1, the asset proportion of Chinese state holding enterprises declined from 48.1% in 2005 to 38.8% in 2014, down about 10 percentage points in ten years. However, the asset proportion only shows a small fluctuated from 2014 to 2018, presenting a basically stable trend. After a similar decline of about 7% points, the proportion of assets of foreign-funded enterprises has basically stabilized at about 20% in recent five years. After a 10 year increase of nearly 10 percentage points, the asset proportion of private enterprises has basically stabilized at a little higher than 20% in the past five years. While some joint-stock companies and limited liability companies cannot be clearly attributed to these three types of enterprises on a statistical basis because of no absolute controlling party, this does not affect our judgment, i.e. from the perspective of industrial asset structure, the ownership pattern with public ownership as the main body and multiple ownership systems developing together has basically taken shape and tends to be stable.

In fact, it is not industry alone that presents such characteristics. Except for some key strategic, naturally monopolistic and national security-related industries, the ownership composition of state-owned, private and foreign-funded operating assets has been basically formed and tends to stabilize. Figure 12.2 gives the proportion of the total assets of industry, wholesale and retail, accommodation and catering industry classified according to the types of registered enterprises. As limited liability companies and joint stock companies may have shareholders of different natures, statistical classification seems difficult, and the deepening of corporatization, shareholding system reform and mixed ownership reform of most state-owned enterprises, thus in these companies state-owned enterprises account for a large proportion, especially those with mixed ownership composition of state-owned and non-state-owned enterprises, i.e. state-owned mixed ownership enterprises. Therefore, from the perspective

of social operating assets with statistical data, the state-owned economy still occupies an important position. At the same time, the total assets of the non-state-owned economy have achieved a considerable size, and great progress has been made in private and foreign-funded economies. By the end of 2018, of the total operating social assets of 146 trillion yuan,¹¹ joint stock companies and limited liability companies occupy the largest proportion, i.e. 65.2 trillion yuan, accounting for 44.6% of the total social assets, which has become an important way to realize the public ownership economy, and to a certain extent reflects that the mixed ownership economy has accounted for a considerable proportion. Private enterprise assets occupy the second largest proportion, i.e. 33.3 trillion yuan, accounting for 22.8%. The assets of foreign-funded enterprises ranked third with 27.6 trillion yuan, accounting for 18.9% of total assets. The sum of state-owned economic assets was 20.2 trillion yuan, accounting for 13.8% of total assets.

In terms of employment indicators, as shown in Table 12.1, the employment ratio of state-owned enterprises and collective-owned enterprises presented a downward trend from 2005 to 2014, while the employment of private enterprises and individual economy presented a sharp upward trend; the employment of limited liability companies and joint-stock companies increased significantly; and the employment of foreign-funded enterprises saw a slight rise. This trend continued and stabilized from 2014 to 2018, despite a slight decline in foreign-funded enterprises and state-owned enterprises and a significant rise in private enterprises and individual economy. In terms of the proportion of the number of enterprises, private enterprises and individual enterprises undoubtedly contributed the most to employment, accounting for 56% in 2018. They were followed by joint stock companies and limited liability companies, which could reflect the state-owned mixed ownership enterprises to a great extent, accounting for 19%. State-owned and collective-owned enterprises accounted for 14%. Foreign-funded enterprises accounted for 5% of employment, the least proportion. To a certain extent, this employment composition reflects differences in the organic composition of capital of different types of enterprises (the organic composition of capital of private enterprises and individual economies is generally relatively low, while that of foreign-funded enterprises is relatively high), indicating that the ownership composition in China presents a pattern in which public ownership plays a dominant role and other forms of ownership develop side by side. There also presents a basic state in which this structure gradually tends to be stable.

The stabilizing feature of the ownership composition between the public and non-public sectors in the 13th Five-Year Plan period reflected the common development of both the public and non-public sectors of the economy. There was no controversial problem that “the state-owned enterprises are forging ahead but privately-owned ones falling behind in China” in recent years. Unless compared with the declining trend of state-owned economy, the relatively stable proportion of state-owned economy during the 13th Five-Year Plan period can also be considered as “the

¹¹ The total assets here include industrial enterprises above designated size, wholesale and retail enterprises above designated size, and catering and accommodation enterprises above designated size. The *China Statistical Yearbook* only provides operating assets data of these industries.

state-owned enterprises are forging ahead but privately-owned ones falling behind”. It should be noted that under the current situation that mixed-ownership enterprises are the main enterprise forms and mixed-ownership economy plays a dominant role, it makes little sense to generally argue whether “the state-owned enterprises are forging ahead but privately-owned ones falling behind” or “the state-owned enterprises are falling behind but privately-owned ones forging ahead”. In addition, due to difference in functional orientation between state-owned enterprises and non-state-owned ones and due to position difference in the industrial chain caused by history reason, any fluctuation in the economic cycle may have different effect on state-owned economy or non-state-owned economy; at this time, the state-owned capital’s acquisition of private enterprises or the private enterprises’ participation in “mixed ownership reform of state-owned enterprises” may be normal enterprise market behavior.¹² In order to avoid using such general ideological concepts as “the state-owned enterprises are forging ahead but privately-owned ones falling behind” or “the state-owned enterprises are falling behind but privately-owned ones forging ahead” to describe this behavior, we need to ensure there is fair playing environment for both state-owned economy and non-public economy.

12.2.2 Development of State-Owned Economy and Existing Problems

Pursuant to the spirit of the 18th National Congress of the Communist Party of China, the reform of state-owned assets of state-owned enterprises during the 13th Five-Year Plan period was promoted from two levels. At the macro level, we constantly adjusted the pattern of state-owned economy based on the functional orientation of state-owned capital through strategic restructuring of enterprises. At the micro level, we deepened the reform of mixed ownership, promoted the reform of modern enterprise system and improved the corporate governance structure. Important progress has been made at these two levels, but there are also some critical problems.

12.2.2.1 Macro-Level: State-Owned Capital Layout and Structure Optimization

At the macro level, the state-owned capital has been strategically reorganized, the average asset size of state-owned enterprises has steadily increased, and the total amount of state-owned capital has also expanded significantly on the whole, thus achieving the goal of “growing bigger”. In 2018, the total assets of state-owned enterprises nationwide were 210.4 trillion yuan, and the total rights and interests of

¹² Liu He, The So-called Argument that ‘the State-owned Enterprises Are Forging Ahead But Privately-owned Ones Falling Behind’ Is both One-sided and Wrong, October 19, 2018, *Netease News*, <https://news.163.com/18/1019/13/DUFVMMIH0001899N.html>

state-owned capital were 58.7 trillion yuan, 1.8 times and 1.5 times that of 2015 respectively. Moreover, the expansion rate of state-owned economy during the 13th Five-Year Plan period was faster than that during the 12th Five-Year Plan. In 2018, the times of the increase in the total assets and capital of state-owned enterprises compared with 2015 are higher than those in 2015 compared with 2012, which are 0.3 times and 0.1 times higher respectively. In the process of state-owned capital growth, the scale of state-owned capital of a single enterprise is also expanding. On the whole, the average capital scale of state-owned enterprises is much higher than that of private enterprises and foreign-funded enterprises. Table 12.2 shows the changes in the scale of enterprises in industrial units above designated size. In the table, the average assets of each state-holding enterprise have increased significantly since 2005, reaching 2,195.9 million yuan in 2018, an increase of more than ten times over 2005. Meanwhile, the average fixed assets per private enterprise increased from 13.94 million yuan in 2005 to 111.774 million yuan in 2018. Despite an increase of more than seven times, it was far lower than that of state-owned enterprises, foreign-funded enterprises and Hongkong-Macao-Taiwan-invested enterprises. For a long time, “growing bigger, becoming stronger, and doing better” has been regarded as the goal of state-owned enterprises’ reform and development. From the perspective of assets, the goal of “growing bigger” has been well achieved. However, state-owned enterprises are still far from the goals of “becoming stronger” and “doing better”.

From the perspective of “becoming stronger”, Fig. 12.3 shows the profitability of different ownership economies. On the whole, before 2011, the return on net assets of state-holding enterprises, private enterprises, foreign enterprises, Hong Kong-Macao-Taiwan invested enterprises showed a steady upward trend, but after 2011, it dipped in different degrees. Among them, private enterprises witnessed the largest decline, falling from 32.8% to 15.6% in 2018. However, the return on net assets of state-owned enterprises has always been the lowest. From 2015 to 2016, the return was only one third of private enterprises. Although the return on net assets of state-owned enterprises was improved from 2017 to 2018 and a decline occurred in both private enterprises and foreign-funded enterprises, state-owned enterprises were still 5–6% points lower than private and foreign-funded enterprises. Therefore, state-owned enterprises are characterized by “being big but not strong”.

The goal of “becoming stronger” of state-owned capital has not been well achieved, which is also reflected in the innovation ability of state-owned enterprises. State-owned enterprises are the main force of China’s scientific and technological innovation. They have a large number of academicians from China Academy of Sciences (CAS) and China Academy of Engineering (CAE), national innovation platforms, state key laboratories and other innovative resources, and have made great contributions to China’s scientific and technological progress and economic development. However, compared with huge number of innovation resources, and compared with requirements of high-quality development and innovation-driven development, state-owned enterprises’ scientific and technological innovation capability and innovation efficiency need to be improved. Compared with their scale, R&D investment of state-owned enterprises is still relatively low.

According to the *World Investment Report 2019*, in the ranking of R&D investment of top 100 multinational companies in the world in 2018, only Huawei, a Chinese company, was shortlisted in top 20, ranking fourth due to its 15.3 billion US dollars of R&D investment; Among the shortlisted nine American companies, Amazon topped the list with R&D investment of US\$28.8 billion (R&D intensity of 12.4%). Alphabet's R&D investment amounted to US\$21.4 billion (R&D intensity of 15.7%), ranking second. South Korea Samsung Electronics ranked third with R&D investment of US\$16.5 billion (R&D intensity 7.5%).

In addition, according to data of top 500 Chinese enterprises in 2019 released by China Enterprise Confederation (CEC) and China Enterprise Directors Association (CEDA), the average R&D intensity of 225 state-owned enterprises of top 500 is 1.27%, not only quite lower than R&D investment of above-mentioned top 100 multinational companies in the world, but even 1.1% points lower than the average R&D intensity of private enterprises in top 500 Chinese enterprises. The output effect of innovation was measured by the proportion of new product sales income of industrial enterprises to main business income.

Figure 12.4 describes the output effect of economic innovation of enterprises with different ownership. It is thus clear that the innovation effect of Chinese enterprises has been significantly improved since the 18th CPC National Congress, and the proportion of new product sales income to main business income has increase, but, on the whole, state-owned economy witnessed the worst innovation effect. In 2017, the proportion of new product sales revenue of state-owned enterprises in main business income was 4.3% points lower than private enterprises, and 9% points lower than foreign-funded enterprises and Hongkong-Macao-Taiwan invested enterprises.¹³

From the perspective of “doing better”, the state-owned capital has improved its structure since 2000, and gradually focused on important industries and key areas related to national security and economy, such as forward-looking strategic industries (high-tech industries) and industries related to national economy and people's living standards, i.e. providing important public goods and services. However, the goal of optimizing the industrial layout of state-owned capital has not been well achieved. On the one hand, the proportion of net assets of state-owned capital in important industries, key fields and high-tech industries was on the decline and failed to reflect the mission of national capital to better serve national strategy.

According to the calculation of national financial statistics, from 2001 to 2017, industries with large increase in the proportion of net assets of state-owned enterprises included social service industry, real estate industry and construction industry. The proportion of social service industry increased from 6.98% to 21.64%, and that of the real estate industry and construction industry increased from 2.47% to 7.81% and 2.28% to 6.60% respectively. However, the proportion of public welfare and knowledge-intensive industries was lower and grew slowly. The proportion of state-owned capital in health education and welfare industry increased slowly from 0.04%

¹³ China Enterprise Confederation and China Enterprise Directors Association, 2019 Top 500 Chinese Enterprises Analysis Report: Characteristics, Problems and Challenges, *China Economic Report*, No.5, 2019.

to 0.14% respectively, and the proportion of scientific research and technical service industry ascended from 0.35% to 0.96% respectively. As shown in Table 12.3, from 2007 to 2018, the output value of state-owned enterprises in high-tech industries was below 6%, and presented a downward trend.

In the Table: (a) resource-based industries include mining, petrochemical, metallic and nonmetallic smelting and manufacturing as well as electric power and heat production; (b) low-tech industries include: low value-added industries such as food processing, food manufacturing, beverage manufacturing, tobacco processing, textiles and paper making; (c) medium-tech industries include: chemical raw materials, pharmaceutical manufacturing, chemical fibers, general equipment, special equipment, transportation, electrical machinery and equipment manufacturing, communication equipment, computers and other electronic equipment manufacturing instruments and meters; (d) high-tech industries include: pharmaceutical manufacturing, communications equipment, computer and other electronic equipment manufacturing, instrument and apparatus; and (e) the latest version of *China Industry Economy Statistical Yearbook* was published in 2017, so data for years 2017 and 2018 were replaced by the main business income.

On the other hand, the state-owned capital is generally in the upstream of the industry chain, and occupies a major position in the state-owned capital of resource-based industries and heavy chemical industries. To a certain extent, the position in industrial chain has ensured that state-owned enterprises have certain monopoly profits of resource factors, and also shown that the development of state-owned enterprises is more driven by resource factors. As shown in Table 12.3, from 2007 to 2018, the industrial output value of resource-based industries accounted for a higher proportion, basically remaining at about 40%, and the lowest was not lower than 32%. These industries mainly depend on investment of natural resources such as coal, oil and metals, and are typical capital-intensive industries.

Some studies have also revealed that the proportion of state-owned enterprises in upstream industries exceeded 50%, while the proportion of state-owned enterprises in downstream industries was below 10% after 2007.¹⁴ If state-owned enterprises are required to meet the “profit-seeking” requirement of state-owned capital to maintain and increase its value in one side and to meet the “public welfare” requirement of state-owned capital to serve national strategy, national economy and people’s livelihood in other side, the changes in the structure of state-owned capital for many years have shown that, on the whole, the adjustment of state-owned capital structure was more driven by the “profit-seeking” purpose than by the “public welfare” orientation of the rational layout of the government. During medium-to-long-term development, the state-owned capital will be more oriented to “public welfare”.

In a word, from a macro perspective, the strategic restructuring of state-owned economy has steadily expanded the asset scale and total amount of state-owned capital. The goal of “becoming bigger” has been well achieved, but there are some problems, such as lower return rate of state-owned capital, poor innovation ability of

¹⁴ Wang Yong, Reform of State-owned Enterprises under Vertical Structure, *International Economic Review*, No.5, 2018.

state-owned enterprises, unsatisfactory distribution of state-owned capital, unclear function of state-owned capital, and state-owned capital “becoming big but not growing strong or doing better”.

12.2.2.2 At the Micro Level: Reform of Mixed Ownership of State-Owned Enterprises

Since the 18th National Congress of the Communist Party of China, the reform of state-owned enterprises has focused on promoting the reform of mixed ownership, and the development of mixed ownership economy has treated as an important form to realize the basic economic system and as an important breakthrough in the reform of state-owned enterprises. Table 12.4 lists policy documents related to the reform of mixed ownership, which were issued since the 3rd Plenary Session of the 18th Central Committee of the Communist Party of China. In 2016, the pilot reform of mixed ownership in key areas was launched in 50 enterprises in three batches, covering central enterprises and some local state-owned enterprises.

Among them, the reform of the first and second batches of pilot enterprises selected in 2016 and 2017 respectively progressed well, including 19 enterprises with assets of 940 billion yuan that attracted 52 external investors, 8 of which have basically completed the pilot tasks of setting up new companies, restructuring corporate governance and expanding business chains. Soon afterwards, there emerged a number of typical mixed-ownership reform projects that played an exemplary and leading role in reform of state-owned enterprises. The third batch of pilot enterprises involved 31 enterprises, including 10 subsidiaries of Central enterprises and 21 local state-owned enterprises.

In 2019, based on the first three batches of pilot projects, the National Development and Reform Commission and other departments launched the fourth batch of more than 100 pilot mixed-ownership reform projects in a wider range of industrial sectors. In 2018, mixed-ownership enterprises accounted for nearly 70% of enterprises under supervision of the State-owned Assets Supervision and Administration Commission of the State Council, and those under supervision of provincial State-owned Assets Supervision and Administration Commissions accounted for 46%. The mixed-ownership reform has covered an increasingly wide range of industrial fields, such as electricity, oil, natural gas, railway, civil aviation, telecommunications and military industry. It has also extended into some important industries of state-owned economy.

For example, the pilot enterprises affiliated to Aviation Industry of China (AVIC), China National Gold Group and China Oil and Foodstuffs Corporation (COFCO) have completed the introduction of strategic investors, shareholding system reform, reorganization and listing. The State Grid has implemented mixed-ownership reform for the first time in core business areas such as Ultra-high voltage DC (UHVDC) projects, attracting social capitals such as insurance, large-scale industrial fund and investment platforms owned by local governments, and investing in and operating

new UHVDC projects in the form of joint venture. This helped further enlarge the function and improve the allocation and operation efficiency of state-owned capital.

However, the promotion of mixed-ownership reform was also faced with some problems. In particular, there is the problem of uncoordinated one-way promotion in various tasks of mixed ownership reform, which seriously restricted the efficiency and pace of reform. It is a complex systematic project to deepen the reform of state-owned enterprises. In this process, much attention must be paid to systematicness, integrity and synergy of various reform tasks, policies and measures, such as clarifying the function of state-owned enterprises, advancing mixed-ownership reform, establishing state-owned capital management system with focus on capital management, and perfecting the modern enterprise system of state-owned enterprises. The “10 pilot reform projects” launched in 2016 are all single task experiments. It is difficult to get real pilot experience. After implementation of the pilot “Double-Hundred Action” in 2018, the defects in this area have been made up to a certain extent, but the reform process has been greatly slowed down. Despite a pilot “double-hundred action” project, the reform needs to be more systematic and coordinated so as to achieve coordinated advancement in functional orientation, strategic adjustment of state-owned economy, mixed-ownership reform, construction of a management system focusing on capital management (reorganization and establishment of state-owned capital investment and operation companies) and improvement of modern corporate governance.

At present, another very prominent problem in advancing the mixed-ownership reform is the fact that “the ownership is mixed but no reform is carried out”. That is to say, there is “formalism” in the mixed-ownership reform of state-owned enterprises. Though an enterprise is already a mixed-ownership enterprise with mixed state-owned and non-state-owned shares in terms of equity, the corporate governance structure and SASAC management mode have not been fundamentally changed, and the SASAC also manages it in a way as it did in a non-mixed-ownership state-owned enterprise. A mixed-ownership enterprise is essentially not a separate legal type of enterprise, and there is no real difference between state-controlled mixed-ownership enterprises and wholly state-owned companies in terms of governance structure and management system and mechanism. Generally speaking, the mixed-ownership reform of state-owned enterprises has been continuously deepened at the micro level, and the state-owned capital has gradually shifted from wholly state-owned enterprises to mixed-ownership enterprises, but the internal governance structure of state-owned enterprises needs to be more standard and scientific.

12.2.3 Development of Non-public Economy and its Problems

Since the reform and opening to the outside world in 1978, the non-public economy has made a historical leap in development under the guidance of the Party’s policies. Figure 12.5 illustrates the changes in the number of state-holding enterprises, private enterprises, foreign-funded enterprises and Hongkong-Macao-Taiwan

invested enterprises in industrial enterprises above designated size. Since 2005, the number of industrial enterprises above designated size has maintained a steady growth from 271,800 in 2005 to 452,900 in 2010. Meanwhile, after adjustment of the statistical caliber of enterprises above designated size in 2011, that is, from the 12th Five-Year Plan period to the 13th Five-Year Plan period, the number of industrial enterprises above designated size also continued to grow steadily from 325,600 in 2011 to 378,400 in 2018. From the perspective of the quantitative structure of enterprises with different ownership, both state-holding enterprises and private enterprises increased slightly during this period, with the number of state-holding enterprises increasing from 17,100 in 2011 to 18,700 in 2018 while the number of private enterprises growing from 180,600 to 220,600. On the contrary, the number of foreign-funded enterprises and Hongkong-Macao-Taiwan invested enterprises fell from 57,200 in 2011 to 47,700 in 2018, a decrease of more than 10 percentage points.

In Table 12.1, we can also see the great contribution of private enterprises and individual economy to employment. For foreign-funded enterprises, their capital supply effect and technology spillover effect have made great contributions to China's economic growth. In recent years, the decreasing number of foreign-funded enterprises was caused by the rising labor cost in China and foreign-funded enterprises' readjustment of their business strategies. On the other hand, it also shows that China's business environment needs to be further improved.

From the perspective of improving the overall ownership composition, the development of non-public economy faces at least two problems. On the one hand, the lack of motivation for non-public economy to participate in the mixed-ownership reform of state-owned enterprises needs to be addressed urgently. First, as state-owned enterprises have their own special positioning, many of their projects lack ideal profit space and are unattractive to non-state-owned capital. Second, many projects of state-owned enterprises are projects with large investment volume, and their non-operating assets are too large and difficult to be used efficiently. Non-state-owned capital often feels weak and powerless to undertake these projects. Third, it is difficult to deeply integrate state-owned capital and private capital. The mixed-ownership reform tended to achieve cooperation and inclusive development among kinds of capital, but it may in reality easily lead to various contradictions and problems. Due to differences in positioning, ideas and decision-making processes, state-owned enterprises and private enterprises may struggle for power and profit and undermine or constrain each other because of their disparities in investment ratio, management right, income distribution, investment decision-making, business ideas and objectives, which would eventually lead to low efficiency in operation and decision-making. In addition, although private enterprises hoped to gain more market and resources by participating in state-owned enterprises, they feared that they would be deprived of the right to speak and participate in the company's decision-making process after mixing of ownership, so as to damage their own interests. They were also worried that they would not be able to get rid of administrative intervention and reduce their vitality and efficiency after ownership mixing.

On the other hand, the business environment facing the non-public economy needs to be improved urgently. This is first manifested in the problem of market

access. Although the State has issued a series of policies and measures on the mixed-ownership reform to clear obstacles for the market access of private economy at the macro-policy level, the problem of market approval remains the biggest problem encountered by the development of private enterprises. Compared with the state-owned economy, the development of private economy is still faced with serious administrative and policy constraints due to constraint of traditional thinking. For example, in many high-profit industrial sectors such as energy, finance, transportation, telecommunications, military industry and tobacco, the state-owned economy still has an absolute advantage, and there are great obstacles for private enterprises' access to these industrial sectors.

In addition, private enterprises face the dilemma of “glass door”, “spring door” and “revolving door” (three major obstacles hindering private enterprises' access to some fields of investment) when making investment in scientific and technological research and development, so they find “nowhere to make investment”. The excessive expansion of many competitive fields has severely squeezed the space of private enterprises' survival and development, exerting an adverse impact on private enterprises' confidence in development. Second, private enterprises are faced with the problem of difficult and expensive financing. In the current stage, the financial system dominated by state-owned banks still has “scale discrimination” against private enterprises. In addition, due to the lack of a multi-level capital market system and limited financing channels for private enterprises, their high-quality development is faced with financial difficulties. Due to small size and limited mortgageable assets, private enterprises can hardly resist risks. The existence of subjective and objective factors has caused the problems of difficult loan financing and high financing cost for private enterprises. On the one hand, a large amount of funds are “idling” within financial institutions, and the credit channels of private enterprises are blocked. On the other hand, the rising prices of capital, land and other factors have further squeezed the living space of private enterprises and slowed down the process of mixed-ownership reform. Finally, the market legal environment still needs to be improved.

On the whole, positive progress has been made in perfection of China's policies and regulations on promoting the high-quality development of private economy. However, there are still some phenomena such as imperfect laws and regulations and low administrative efficiency. Insufficient protection of property rights, lack of government credit and inadequate implementation of policies are still outstanding problems in some places, undermining the development environment of private economy. The immaturity of the industrial system of modern enterprises as well as insufficient protection of the private property rights of private enterprises hindered the healthy and sustainable development of private enterprises as some entrepreneurs “feel self-content with every small success” or “have anxiety when getting rich”.

12.3 Basic Trends on the Changes of Ownership Composition in the Future

Ownership composition can be divided into macro-level ownership composition and micro-level ownership composition. The former shows the proportional relationship among state-owned, private and foreign capital as a whole, while the latter is mainly the internal ownership composition of enterprises. We will uphold and improve the basic economic system with public ownership playing a dominant role and different economic sectors developing side by side. This necessitates the independent development of the public sector and non-public-sector in the form of macro-level mixed ownership economy, and requires cross-shareholding of state-owned capital and non-state-owned capital in the form of micro-level mixed ownership economy with joint-stock enterprises playing a dominant role. This means that under the socialist basic economic system, the macro-level ownership composition is the proportional relationship of various ownership systems under the macro-level mixed ownership, while the micro-level ownership composition is the proportional relationship of equity of mixed ownership enterprises. Based on this classification, we believe that in the medium and long term, the mixed ownership composition will show different macro and micro trends, which can be summarized as “the macro-level mixed ownership composition is basically stable, and the micro-level mixed ownership composition is rapidly integrated”.

12.3.1 Basically Stable Mixed-Ownership Composition at Macro Level

The upcoming period is a key stage for China’s economy to change from high-speed growth to high-quality development. The core tasks of China’s economic development in the medium and long term include implementing new development concepts in all respects, promoting high-quality economic development and building a modern economic system. As an important part of China’s basic socialist economic system, the mixed-ownership economic system with public ownership playing a dominant role and different economic sectors developing side by side is conducive to bringing into play the advantages of market and government, and avoiding the failures of market and government. It has thus become an important guarantee and institutional basis for high-quality economic development and for building the modern economic system. Therefore, we must make constant effort to practice it. In the medium and long term, to achieve optimization and adjustment of China’s ownership composition, we must maintain and improve the mixed-ownership economic system with public ownership playing a dominant role and different economic sectors developing side by side, deepen mixed-ownership reform, and promote China’s economic ownership composition to be more suitable for the needs of high-quality economic development and building a modern economic system.

Judging from the institutional mechanism of high-quality economic development and modern economic system operation, we will step up efforts to improve the socialist market economy system by promoting high-quality economic development and building a modern economic system, which entails an effective market mechanism, dynamic micro entities and appropriate macro control. A perfect and mature socialist market economy system must be able to stimulate the vitality of various market entities, both public and non-public, and ensure the innovation and competitiveness of the modern economic system by maintaining fair and orderly competition among various market entities. Therefore, we must work unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector, which is not only the inherent requirement of upholding and popularizing the basic socialist economy system, but also the institutional guarantee for building a modern economy system. This is of great significance for realizing the “two centenary goals” and the Chinese dream of achieving great rejuvenation of the Chinese nation and will be China’s long-term policy.

Based on main strategies and tasks of promoting high-quality development and building a modern economy system in the report of the 19th CPC National Congress, the completion of all strategies and tasks cannot be separated from institutional reform guided by the idea that “we must work unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector”. The key to deepening supply-side structural reform is improving the quality of supply. This requires promoting industrial upgrading and fostering new kinetic energy for economic growth, and requires multiple market players to jointly participate in innovation and entrepreneurship. By deepening reform of the state-owned economy, we will make state-owned capital become stronger, do better and grow bigger so as to improve the supply quality of state-owned economy. We will create a fair competitive environment by deepening reform of the commercial system and improving the property rights protection system so as to stimulate the enthusiasm of the private economy for innovation and development. Building China into an innovative country requires deepening reform of the scientific research system. We will make the state government play a key role in basic research and major scientific and technological projects, and mobilize the enthusiasm of scientific research personnel to provide support for the innovation of small and medium-sized private enterprises. To implement the rural vitalization strategy, we will deepen reform of the rural land system and rural collective property rights system, develop modern agriculture, protect farmers’ property rights and strengthen the collective economy. To implement the coordinated regional development strategy, we will deepen reform of the household registration system, establish a more effective coordinated regional development mechanism, and ensure the effective flow and rational allocation of various elements, both public and non-public, in the region. To accelerate improvement of the socialist market economy system, we will improve the property rights system and the market-oriented allocation of factors, so as to provide a better institutional basis for fair competition and development of various market players. To expand opening up on all fronts, we will encourage Chinese enterprises, especially large enterprises, to go global. We will also release market access and protect the legitimate rights

and interests of foreign businessmen. In other words, the six tasks of building a modern economic system in the report of the 19th CPC National Congress were designed to meet the philosophy that we should “work unswervingly to consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector”.

From the ownership composition of modern economy system, the modern economy system should be a mixed economic system of public ownership economy and non-public ownership economy, i.e. a mixed ownership economy system. The modern economy system is an economic system that adapts to the stage of high-quality development, so it must be able to give full play to the advantages of different ownership economies and promote fair competition, cooperation and common prosperity of various ownership economies. Only in this way can high-quality development of the whole national economy be promoted. The public sector of the economy, especially state-owned enterprises, has advantages in making up for market defects, safeguarding common interests of the people, and catching up with some advanced economies. It plays an important role in major national development strategies and major undertakings of the national economy and people’s livelihood. The non-public sector, such as individual, private and foreign-funded enterprises, has unique advantages in meeting multi-level and diversified market demands, improving supply quality and promoting balanced development of productive forces, and can play an important role in stabilizing growth, increasing employment, protecting people’s livelihood and promoting innovation. Therefore, only by “working unswervingly to consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector” can we ensure that the modern economy system has this “multi-mixed” advantage so as to promote high-quality economic development.

To sum up, in the medium and long term, in order to achieve high-quality economic development and building a modern economic system, we will “work unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector”, and adhere to the socialist basic economic system with public economy playing a dominant role and different forms of ownership developing side by side. After more than 40 years of common development of different ownership economies, during the 13th Five-Year Plan period, the basic pattern of state-owned economy, private economy and foreign-funded economy has begun to stabilize. Although the specific proportions of three types of economic players will be different due to industry differences and differences in assets, employment and specific business indicators. The proportion of each indicator will fluctuate, and will no longer present a tremendous trending change. This indicates that the ownership pattern in which public ownership plays a dominant role and different forms of ownership develop side by side has basically matured and finalized in China. In the medium and long term, we can only adhere to the philosophy that “we work unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector” for common development of both the public economy and non-public economy. The functional orientation of state-owned capital will be further clarified, the non-public economy will

further develop actively, and the state-owned capital and non-public capital will be further mixed at the enterprise level. However, the overall proportion structure will not change greatly. In the future, the macro-level ownership composition will enter a stable development period of mixed ownership composition. This is an inevitable result of “working unswervingly to both consolidate and develop the public sector and encourage, support, and guide the development of the non-public sector” and an inevitable requirement of high-quality economic development and building a modern economic system.

12.3.2 Fast Fusion of the Mixed-Ownership Composition at the Micro Level

Driven by the policy of deepening the reform of mixed ownership of state-owned enterprises, the integration of state-owned and non-state-owned shares in one enterprise will produce more mixed ownership enterprises. On the basis of the increasingly perfect policy design and rich pilot experience of mixed ownership reform during the 13th Five-Year Plan period, in the medium and long term, the reform of mixed ownership will be rapidly promoted. With the emergence of a large number of mixed-ownership enterprises, micro-ownership structure shows a trend of rapid integration and development, and basically takes upholding and improving public ownership as the main body and multiple ownership systems developing together. It is not enough to have a macro-level mixed-ownership economy, but more importantly, the micro-level mixed-ownership enterprises must be developed. This is because, comparatively speaking, the mixed ownership economy at the macro level can provide the complementary role of division of labor and competitive incentive of mixed ownership while giving full play to respective advantages of public economy and non-public economy, and the mixed ownership enterprises at the micro level can better reflect the organic integration between public ownership economy and non-public ownership economy, and can give full play to the complementary role of division of labor, cooperation and common prosperity of various ownership capitals.

Mixed-ownership enterprises can help establish an efficient corporate governance structure, fully mobilize the enthusiasm of employees, and form a market-oriented operating mechanism. Therefore, the mixed-ownership reform provides a good institutional basis for enterprises to become more dynamic and competitive. To build a modern economic system, we need to insist on quality first and efficiency first, and carry out supply-side structural reform to enhance quality, efficiency and growth impetus, so as to improve the total factor productivity of the economy. There must be a large number of micro entities with innovative and competitive strengths to meet macro-level requirements of high quality and high efficiency of economic development. The mixed ownership has provided an institutional guarantee more conducive to the cultivation of innovation and market competitiveness of enterprises. Therefore, in order to build the modern economic system, we will cultivate a large number

of mixed-ownership enterprises as the system's micro foundation. Compared with enterprises with single ownership, these mixed-ownership enterprises have better supporting significance for the modern economic system to adapt to high-quality development.

This means that promoting the mixed-ownership reform not only allows non-state-owned capital to participate in state-owned enterprises to promote the reform of mixed ownership of state-owned enterprises, but also encourages the development of mixed-ownership enterprises controlled by non-state-owned capital. In particular, it supports mixed-ownership enterprises to implement employee stock ownership and form a community of interests between capital ownership and workers. This is undoubtedly an important starting point and focus for the optimization and adjustment of ownership composition in China in the medium and long term, and also an important measure to promote high-quality development and build a modern economic system.

During the 13th Five-Year Plan period, the top-level design and policy system of mixed-ownership reform have been improved, and many pilot projects have been carried out. Especially, the *Operational Guidelines for Mixed-Ownership Reform of Central Enterprises* issued on October 31, 2019 has provided specific policy document from specific operational level, making the mixed-ownership reform more operational. The reform of mixed ownership of state-owned enterprises adheres to the principle of “depending on the local policy, depending on the industry policy and depending on the enterprise policy, when appropriate, it is better to be independent, to be controlled, to be participated, not to be forced merger by administrative forces, not to make full coverage and not to set a timetable”. It is based on studies on the necessity and feasibility of the mixed-ownership reform according to relevant policies and regulations, making specific policy to specific enterprise. This means that from a micro perspective the equity ratio of each specific mixed ownership enterprise will vary widely and be flexible and diverse. It can be judged that based on promoting mixed ownership reform in the 13th Five-Year Plan and the formulation of the “Three-Year Plan for the Reform of State-owned Enterprises” required by the Central Economic Work Conference in 2019, the mixed-ownership reform of state-owned enterprises will be accelerated in the coming period. With the acceleration of mixed ownership reform, there will be a large number of mixed ownership enterprises with state-owned and non-state-owned mixed property rights, occupying a large proportion in the whole enterprise. At the micro level, many flexible and diverse ownership structures will be emerged.

12.4 Major Policy Ideas for Perfecting Ownership Composition

In the medium and long term, China's economy will shift from high-speed growth to high-quality development, which will be compatible with high-quality development.

Major policies concerning the change of ownership composition will be adjusted accordingly.

This includes three levels of major policy ideas: first, relevant market policies, which involves fair competition between the public economy and the non-public economy, and requires correctly handling of the relationship between industrial policy and competition policy, second, the reform policy of state-owned assets and state-owned enterprises, which involves the strategic restructuring of state-owned economy, the reform policy of mixed ownership, the completion of state-owned assets management system and governance structure, etc., and third, the development policy of non-public economy, which involves the improvement of business environment, government system, legal system and financial credit system.

12.4.1 Improving the Market Policy System

The key to improving the market policy system lies in properly handling the relationship between competition policy and industrial policy and establishing a policy system based on competition policy. According to the latest empirical research based on OECD countries, there is a significant positive causal relationship between the implementation of competition policy and the growth of total factor productivity in various countries.¹⁵ Further research by Korean scholars found that the policy for enterprises' free entry into and exit from the market can explain the economic growth in the upward stage of the economic cycle(45%) and the economic growth in the downward stage of the economic cycle(65%).¹⁶ The basic position of competition policy needs to be further consolidated in the medium and long term to thoroughly serve the ownership composition reform and lay a solid foundation for building a good socialist market competitive order.

To further implement and consolidate the medium and long-term competition policy, we will strengthen the establishment and implementation of the principle of competitive neutrality and the principle of non-discrimination in ownership. Different from the competitive neutrality proposed by other state governments, the state-owned economy is an important part of China's economy and the reform involves practical problems related to ownership composition. At present, however, China not only needs to strengthen the implementation of competitive neutrality, but also needs to advocate the principle of "ownership neutrality", so that enterprises participating in market competition get different market treatment or be in different market competitive positions because of the different ownership involved.

Specifically, we should oppose the government to set different rules for enterprises in market competition due to their different ownership, and to give discriminatory

¹⁵ P. Buccirossi et al., Competition Policy and Productivity Growth: An Empirical Assessment, *Review of Economics and Statistics*, Vol. 95, No. 4, 2013.

¹⁶ C. H. Hahn, Entry Exit and Aggregate Productivity Growth: Micro Evidence on Koran Manufacturing, OECD Economics Department Working Paper, No. 272, 2000.

treatment to state-owned enterprises when formulating international rules related to transnational competition.

As far as relevant measures are concerned, strengthening and thoroughly implementing the fair competition review system is the key to actively playing the role of competitive policy under the change of ownership composition in the medium and long term. Specifically, we can proceed from the following five points to further improve the fair competition review system, maintain a good market competition environment and order, and let competition policy play its due role in the long-term development of China's economy. (1) Standardizing the government's regulation and control of commodity prices and preventing the government from using administrative power to carry out excessive price control in competitive fields, which may lead to the severe market failure. (2) Better regulating the government's financial subsidies so that the subsidy policy can stimulate the effectiveness of the development of related industries and conform to the principles of competition and fairness, for the purpose to prevent subsidies from becoming a burden on the country and an obstacle to the development of other enterprises, and not let the subsidy policy continue to conflict with the survival of the fittest in the market. (3) Better regulating the market access standards of enterprises and prevent the formation of barriers for enterprises to enter relevant markets caused by the intervention of administrative forces, which is not conducive to the formation of regional and national unified markets and may be a great blow to market competition. (4) Completely eradicating improper market structure control. As the result of the evolution of market competition, the market structure is mainly determined by the market itself. The role of the government should be to ensure the standardization of the evolution process, rather than to intervene in the market structure for its own benefit. (5) Eliminating discriminatory and exclusive clauses. The discriminatory and exclusive policies implemented by some local governments based on regional differences are essentially an administrative tool to protect local trade, which seriously hinders the formation of a unified national market and is not conducive to the formation of a good market competition order in China.

In order to make competition policy play its role better, we need to further clarify the relationship between competition policy and industrial policy, especially when China's economic development is currently under great downward pressure and faces many uncertain factors in the international situation. Generally speaking, with the further development of economy, the government should gradually shift from industrial policy to competition policy, and get rid of the old selective and targeted industrial policy. The key to the coordination of industrial policy and competition policy is to gradually rely more on competition policy with the deepening of industrialization, and to dynamically adjust the content and implementation mode of industrial policy. At present, industrial policy is still in a very strong position in China's economic policy. We should not ignore the positive role of industrial policy in promoting economic development, but also realize that many drawbacks brought by ignoring the role of competition policy are gradually emerging.

The fair competition relationship between public sector and non-public sector is the key to stabilizing the relationship between competition policy and industrial policy and improving market policy in the medium and long term.

On the one hand, competition policies that reduce institutional costs and encourage micro-individuals to innovate should be adopted as much as possible. Good competition policy can enable the government to improve the operational efficiency of the national economy through the development and operation mechanism of the market itself, and cultivate new growth points. At the same time, seeing from the competition policy, we will integrate the macro control that is dedicated to short-term growth into the long-term supply-side structural reform, and let the market play its decisive role, so as to improve the efficiency of resource allocation, optimize the industrial structure, produce new kinetic energy, and seek potential growth points while stabilizing the economic growth situation.

On the other hand, we will further reduce the use of selective industrial policies, promote the elimination of excess capacity, improve the popularity of functional and inclusive industrial policies, and strive to promote rapid implementation of the negative list system and the policy of promoting the development of non-public sector. The negative list is implemented to promote a fair competitive market environment for all enterprises, whether state-owned or private enterprises, or even foreign enterprises willing to enter China's market with the further expansion of reform and opening-up. Through improvement of the negative list system, all market entities will enjoy equal rights to industries, fields and businesses outside the negative list in accordance with the law. From the perspective of specific industrial promotion policies, the business concessions brought by policies should be available to some industries or some enterprises in some industries, and should be more inclusive. At the same time, the major premise is that policies will not additionally destroy market competition or become administrative monopoly in disguise.

In order to further improve and exert the effect of industrial policy and competition policy under the ownership reform, we will further improve the laws and regulations of market economy, and any policy formulation and micro-individual management behavior cannot go beyond the scope and constraint of law. Specifically, at present, the basic framework of specific legal reference and implementation of China's competition policy is mainly reflected in the *Anti-Monopoly Law*, *Anti-Unfair Competition Law* and their supporting laws, regulations and guidelines. In a broad sense, these laws are also reflected in a series of market-oriented policies and measures, such as relaxing market access and government control.

Take the negative list as an example. According to the *Opinions of the State Council on Implementing the Negative List System for Market Access* issued by the State Council on October 19, 2015, the formulation of the negative list for market access should fully implement the basic strategy of governing the country according to law. New items that are not stipulated in laws, administrative regulations and decisions of the State Council but really need to be included in the negative list

for market access shall be submitted for formulation or revision of laws, administrative regulations or decisions of the State Council on the basis of scientific evaluation and in accordance with legal procedures. Major issues involving national economic and social development and highly professional affairs should be subject to decision-making procedures such as public participation, expert argumentation, risk assessment, legality review and collective discussion and decision. Today, with the reform of ownership, the economic laws and regulations that fit the development of market economy should keep pace with the times and ensure restriction of laws on micro-enterprises to prevent their business behavior from damaging market competition.

To sum up, economic laws and regulations to protect and promote market competition should become the focus of future policy making to ensure that market participants can spontaneously maintain the good order of the whole market when sufficient penalties are provided for market competition saboteurs.

12.4.2 Deepening the Reform of State-Owned Enterprises

In the medium and long term, deepening the reform of state-owned enterprises will serve the high-quality development of state-owned enterprises, and more importantly, serve the high-quality development of China's economy. The medium and long-term state-owned enterprise reform should focus on "quality" rather than on "quantity"; in other words, it should pay more attention to optimizing the distribution of state-owned capital, promoting state-owned capital and better realizing its functional orientation and mission requirements than to the specific proportion of state-owned capital in the whole national economy, so as to emphatically solve the problems of state-owned capital that is "growing bigger but not stronger or better". To deepen the reform of state-owned enterprises, we will carry out the following reforms in the medium and long term in the future.¹⁷

- (1) Deepening the reform of state-owned enterprises classification and redefining the content of state-owned enterprises from a legal perspective. Since the Third Plenary Session of the Eighteenth Central Committee of the Communist Party of China, the reform of state-owned enterprises has entered the era of classification reform. According to the *Guiding Opinions on the Definition and Classification of the Functions of State-owned Enterprises* promulgated by the State-owned Assets Supervision and Administration Commission on December 7, 2015, state-owned enterprises are classified into two types, i.e. business and public welfare. The business type aims to enhance the vitality of state-owned economy, amplify the function of state-owned capital and realize the preservation and appreciation of state-owned assets, and implement commercial operation as required by the market.

¹⁷ Huang Qunhui, Three Principles for Layout Optimization and Structural Adjustment of State-owned Economy, *Economic Research Journal*, No.1, 2020.

Among them, commercial state-owned enterprises, which are mainly located in important industries and key areas related to national security and the lifeline of the national economy and mainly undertake major special tasks, should aim to ensure national security and smooth operation of the national economy, focus on developing forward-looking strategic industries, and realize the organic unity of economic benefits, social benefits and security benefits. State-owned enterprises for public welfare aim to safeguard people's livelihood, serve the society and provide public goods and services. Now it seems that this idea of classification reform is correct, as it is a major breakthrough in the reform of state-owned enterprises since the 18th CPC National Congress and helps China's state-owned capital to better serve its functions. However, the four-year practice shows that the reform progress in this area is very slow, and the state-owned capital has not played its due role in serving its functional orientation. To find out the reasons, we found that the SASAC felt it difficult to classify and orientate enterprises, so it was less motivated to promote the reform. But the more critical reason is that classified governance has not been promoted after classification; as a result, there was no essential difference in the governance mechanism of different types of enterprises classified. In mixed ownership enterprises and wholly state-owned enterprises, there was no obvious difference in governance, which is the so-called problem that "the ownership is mixed but no reform is carried out".

When analyzed at a deeper theoretical level, "classification" is no more than a form if an enterprise is honored as a "state-owned enterprise". It is therefore necessary to redefine the connotation of "state-owned enterprises" from the legal level so as to truly realize the classified governance of different types of state-owned enterprises. A "state-owned enterprise" is now interpreted as a "state-owned and state-controlled enterprise". Now it seems that the connotation of this state-owned enterprise has become increasingly inconsistent with the needs of the reform and development of state-owned enterprises in the new era.

First, under the background that mixed ownership has become the main form to realize public ownership, it is no longer possible to equate state-controlled mixed ownership enterprise with state-owned enterprises whose assets are all owned by the state, because it is not conducive to the promotion of mixed ownership reform and to the establishment of an effective corporate governance structure.

Second, internationally, the functional orientation of state-owned enterprises serves the social welfare goal and is non-commercial and profit-seeking.¹⁸ That is to say, the definition standard of a state-owned enterprise should not focus only on the ownership, but also on its functional orientation.¹⁹

¹⁸ Tan Xuemei, "Redefining the Concept of State-owned Enterprises, Research on Financial and Economic Issues", No.7, 2002.

¹⁹ Chen Xiaoxing, "Redefining the Concept of State-owned Enterprises under Market Economy, *The World of Enterprise*, No.4, 2006.

In fact, many mixed ownership enterprises in China are considered as state-owned enterprises whose internationalization is under strict restrictions. Therefore, the mixed ownership enterprises should be separately listed in law, with no distinction between state-owned and private enterprises,²⁰ so as to form benign business ecology for fair competition. State-owned enterprises refer to enterprises completely owned by the state and serving the goal of public welfare. In fact, they only correspond to the first type of enterprises classified by existing state-owned enterprises, that is, public welfare enterprises.

The most critical reform of this definition is that the management of mixed-ownership enterprises will no longer be included in the supervision of state-owned enterprises, and the SASAC has truly realized the functional transformation from “managing people, affairs and assets” to “managing capital”, so as to manage the state-owned capital of mixed-ownership enterprises through state-owned capital management companies or state-owned capital investment companies instead of directly supervising enterprises. The SASAC will be eventually transformed into an institution that formulates and supervises the implementation of policies on the development of state-owned economy and the management of state ownership rather than a representative institution of state ownership.

- (2) Structure of state-owned capital and reform of mixed ownership to create a level playing field and serve the high-quality development of the overall economy. To achieve strategic adjustment of deepening the reform of mixed ownership and promoting the structure of state-owned capital, we must take a perspective of overall economic development instead of focusing merely on making the state-owned capital better, stronger and bigger, so as to create a fair competitive environment and provide better development space for the development of private economy, and better serve the high-quality development of China’s overall economy. For a long time, the development of state-owned enterprises and state-owned economy has been the focus and responsibility of the state-owned assets supervision authority, which inevitably made the state-owned assets authority promote the reform and development of state-owned economy to achieve the goal of how to make state-owned capital and state-owned enterprises better, stronger and bigger. However, under the socialist market economy system, the ultimate goal of the reform and development of state-owned economy is to promote the healthy development of the whole national economy so that it serves the requirement of high-quality development of the whole economy. For this end, we must take into account fair competition between state-owned enterprises and non-state-owned enterprises, and give consideration to the common development of public and non-public sectors of the economy. In the medium and long term, therefore, we should make better orientation of the state-owned economy and optimize structure, so as to give full play to its key role in the high-quality development of the whole economy.

²⁰ Chen Qingtai, Redefining State-owned Enterprises and Changing from Managing Enterprises to Managing Capital - Two Things To Be Done in Real Reform, *Economic Information Daily*, May 13, 2018.

(3) Optimization and adjustment of the state-owned capital structure to better serve the overall national mission and strategic requirements

During the 14th Five-Year Plan period, we will deepen the reform of mixed ownership and promote the strategic adjustment of state-owned capital structure, so that the functional orientation of state-owned economy can become clearer, better serve the national strategy and people's livelihood, and play a key role in the national missions such as the construction of an innovative country, the construction of the Belt and Road and the strategy of becoming a strong manufacturing country. To make the distribution of industries more rational, most of the state-owned capital will be concentrated in providing public services, developing important forward-looking strategic industries, protecting the ecological environment, supporting scientific and technological progress, ensuring national security and in other key areas related to national security and the lifeline of the national economy, as well as advantageous enterprises in public welfare industries. This requires that the state-owned capital previously distributed in the heavy chemical industry with overcapacity be shifted to high-end and strategic emerging industries, industries related to the national Belt and Road initiative, and industries related to improving the service functions of central cities. Specifically, we will focus on the following points in order to achieve strategic adjustment of the medium and long-term state-owned capital structure.

First, state-owned capital should play a forward-looking and strategic guiding role in innovation. The state-owned capital's entry into strategic emerging industries or high-tech manufacturing industry is expected to play a leading role in innovation. State-owned enterprises should concentrate more innovative resources on the construction of major independent innovative ecosystems by integrating innovation resources to foster forward-looking major common technology platform and seek breakthroughs in major core technologies, front-end technologies and leading technologies of strategic emerging industries, so as to let state-owned capital play a leading role in industrial transformation and upgrading.

Second, the state-owned capital of central enterprises and local enterprises should perform different functions. The state-owned capital of central enterprises should focus on realizing national strategic intentions and national public service networks, while the state-owned capital of local enterprises should focus on local urban public services and urban infrastructure construction. As the total amount of local state-owned assets is larger than that of central state-owned assets, the reform of local state-owned assets in the future will have great strategic significance. Especially, the reform of local state-owned platform companies will be of great significance for preventing China's economic risks and promoting the healthy development of China's economy.

Third, we will make adjustment in overseas distribution of state-owned capital as required by the "Belt and Road" Initiative. This means that the focus of the "going global" strategy of state-owned enterprises will shift more to countries along the

Belt and Road, and seek technical cooperation, capacity cooperation and resource cooperation according to different conditions of countries along the route.

- (4) Reform of state-owned assets of state-owned enterprises to better meet the requirement of coordinated reform. Adjusting the structure of state-owned capital through mixed-ownership reform and enterprises merger and acquisition does not mean a combination of companies in the same trade; instead, it requires coordinated considerations of various problems, such as creating a level playing field, addressing monopoly in naturally monopolistic industries, establishing a state-owned capital management system, forming a market structure that integrates scale economy and competitive efficiency, and resolving excess production capacity. Based on this consideration, the strategic adjustment of state-owned economy should be promoted from the following aspects in the medium and long term.

First, industries with higher market competition, lower industrial concentration and prominent overcapacity, such as resource industries, steel, automobile, equipment manufacturing and foreign project contracting will be selected to carry out mergers and acquisitions of enterprises, so as to reduce the number and expand the scale of enterprises, break through the market separatism caused by local or departmental forces, promote the formation of a unified national market, effectively improve industrial concentration, optimize capacity allocation and promote the digestion of excess capacity. It should be noted that due to prominent overcapacity and poor economic benefits in these fields, promoting mergers and acquisitions in such industries should be the focus and top priority of strategic adjustment of state-owned capital structure.

Second, in fields with natural monopoly, the nature of natural monopoly network link should be distinguished from competitive non-network link. According to overall planning and step-by-step implementation of industry characteristics, the construction of competitive market structure and fair competition system will be promoted through “multi-pronged” policy means such as enterprise restructuring, separation of competitive business and strengthening industrial control, so that the state-owned economy of monopolistic industries will become a more dynamic component of the socialist market economic system.

If the former strategic adjustment of state-owned economy aimed to concentrate state-owned capital in industries with natural monopoly, the strategic adjustment in the medium and long term should concentrate state-owned capital in natural monopoly. It is particularly recommended the State Grid and China Southern Power Grid be split and reorganized so as to form a new national unified state grid. However, the new state grid must separate the electricity sales business from the original State Grid and China Southern Power Grid (i.e. marketizing electricity sales business) and only retain the power network so that it becomes a non-profitable public welfare state-owned enterprise (more accurately, it should be a state-owned enterprise based on public policy that seeks for more social purposes than profit).

Finally, we will actively promote the construction of state-owned capital management system that focuses on “managing capital”. State-owned capital investment

and operation companies will be rebuilt or newly built by means of administrative reorganization and mergers and acquisitions on the capital market, and the property rights of state-owned assets scattered in many industries and enterprises will be in the hands of these state-owned capital investment and operation companies.

Whether it is a competitive industry or a monopolistic industry, the merger and reorganization of state-owned enterprises should be combined with the establishment of state-owned capital investment and operation companies. The reorganization of state-owned enterprises in competitive industries will be promoted by setting up state-owned capital operating companies, and the property rights of reorganized state-owned enterprises will be owned by state-owned capital operating companies. The reorganization of monopoly industries will be promoted by rebuilding state-owned capital investment companies, and the property rights of reorganized state-owned enterprises will be owned by state-owned capital investment companies.

- (5) Placing more emphasis on the improvement of corporate governance structure to promote mixed ownership reform in the medium and long term.

The medium and long term will be a period of rapid evolution of micro-mixed ownership, in which a large number of mixed ownership enterprises will emerge. The key to the success of mixed ownership enterprises not only lies in the mixture of state-owned and non-state-owned property rights but more importantly in giving full play to the unique advantages of state-owned stock rights and non-state-owned stock rights in the governance structure. Therefore, innovating and building an effective corporate governance mechanism is the key to the success of mixed ownership reform, and it is also the micro-foundation for giving full play to the advantages of China's socialist basic economic system. Despite great progress in the corporate governance reform of state-owned enterprises in China, there are still many problems of "unclearness", including:

First, there are unclear subjects of governance, i.e. unreasonable governance structure of some state-owned enterprises, and irrational setting of Party committee, Board of Directors, Board of Supervisors or supervisors and managers, which led to the failure in playing an effective role.

Second, unclear rights and responsibilities of governance, i.e. the Party committee, Board of Directors and managers of some state-owned enterprises do not have substantive rights, and the rights of managing people, affairs and assets are often in the hands of higher-level state-owned assets management departments. Meanwhile, there are unclear and overlapping responsibilities of the Board of Directors, Party committee and managers, and weakening functions of the Board of Supervisors or supervisors in state-owned enterprises, so the accountability system needs to be established and improved immediately.

Third, unclear mechanism of governance, i.e. the Party committee, Board of Directors, Board of Supervisors or supervisors in some state-owned enterprises perform practically no functions due to lack of actual operating procedures and mechanism, or due to inefficiency implementation of established systems. As a result, the Party committee, Board of Directors, Board of Supervisors or supervisors failed to play their due roles.

Fourth, weak ability of governance, i.e. the team of Party committee, Board of Directors, Board of Supervisors or supervisors and managers in some state-owned enterprises has a low degree of specialization, lacks modern corporate governance ability and means, is accustomed to administrative thinking and decision-making methods, and has poor governance effect.

Finally, the implementation of relevant policies is weak. While some important policies and systems of corporate governance reform have been in place, including the market-oriented selection system of managers, the professional manager system and the differentiated salary distribution system, the goals expected have not been achieved during implementation of these policies and systems. For these reasons, the key to deepening the corporate governance reform of state-owned enterprises lies in addressing “unclear” problems in a multi-pronged manner. In this process, we will conform to the new trends and laws of the development of modern corporate governance, integrate the requirements of modern state-owned enterprise system with Chinese characteristics, make innovation of the corporate governance model, and promote the institutional arrangements and reform measures of corporate governance in an all-round way, so as to promote continuous improvement of corporate governance.

12.4.3 Supporting Development of the Non-public Sector

First, we will further improve the business environment. According to the Global Business Environment Index released by the World Bank, China’s business environment has improved significantly in recent years. Among nearly 200 economies in the world, China’s business environment ranked 78th in 2017, 46th in 2018 and 31st in 2019. Despite this rapid growth, there is still a certain gap between China and developed economies. So, more efforts will be made to improve it. Moreover, the cities covered by the World Bank’s China Business Environment Index are only Beijing and Shanghai, and there is still much room for improvement in China’s overall business environment.

According to sub-item indexes in 2019, China performed fairly well in six items, such as contract execution, electric power supply, start-up of enterprises, registration of property, protection of minority investors and handling of construction permits, performed well in cross-border trade and dealing with bankruptcy, and performed poor in getting credit and tax payment. The credit indexes obtained by the World Bank include two sub-items, i.e. the legal rights intensity index, which is used to measure the effectiveness of mortgage and bankruptcy laws in promoting credit education, and the credit information depth index, which measures the strength of credit reporting system. The main problem facing China is the lack of legal rights intensity index, i.e. lack of legal protection of credits and debts in mortgage and bankruptcy. There are four sub-items in the World Bank tax index, and the main problem in China

is the excessively high total tax rate. Among them, the total tax rate was 62.6% in Shanghai and 55.1% in Beijing, higher than the average of 39.9% in OECD countries. Generally speaking, China's business environment has been continuously improved in various aspects in recent years, and the main obstacles at present are the legal and institutional construction of finance and taxation. The improvement of business environment in these aspects should match with the corresponding reforms.

In addition, the World Bank's Business Environment Index did not distinguish between ownerships. In China, the non-public sectors are faced with more obstacles in operation, sales and financing. In the long run, efforts will be made to establish a competitive neutral market environment, while in the short term, flexible compensation mechanisms will be introduced in a timely manner to substantially change the business environment of private sector.

Second, we will further promote reform of the government's "streamlining administration and decentralizing powers, combining decentralization with appropriate control, and optimizing services". The key to developing the non-public sector, especially improving the business environment, lies in the government. Currently, we can carry out the reform of government systems to promote the development of non-public sector from two aspects. First, we will optimize the government responsibility system. The Fourth Plenary Session of the 19th CPC Central Committee stressed that we would perfect the government's functions of economic regulation, market supervision, social management, public service and ecological environment protection, implement the system of lists of government's powers and responsibilities, and clarify the relationship between government and market, and government and society. We will focus on streamlining administration, delegating more powers to lower-level governments and society, improving regulation and optimizing services, deepen the reform of administrative examination and approval system, improve the business environment, and stimulate the vitality of various market players. Then, we will fully mobilize the enthusiasm of local governments to promote the development of non-public sectors. Studies have proved that local governments play an important role in China's economic transformation and development. Only by fully mobilizing the enthusiasm of local governments to develop non-public economy can the environment for the development of non-public sectors be fundamentally changed in China.

Third, we will establish a good legal system to support healthy development of the non-public sectors. The most important thing for perfecting the legal system to promote the development non-public sectors is maintaining fair competition and protecting property rights. The fair competition system can be analyzed from two aspects: market access and operation. We will solve the problem of industry access to non-public sectors at the legislative level, carry out the negative list system of market access, and strictly implement the fair competition review system. Potent support will be provided for non-public enterprises to participate in investment and construction of electricity, transportation, oil and gas exploration and development, municipal utilities and integration of defense and civilian technologies. Qualified

private capital are encouraged to establish financial institutions such as banks, financial leasing companies, finance companies, auto finance companies and consumer finance companies according to law. We will implement specific plans for private capital to enter medical care, pension, education, culture and other service fields, and effectively solve problems such as high barriers and mutual pre-approvals for access. At the management level, we will treat public sectors and non-public sectors equally in supervision, taxation, financing and sales, and truly eliminate extra obstacles and burdens faced by the non-public sectors. Strengthening the protection of property rights is the foundation of protecting and carrying forward entrepreneurship. In recent years, China has strengthened the overall coordination of property rights protection, improved the legal system of equal protection of property rights, and made important breakthroughs in screening and correcting miscarriages of justice involving property rights. In the next step, we will strengthen property rights protection at the legislative level, promote greater breakthroughs in properly handling property rights cases in history, solve property rights disputes voiced by enterprises and the masses, and play an exemplary role of “one case speaks louder than a dozen documents”.

Finally, we will further improve the financial environment for the development of non-public sectors. The financial deleveraging policy, which has been gradually overweight since 2015, has achieved certain results in standardizing the governance of shadow banking and in defusing financial risks. However, because shadow banking loans are not only invested in high-risk and restrictive fields such as real estate and infrastructure, but also invested in ordinary enterprises and private economy in the industry, this policy has also had a great impact on private economy and SMEs, thus aggravating the problem of difficult financing. Subsequently, a series of supporting policies and credit concessions for private economy and SMEs can only be regarded as an expedient measure to solve the urgent need. In the long run, we will promote the development of non-public economy through financial system reform and improvement.²¹ Change of thoughts was reflected the process from financial deleveraging to financial supply-side structural reform. Perfecting the financial system is not only to reduce the scale, but also to optimize the supply structure, so that finance can better serve the real economy, especially the non-public sector. The structural reform at the supply side of finance has two important meanings as far as the non-public economy is concerned.

On the one hand, we will build a multi-level, wide-coverage and differentiated banking system, produce personalized, differentiated and customized financial products, increase the number and business proportion of small and medium-sized financial institutions, and improve financial services for non-public economy and small and micro enterprises.

²¹ Tang Duoduo, Financial Deleveraging, Competitive Neutrality and Policy Transformation — China’s Macroeconomic Outlook in 2019, *Economic Perspectives*, No.3, 2019.

On the other hand, we will build a standardized, transparent, open, dynamic and resilient capital market, and establish an all-round and multi-level financial support service system such as venture capital, bank credit, bond market and stock market to satisfy financing needs of the non-public sectors. In recent years, local governments have also made targeted attempts and arrangements in financial support of the non-public economy, which can be promoted nationwide according to its effect in the medium and long term. For example, raising funds to set up a policy-based relief and bailout fund for private enterprises to help solve liquidity problems of listed private enterprises and key private enterprises by way of market tools, resolve the risk of liquidation of equity pledge of listed companies, and avoid vicious transfer of enterprise ownership. We will increase credit support, and continue to provide financial support to enterprises that meet the requirements but temporarily encounter operational difficulties. We will ensure not to blindly lend or cut off loans. Private enterprises are encouraged to introduce various strategic investors. Industrial development funds are encouraged to invest in start-up enterprises and promote the development of bond financing support tools for private enterprise. We will focus on supporting qualified high-quality private enterprises to issue bonds, and encourage state-owned industrial funds and investment funds to invest in private enterprises. We will establish a “red–black list” system to improve the incentive scheme for integrity and disciplinary scheme for dishonesty.

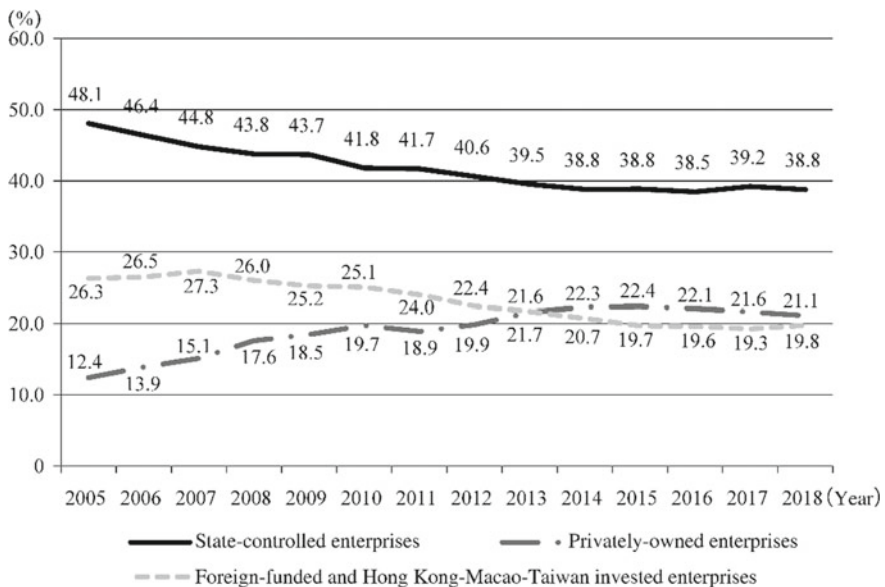


Fig. 12.1 Asset composition of industrial enterprises above designated size with different ownership systems in China *Source:* China Statistical Yearbook (2019)

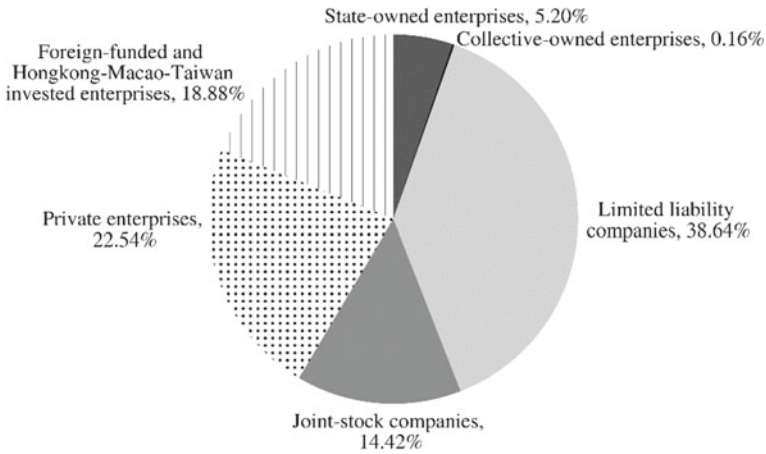


Fig. 12.2 Ownership composition of total assets in 2018 *Source:* China Statistical Yearbook (2019) only gave the total assets of industry, wholesale and retail, and accommodation and catering, and did not provide relevant statistical data of other industries

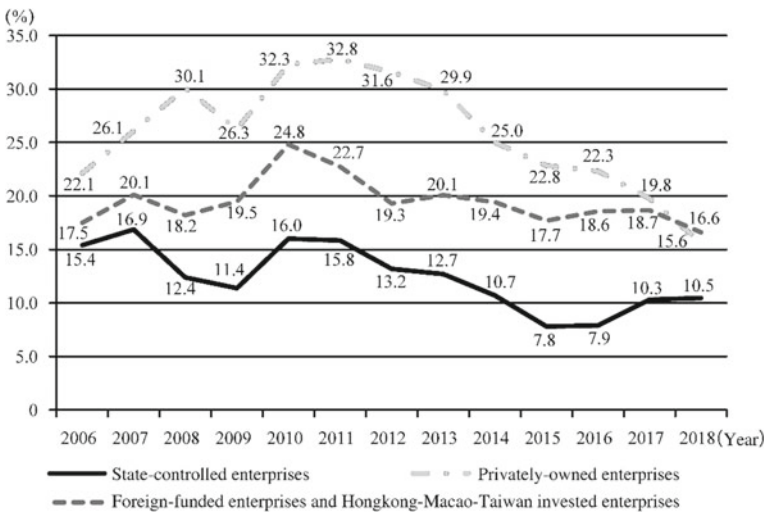


Fig. 12.3 Return on net assets of industrial enterprises above designated size and of different ownerships *Source:* China Statistical Yearbook (2019). Return on net assets in the figure = $\text{net profit} \times 2 / (\text{net assets at the beginning of this year} + \text{net assets at the end of this year})$. Since there is no relevant statistical data of net profit, we adopted total profit instead of net profit, and the difference between them was VAT payable and income tax payable

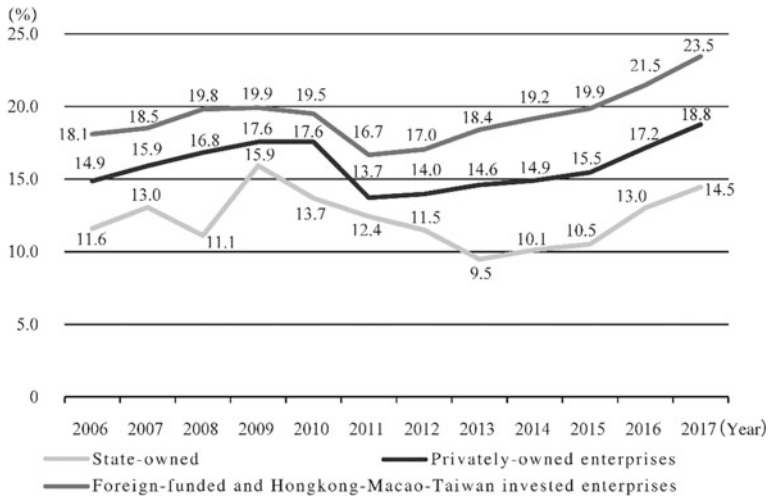


Fig. 12.4 Proportion of new product sales income to main business income of industrial enterprises with different ownership *Source:* China Statistical Yearbook on science and technology (2007–2018), China Industry Economy Statistical Yearbook (2007–2017) and China Statistical Yearbook (2018)

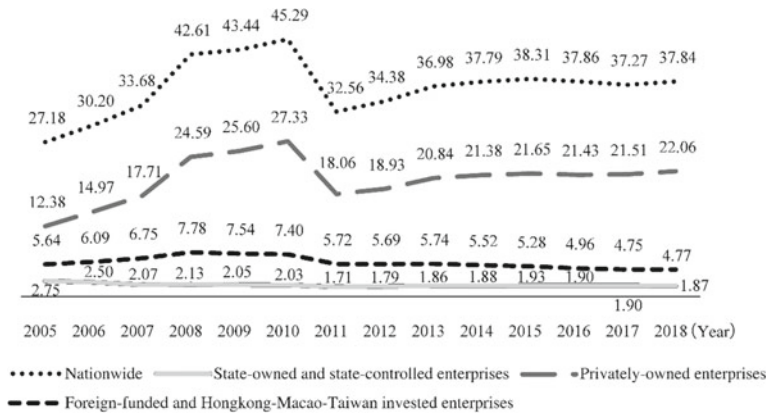


Fig. 12.5 Number of industrial enterprises above designated size with different ownership (unit: '0000) *Source:* China Statistical Yearbook (2019). In the figure, industrial enterprises above designated size are defined as: (1) all state-owned and non-state-owned industrial enterprises with annual product sales income of 5 million yuan or more from 2003 to 2006, (2) all industrial enterprise with an annual main business income of 5 million yuan or more from 2007 to 2010; and (3) all industrial enterprise with an annual main business income of 20 million yuan or more (the same below) in 2011. This is why a huge decline occurred in the number of enterprises in 2011

Table 12.1 Changes in employment structure of different ownerships (unit: %)

Year	Total employment ('0000 persons)	State-owned enterprises	Collective-owned enterprises	Limited liability companies	Joint stock companies	Private enterprises	Foreign-funded and Hongkong-Macao-Taiwan invested enterprises	Individually-owned enterprises
2005	28,389	23	3	6	2	12	4	10
2006	29,630	22	3	6	3	13	5	10
2007	30,953	21	2	7	3	15	5	11
2008	32,103	20	2	7	3	16	5	11
2009	33,322	19	2	7	3	17	5	13
2010	34,687	19	2	8	3	18	5	13
2011	35,914	19	2	9	3	19	6	15
2012	37,102	18	2	10	3	20	6	15
2013	38,240	17	1	16	5	22	8	16
2014	39,310	16	1	16	4	25	8	18
2015	40,410	15	1	16	4	28	7	19
2016	41,428	15	1	15	4	29	6	21
2017	42,462	14	1	15	4	31	6	22
2018	43,419	13	1	15	4	32	5	24

Source China Statistical Yearbook (2019). The employment ratio of joint-stock partnership entities and joint-stock entities in past years was less than 1%, so it is not provided

Table 12.2 Changes in asset size of industrial enterprises of different ownerships above designated size (Unit: RMB '0000/enterprise)

Year	State-owned enterprises	Private enterprises	Foreign-funded and Hongkong-Macao-Taiwan invested enterprises
2005	11,572.4	1,394.0	8,065.6
2006	15,707.0	1,750.6	9,039.9
2007	42,810.2	2,449.1	11,404.8
2008	54,145.8	2,705.8	12,667.3
2009	76,493.2	3,010.2	14,285.9
2010	88,589.8	3,086.4	14,405.8
2011	105,188.7	3,561.1	16,514.2
2012	122,332.4	4,276.8	20,062.4
2013	165,185.2	7,073.2	28,311.6
2014	174,833.0	8,059.0	30,280.5
2015	185,197.5	9,006.5	32,886.2
2016	197,420.7	9,968.4	35,917.1
2017	206,197.1	10,577.4	38,155.9
2018	219,590.0	11,177.4	42,931.8

Source Calculated according to relevant data in China Statistical Yearbook (2019)

Table 12.3 Changes in output value of state-controlled industrial enterprises by industrial chain (unit:%)

Year	Low-tech industry	Medium-tech industry	High-tech industry	Resource-based industry
2007	7.32	28.84	3.41	42.72
2008	6.81	27.86	3.87	45.13
2009	7.09	30.64	3.80	40.05
2010	6.74	30.29	3.49	41.58
2011	6.57	28.96	3.56	43.22
2012	7.34	28.24	3.65	42.43
2013	7.54	29.09	3.85	40.49
2014	7.68	30.49	4.08	38.83
2015	8.43	32.82	4.75	33.63
2016	8.32	34.95	5.18	32.24
2017	7.37	47.13	4.85	36.73
2018	7.42	44.24	4.65	38.35

Source Based on China Industry Economy Statistical Yearbook (2004–2017)

Table 12.4 Policy documents related to the development of mixed ownership economy since the 3rd Plenary Session of the 18th CPC Central Committee

Date	Organization issuing the policy	Policy document
September 2015	the CPC Central Committee and the State Council	<i>Guiding Opinions of the Central Committee of the CPC and the State Council on Deepening the Reform of the State-owned Enterprises</i>
September 2015	The State Council	<i>Opinions of the State Council on Developing the Mixed Ownership Economy in State-owned Enterprises</i>
October 2015	National Development and Reform Commission, Ministry of Finance, Ministry of Human Resources and Social Security, and State-owned Assets Supervision and Administration Commission	<i>Guiding Opinions of the State Council on Encouraging and Standardizing the Introduction of Non-state Capital into State-owned Enterprise Projects</i>
November 2015	The State Council	<i>Several Opinions of the State Council on Reforming and Perfecting the Management System of State-owned Assets</i>
December 2015	State-owned Assets Supervision and Administration Commission, Ministry of Finance, and National Development and Reform Commission	<i>Guiding Opinions on the Functional Definition and Classification of the State-owned Enterprises</i>
June 2016	State-owned Assets Supervision and Administration Commission Ministry of Finance	<i>Measures for the Supervision and Administration of Transactions of Enterprise State-owned Assets</i>
August 2016	State-owned Assets Supervision and Administration Commission, Ministry of Finance, and China Securities Regulatory Commission	<i>Opinions on Piloting Employee Stock Ownership in State-controlled Mixed Ownership Enterprises</i>
May 2017	General Office of the State Council	<i>Guiding Opinions on Further Improving the Corporate Governance of State-owned Enterprises</i>
July 2017	General Office of the State Council	<i>Implementation Plan for the Restructuring of Central Enterprises</i>
November 2017	National Development and Reform Commission, Ministry of Finance, Ministry of Human Resources and Social Security, etc	<i>Opinions on Several Policies for Deepening the Pilot Reform of Mixed Ownership</i>
July 2018	The State Council	<i>Implementation Opinions of the State Council on Promoting the Pilot Reform of State-owned Capital Investment and Operating Companies</i>

(continued)

Table 12.4 (continued)

Date	Organization issuing the policy	Policy document
August 2019	Office of the Leading Group for State-owned Enterprise Reform under the State Council	<i>Notice on Supporting and Encouraging Selected Hundred Subsidiaries of Central Enterprises and Hundred Local Stated-owned Enterprises (“Double-Hundred Enterprises”) to Further Intensify Reform and Innovation</i>
October 2019	State-owned Assets Supervision and Administration Commission	<i>Operational Guidelines for Mixed Ownership Reform of Central Enterprises</i>
January 2020	Office of the Leading Group for State-owned Enterprise Reform under the State Council	<i>Operational Guidelines for Implementing Tenure and Contract-based Management of Managerial Level Personnel in “Double-Hundred Enterprises” and Operational Guidelines for Implementing Professional Manager System in “Double-Hundred Enterprises”</i>

Source Compiled according to public reports

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Chapter 13

Research on the Strategy and Policy of Constructing a New Open System at a Higher Level



Zhizhong Yao, Bin Zhang, Lingyun Gao, and Aizong Xiong

In recent years, China has made great achievements in opening to the outside world. The layout of foreign trade, investment and region has been continuously optimized; important progress has been made in the new system of opening up to the outside world, and the ranking of business environment has jumped sharply. The construction of the “Belt and Road” Initiative has been deeply promoted, and the “Belt and Road” Initiative and its core concepts have been incorporated into the outcome documents of important international mechanisms such as the United Nations, APEC and the SCO, and its international acceptance has been continuously improved. The Initiative has played a constructive role in global governance and actively assumed international responsibilities and obligations.

In the medium and long term, China’s opening up will be faced with a new situation. The COVID-19 epidemic has had a great impact on the global industrial chain and division of labor system, but China’s economy withstood this severe test and took the lead in recovering from the epidemic, showing strong resilience and flexibility in the reconstruction of the global industrial chain. China will still be in an important period of strategic opportunities, but the phased adjustment of globalization may accelerate after the pandemic. The United States and other Western countries will strengthen their containment of China. The international expectation that China should assume more responsibilities will continue to increase. Therefore, the task of better safeguarding national security in opening up will become more arduous for China. It is thus suggested that with a broader vision, higher goals, more open mind and more powerful measures, we should push forward the construction of a new system of opening up to the outside world at a higher level and promote win-win cooperation from ten aspects, such as the layout of opening up to the outside world, the construction of a strong trading country, the opening up of service industry, the

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quality of introducing foreign capital, the “going out” of enterprises, and the opening up of finance and the construction of the “Belt and Road” Initiative.

13.1 New Trends Facing China’s Mid-to-Long-Term Opening up to the Outside World

According to an overall judgment, the phased adjustment of medium and long-term globalization will accelerate, and the game of benefit distribution will be more intense. China remains in a period of strategic opportunities, but the tendency of external blockade and containment of China in western countries such as the United States has strengthened. Moreover, China’s status as a developing country will be questioned, and ensuring security in China’s opening up will become a more arduous task.

13.1.1 Phased Adjustment of Globalization May Accelerate and the Competition of Benefit Distribution Will Become More Intense

Economic globalization is an inevitable result of the progress of science and technology and of the development of productive forces in human society. It is the trend of the times that a country must face in its development. The process of world economic development shows that the world economy will prosper and develop with the deep advancement of economic globalization. With the rise of backlash against globalization, the world economy will be sluggish. A new round of scientific and technological revolution with artificial intelligence, quantum computing, blockchain, etc. as its main contents is vigorously advancing. These new technologies are characterized by openness, sharing and decentralization, which will further promote the development of economic globalization. In the long run, therefore, globalization is the trend of the times and also a historical law, and will not be changed by the will of a few countries or people.

However, the United States and other western countries are extremely dissatisfied with the distribution pattern of benefits brought about by globalization. With the global industrial division of labor and the extension of industrial chain to developing countries, the problems of hollowed-out industries and gradually unbalanced economic structure in developed countries have become increasingly serious. This will, on the one hand, lead to the fact that multinational companies in developed countries may reap benefits from their advantage of seizing the high end of the industrial chain and financial capital, and will, on the other hand, lead to a decline in the income of industrial workers and the middle class in developed countries, thus widening the gap between the rich and the poor, causing public dissatisfaction

and directly contributing to the regional growth of far-right political forces and the emergence of populism in the United States and other Western countries.

By use of power politics, the United States and other Western countries intended to direct the new round of globalization towards their interests. The United States and other countries that have failed to contain the COVID-19 epidemic deliberately accused China in order to scapegoat others for its own malaise because they encourage the development of trade protectionism, close-door policy and backlash against globalization. Their purpose is to redefine the reality of economic globalization in the name of counter-economic globalization, try to dominate and re-formulate the rules and order of economic globalization, and continue to maximize their interests and advantages over developing countries.

It is a historical mission of the times for China to actively participate in global governance and promote the formation of a new pattern of world development that allows each country to make use of its own advantages. In the medium and long term, the global economy will still face problems such as slow growth, insufficient development momentum, more uncertainties and unstable factors, increased risks of economic downturn, and fierce contest between multilateralism and unilateralism. For traditional economic globalization, we urgently need to promote innovation in concepts, models and cooperation mechanisms. As the world's second largest economy and the largest trading country, China has been committed to safeguarding and enhancing its own interests and has also assumed international responsibilities on the basis of the continuous development of its own national strength, so as to continue providing the world with new development ideas and opportunities. As an advocate, practitioner and pioneer in promoting new economic globalization, China will achieve an organic unity of national interests and international responsibilities and chart the course for economic globalization at the crossroad in order to provide new impetus for the world economy and achieve a more inclusive and open development goal.

13.1.2 China Remains in an Important Period of Strategic Opportunities as it is Faced with Blockade and Containment by the United States and Other Western Countries

Great changes rarely seen in a century did not end the important strategic opportunity period of China's development; instead, it laid an important foundation for extending the important strategic opportunity period of China's development and achieving higher development goals.

First, China's development process and great achievements since the reform and opening-up have laid a solid foundation for extending the period of important strategic opportunities. China is already the second largest economy in the world, and its economy continues to maintain medium and high-speed growth. With the deepening

of supply-side structural reform, China has achieved rapid progress in economic structure optimization, digital economy and infrastructure works such as high-speed rail, highways, bridges, ports and airports. With the growing population of middle-income groups, China has upgraded its consumption structure. All these indicate that China's huge market has bolstered its rapid economic development. The rapid growth of China's comprehensive national strength is of great historical significance. On the one hand, it consolidates the foundation of the world's theme of peace and development, which means that China can still strive for an overall peaceful international environment in the medium and long term. On the other hand, the improvement of global governance will never be separated from Chinese wisdom, Chinese plan and Chinese strength. Guided by the idea of building a community with shared future for mankind, China advocates a more open, tolerant, inclusive, balanced and win-win economic globalization, which has won the support of most countries in the world.

Second, China is provided with outstanding institutional advantages. Since the reform and opening-up and with the leadership of the Communist Party of China, China has embarked on the road of socialism with Chinese characteristics, carried out socialist market economy reform, steadily promoted the modernization of state governance, and maintained social harmony and stability. Therefore, China has outstanding institutional advantages. In 2020, at the outbreak of the COVID-19 pandemic, China won a decisive victory in epidemic prevention and control in a relatively short period of time, which indicates China's institutional advantage of "coordinating all our efforts to complete key national undertakings", and forms a huge contrast with the anti-epidemic efforts of Western countries led by the United States. The socialist system with Chinese characteristics is based on the reality of Chinese society and is formed by long-term development, gradual improvement and endogenous evolution on the basis of Chinese historical inheritance, cultural tradition and economic and social development. It is gained by absorbing the positive and negative experiences of socialist construction and coping with complicated challenges at home and abroad. Therefore, it can provide institutional guarantee for China's long-term development in an important period of strategic opportunities.

Third, western countries, led by the United States, are hampered by increasing contradictions within and among themselves. On the whole, the United States is accelerating the reduction of its heavy international obligations, showing a trend of strategic contraction. Since January 2017, the United States has successively withdrawn from some international organizations and treaties,¹ such as the *Trans-Pacific Partnership (TPP)*, the *Paris Climate Change Agreement*, UNESCO, the *Global Compact on Migration*, the *Joint Comprehensive Plan of Action*, the United Nations Human Rights Council, and the *Intermediate-Range Nuclear Forces Treaty*. The United States also threatened to withdraw from NATO, the *Vienna Convention on Diplomatic Relations*, the World Trade Organization and even the United Nations. The United States' withdrawal has brought the international order into a more chaotic and changeable era, causing dissatisfaction among its allies. Moreover, under the guidance of the Trump administration's "America First" principle, the United States

¹ Wu (2019).

provoked trade frictions against its major economic partners and allies, demanding the revision of various bilateral and multilateral trade agreements, forcing allies to expand and open their markets, and further increasing the contradiction between the United States and its allies. Meanwhile, in the western countries led by the United States, there are still serious problems in national governance, and their economic competitiveness, political legitimacy, social stability and comprehensive national security have declined to varying degrees.

The resentment between the few elites at the upper level of society and the general public at the bottom is increasing, and their internal populist thoughts and movements are constantly advancing to the “left” and “right” extremes. The intensification of contradictions between and within western countries led by the United States will restrict the exertion of their foreign strategic intervention ability.

However, China’s economic development momentum has been strong in recent years. The rapid improvement of economic strength and status has inevitably caused the alert of the United States and other western countries, and the risk of economic isolation by adopting exclusive policies against China has risen. The process of China’s opening to the outside world may be disturbed by various factors, such as economic and trade friction, technical blockade, financial sanctions and difficulty in reaching bilateral and regional agreements. The United States and other western countries generally believe that China has long used the world economic system created by western countries to promote its own strategic goals, and tried to strengthen the government-led economic development model.

After the Trump administration took office, it directly positioned China as a primary strategic competitor, and consecutively released the *National Security Strategy*, *National Defense Strategy*, *Nuclear Posture Review* and *Indo-Pacific Strategy Report*. Under the guise of safeguarding national interests and national security, the Trump administration determined the “road map” to contain and suppress China in various fields. Not only is it pressing on the trade issue step by step, but it also uses its own scientific and technological hegemony to establish vicious restrictions on China, and implements a ban on the sale of science and technology, in an attempt to promote the withdrawal of industrial chain from China and weaken China’s influence in the international economic system. Moreover, by strengthening the Committee on Foreign Investment (CFIUS) and other mechanisms, Trump administration discriminated against Chinese investors and strictly examined and reduced direct investment of Chinese enterprises in the United States, especially the mergers and acquisitions of technology enterprises. What’s more, the United States encourages its allies to abandon normal economic and trade cooperation with China, which makes it difficult for China to reach bilateral and regional agreements.

13.1.3 China's Status as a Developing Country to be Increasingly Questioned

According to per capita gross national income (GNI), the World Bank divided the world economy into four income groups, i.e. high-income, upper-middle-income, lower-middle-income and low-income groups. According to the World Bank's 2017 standard, the per capita GNI of about \$12,235 becomes the threshold for high-income countries. In 2019, China's gross domestic product (GDP) exceeded 99 trillion yuan, and the total economic output reached 14.4 trillion US dollars at the average exchange rate. Based on 1.40005 billion of Chinese people on the mainland at the end of 2019, the per capita GDP reached 70,892 yuan, which is converted into 10,276 US dollars at the annual average exchange rate. Since the World Bank generally regards middle and low income countries as developing countries, even if we take the most conservative forecast of an average annual growth rate of 5%, China will "graduate" from the developing countries defined by the World Bank after 2023.

Western countries, led by the United States, will spare no effort to challenge China's status as a developing country. To measure a country's development level, we should not focus on one point or one field, but should make a comprehensive assessment. China is undoubtedly still a developing country because of the large urban-rural gap, regional disparities and unbalanced economic development. However, the United States and the European Union challenged China's entitlement to the special and differential treatment. For example, the Trump administration submitted a draft to the WTO General Council in July 2019, requiring that all countries listed by the World Bank as high-income countries, OECD members, G20 members or those accounting for at least 0.5% of global commodity trade be disqualified as developing countries, and should not ask for differential and special treatment in future rounds of WTO negotiations. Among the above four prerequisites, China will meet three in the medium and long term.

In fact, the Office of the US Trade Representative unilaterally announced in February 2020 that some trading partners, including China, were no longer recognized as "developing countries". Moreover, the expectations of other countries on China in the world will also change. China has conformed to the trend of peace and development, actively embraced the world and integrated into the world. While realizing its own development, China has also brought more opportunities and vitality to world development, made great contributions to the world peace and development, assumed more responsibilities, and demonstrated its role as a permanent member of the UN Security Council and a major economy in the world. While applauding China's active implementation of its international responsibilities and obligations, other countries have also expected China to assume more responsibilities.

Therefore, WTO principle members have different standpoints on China's status of a developing country and "special and differential treatment". It is difficult to see the possibility of bridging these differences in a short term. However, this issue will lead to a fact that the obligations undertaken by China in WTO, such as market access, tariff and non-tariff reduction and exemption, will gradually align with the current

standards of developed countries. China will face increasingly severe competition rule in opening wider to the outside world.

13.1.4 More Arduous Task to Ensure Security in Opening Wider

To realize the Chinese dream of the great rejuvenation of the Chinese nation, national security is the top priority. Since the 18th National Congress of the Communist Party of China, national security has received unprecedented attention, and the related work process has obviously accelerated. Great achievements have been made in leadership system, working mechanism, ideological theory, rule of law, publicity and education. As an important part of Xi Jinping's thought of socialism with Chinese characteristics in the new era, the overall view of national security has become one of the basic strategies of socialism with Chinese characteristics in the new era. However, the medium and long-term security challenges, especially major security risks, will increase day by day, and penetrate quickly into such fields as politics, economy, culture, society, ecology and national defense. Potential safety hazards in any field may harm the vital interests of the masses, and even affect the national interests and the great cause of national rejuvenation.

With the further deepening of opening up, there will emerge more risks in domestic industrial security, financial security and digital and network security. Due to the increasingly complex development and evolution of the international situation, the increasingly tortuous adjustment of the world economy, the increasingly acute international contradictions and struggles, and the rapid cross-border flow of various factors affecting national security, there will be various foreseeable and unpredictable security risks and challenges. In the industrial field, for example, there are many acute bottlenecks hampering China's production technologies, software and key components. In addition, the COVID-19 epidemic has made countries realize the importance of a complete domestic industrial chain in the face of major external shocks, which may increase the risk of China's industrial chain moving out too fast. In the financial field, financial opening has brought about the rapid entry of a large number of foreign-funded financial institutions into China, and fierce competition may increase the risk of domestic financial institutions. Liberalization of capital accounts may also be accompanied by the increase of cross-border capital flow risks. In the field of digital and cybersecurity, the national key information infrastructure is facing great potential risks due to China's fragility in network security prevention and control. Without the international rules of digital and cyberspace generally accepted by all parties, it is difficult for China to cope with transnational problems such as cyber terrorism, cyber crime and cyber fraud brought about by its open-door policy.

Moreover, with the increasing degree of opening to the outside world, the task of ensuring the safety of China's overseas interests will become more arduous. In the medium and long term, traditional and non-traditional global security issues will be

more closely intertwined, and extremism and terrorism will continue to spread. With the increase of China's overseas investment and personnel, and a large proportion of them are concentrated in countries and regions with high political risks, the economic, security, political, social and legal risks and challenges faced by China's overseas interests have become increasingly prominent. In addition, we have to deal with the double standards of some countries for Chinese-funded enterprises, projects and personnel according to their domestic laws, so the task of safeguarding overseas interests will be even more arduous.

13.2 New Strategies for Opening Wider in the Medium and Long Term

In the medium and long term, socialism with Chinese characteristics will enter a new era, and opening to the outside world will also step into a new era. In the face of new situation and new mission, new strategies are needed to guide China's opening wider to the outside world.

Guided by Xi Jinping thought on socialism with Chinese characteristics for a new era, we will implement the spirit of the 19th CPC National Congress and the Second, Third and Fourth Plenary Sessions of the 19th CPC Central Committee. We will press ahead while maintaining stability. We will adhere to the new development concept, carry out the supply-side structural reform, and promote opening up with broader visions, higher goals, more open mind and more powerful measures. Efforts will be made to turn risks and challenges into great potential energy for changing modes, adjusting structures and increasing power. We will maintain and make good use of the important strategic opportunity period to achieve a higher level of development, and accelerate the formation of a new development pattern in which domestic economic circulation plays a leading role while international economic circulation remains its extension and supplement, so as to promote the high-quality development of China's economy.

The *Decision of the CPC Central Committee on Major Issues Concerning Upholding and Improving the System of Socialism with Chinese Characteristics and Advancing the Modernization of China's System and Capacity for Governance* was adopted at the Fourth Plenary Session of the 19th CPC Central Committee. In view of opening to the outside world, three requirements are clearly put forward, namely, "building a new system of open economy of higher standards", "promoting the construction of an open system with win-win cooperation" and "actively participating in the reform and development of the global governance system",² which points out the direction for opening to the outside world in the medium and long term. As the world's second largest economy, China is required to maintain its weight ratio to the global market and its contribution rate to the world economy, to undertake more efforts to safeguard the international multilateral trading system and the

² *People's Daily* (2019).

overall situation of economic globalization, and to ensure high-quality economic development and safeguard its legitimate rights and interests.

On this basis, in order to better participate in the reconstruction of the global industrial chain in the post-epidemic era, the CPC Central Committee with comrade Xi Jinping at its core has made a major strategic plan of “gradually forming a new development pattern in which domestic economic circulation plays a leading role while international economic circulation remains its extension and supplement” on the basis of comprehensively coordinating the two major domestic and international situations. In order to implement this deployment, we suggest that the medium and long-term strategy of deepening opening-up should be expressed as promoting the building of a new system of opening-up for cooperation.

The reasons for making above suggestions are as follows. First, a system is a whole composed of things within a certain range or of the same kind according to a certain order and internal relations, and it is a collection of institutions or systems. Therefore, the system is more extensive than the institution. Second, the Central Economic Work Conference in December 2019 has clearly defined the task of opening to the outside world in 2020, i.e. “promoting higher-standard opening up”, and the medium and long-term tasks will aim to open wider on this basis. Finally, actively participating in the reform of global economic governance is a means to promote a higher-standard opening and build an open system for win-win cooperation, which can and should serve the building of a new, open and higher-standard system for win-win cooperation.

To follow the new trend of China’s opening to the outside world in the medium and long term, we will push forward the building of a new higher-standard system for win-win cooperation, which at least includes the following four strategic points.

First, we will create a higher-standard open world economy to better serve the overall development of China. Since the 18th CPC National Congress, China has successively launched major opening-up measures, such as setting up free trade pilot zones, promoting the “Belt and Road” Initiative, actively expanding imports, and promoting the construction of Hainan Free Trade Port. China has also made important progress in expanding the breadth and depth of opening-up, and actively promoted the integration and development of China and the world and mutual benefit and win-win results. So, China can hardly make economic development achievements without the open condition. Now, these achievements have enabled China to shape its favorable external environment to a certain extent. According to the requirements of the Fourth Plenary Session of the 19th CPC Central Committee and major deployment of the new development pattern, we will create a higher-standard open world economy in the medium and long term so as to promote the formation of benign interaction of both domestic and international cycles with higher-standard opening and create a good external environment for China’s domestic development. To this end, China needs to promote opening from manufacturing to services, realize opening transformation based on service trade, shift from opening of commodity and factor mobility to opening of systems and institutions such as rules, regulations, management and standards, strengthen institutional and structural arrangements, build a high-standard market economy, maintain the safety of industrial chain and supply chain, foster new

advantages in participating in international cooperation and competition, and better serve the overall development of the country.³

Second, we will create an internationally advanced business environment to better enhance China's global competitiveness. In the medium and long term, China's economy will gradually enter a high-quality development stage. The high-quality development requires not only the transformation of development mode and growth path but also institutional reform and mechanism innovation. Optimizing the business environment is the systematic and institutional arrangement of development, and will make difference in the rise and fall of market players, the convergence and dispersion of production factors and the strength of development momentum in the context of fierce international competition. A good business environment is not only an important embodiment of economic soft power but also one of the key elements of a country or region's competitiveness. According to the requirement of the Fourth Plenary Session of the 19th CPC Central Committee and the major arrangements of new development pattern, in the medium and long term, we will vigorously develop new information and communication systems represented by 5G, and create a more internationally competitive infrastructure environment for enterprise development. In addition, we will reduce the production and operation costs of enterprises by vigorously reducing taxes and fees, substantially relax market access and simplify examination and approval procedures through high-level trade facilitation and investment liberalization policies and measures. We will also effectively reduce the institutional transaction costs of enterprises, attract the agglomeration and allocation of various high-end resource elements, and realize the transformation from cost advantage to comprehensive competitive advantage based on talents, capital, infrastructure, technology, services and brands.⁴ A more open, legal and convenient business environment will be created at an internationally advanced level so as to enhance China's comprehensive strength in participating in international competition, and cultivate new advantages in opening up to the outside world, thus providing strong support for higher-standard opening.

Third, we will adhere to the vision of building a community with a shared future for mankind and better enhance the leading role of global governance. The reform of global governance system is currently at a turning point in history. With such challenges as the escalating global trade protectionism, the prominent negative spillover effect of macro policies, the large income gap between individuals and regions, and the instability of international monetary and financial system as well as problems including inefficiency and lack of representativeness in global economic governance, major powers in the world urgently need to strengthen coordination and cooperation to jointly cope with global problems such as climate anomaly, infectious diseases and terrorism. China's economic strength accounts for a rising proportion of the world's economy. In order to realize the benign interaction between domestic and international cycles, seize development opportunities and make the future world order more just and reasonable, the Fourth Plenary Session of the 19th CPC Central Committee

³ Zhong (2019).

⁴ Zhang (2020).

has made major deployment of the new development pattern. In the medium and long term, we will advocate extensive consultation, joint contribution and shared benefits in global governance, adhere to multilateralism, safeguard international fairness and justice, and promote the democratization of international relations. We will promote the development of global governance systems and mechanisms in a more just and rational manner, so as to occupy the commanding height of international morality, promote the building of a new type of inter-state relations, promote the building of a community with shared future for mankind, and provide China's plan for mankind to explore a better social system.

Finally, we will establish a high-standard security mechanism to better safeguard national security and development interests. In the medium and long term, China will remain in an important period of strategic opportunities, but the security environment is getting more complex, and the security issue is becoming more comprehensive, complex and variable than ever. As traditional security threats are intertwined with non-traditional ones and superpower games are getting more intense, China will face more national security threats and accomplish an increasingly complex and arduous task of safeguarding national security and development interests.⁵ In order to curb China's development, the United States and other Western countries abused state power to discredit and suppress specific Chinese enterprises by hook or by crook, which has not only destroyed the legitimate rights and interests of Chinese enterprises, but also seriously damaged the normal operation of global industrial chain and supply chain.

To prevent the great rejuvenation of the Chinese nation from being delayed or interrupted, in accordance with the requirements of the Fourth Plenary Session of the 19th CPC Central Committee and the major arrangements of the new development pattern, we will improve the national security legal system, establish high-standard mechanisms for national security risk judgment, prevention and control coordination, and actively take practical and effective management measures to strengthen the safety protection of major overseas projects and personnel, safeguard sovereignty, security and development interests, create a good external environment, and provide a strong guarantee for safeguarding national security and development interests.

13.3 Policy Suggestions for Building a Higher-Standard New System for Opening and Win–Win Cooperation

To meet the requirements of promoting a new, open and higher-standard system for win–win cooperation in the medium and long term, we suggest our priorities focus on the following ten aspects.

⁵ Du (2013).

13.3.1 Constantly Optimizing the Layout of Opening up to the Outside World

We will spare no efforts to promote openness and cooperation at bilateral, multi-lateral, regional and sub-regional levels. On the basis of consultation and dialogue and in accordance with relevant principle and flexibility, we will properly solve outstanding problems in Sino-US economic and trade cooperation, implement the *Regional Comprehensive Economic Partnership (RCEP)*, promote early conclusion of China-Japan-Korea Free Trade Area and China-EU Comprehensive Agreement on Investment negotiations, and promote negotiations on entry into the CPTPP and the building of the Asia-Pacific Free Trade Area.

Efforts will be made to implement the coordinated regional development strategy and promote opening in all respects. More efforts will focus on accelerating higher-quality integration of the Yangtze River Delta, the construction of Belt and Road initiative, the coordinated development of the Beijing-Tianjin-Hebei region, the development of the Yangtze River Economic Belt, the construction of Guangdong-Hong Kong-Macau Greater Bay Area, etc., and form an all-round opening pattern with complementary advantages, division of labor and cooperation, and balanced coordination among the eastern, central and western regions. We will earnestly create a new highland for coastal opening, build a number of international metropolises and urban agglomerations to provide service for the whole country and world, and set up a coastal economic belt with stronger international influence. With improvement of the new inland opening mechanism, we will promote the coordinated development of inland trade, investment and technological innovation, make innovation of the processing trade model, and form an institutional mechanism conducive to promoting the development of inland industrial clusters. New fulcrums for opening up along the border will be created to build key development and opening-up pilot zones and border economic cooperation zones along the border into important platforms for cooperation between China and neighboring countries, and accelerate the pace of opening up along the border.⁶

We will further optimize the international market layout. We will guide and support enterprises to explore diversified export markets, stabilize the markets of traditional developed countries such as Europe and the United States, actively expand the markets of countries along the Belt and Road, steadily increase the proportion of free trade partners, emerging markets and developing countries in China's foreign trade, expand the scale of trade with neighboring countries, and consolidate and enhance China's share and influence in the global market.⁷

⁶ Si (2019).

⁷ Zhong (2019).

13.3.2 Accelerating the Building of a Strong Trading Country

We will consolidate the industrial base of China as a strong trading country. In conformance with the trend of the new round of scientific and technological revolution and industrial transformation, we will accelerate the intelligent, green and refined transformation of traditional labor-intensive industries, promote independent R&D capability of core technologies, upgrade the level of innovation and “smart manufacturing”, and continuously improve the scientific and technological content and added value of products. Seizing the opportunity of reconstructing the global value chain and reshaping the industrial division of labor, we will upgrade China’s industry to the high end of the value chain.

The scale and quality of imports will be expanded. Great importance will be attached to reasonable balance between export and import. By virtue of China International Import Expo, we will take various formal or temporary methods to continuously reduce the overall level of China’s import tariffs, actively expand the import of foreign high-quality goods and services, and further enhance the attractiveness and influence of China’s internal market. We will optimize the import structure and promote the upgrading of domestic production and consumption. We will increase imports to countries along the Belt and Road, and continue to implement preferential arrangements for importing goods and services from least developed countries.

We will actively create new modes of trade. Our priorities include strengthening general trade, upgrading processing trade and developing border trade. With the development of new technologies such as “Internet +” and artificial intelligence, we will actively develop modern service trade. A brand union will be set up to achieve unified management of brands in new advantageous fields such as high-speed rail and nuclear power, so as to foster a number of Chinese brands and multinational companies with national competitiveness. We will accelerate the improvement of China’s capability to set international standards for foreign trade. By seizing the opportunity of setting international standards for new industries, new technologies and new products, we will formulate a “going abroad” plan to export products, technologies, services and standards worldwide, and firmly occupy the commanding heights of foreign trade development and global industrial chain.⁸

We will promote the construction of the Pilot free trade zones with higher standards and quality. In free trade zones, we will liberalize investment, trade, capital, transportation, personnel and fast information connectivity, and implement an internationally competitive tax system and a comprehensive risk management system. Free trade zones will be allowed to play their exemplary roles in economic activities. Each trade pilot zone will be encouraged to carry out differentiated exploration according to local conditions, and embark on a distinctive development path.

We will build a high-standard FTZ network. The coverage of the free trade zone network will be enlarged to promote the negotiation and signing of high-standard free trade agreements and regional trade agreements with more countries. Negotiations will be held on new issues such as environmental protection, investment

⁸ Sheng (2018).

protection, government procurement and e-commerce. We will also conduct negotiations on high-level bilateral investment treaties and various forms of preferential trade arrangements with relevant economies.

13.3.3 Opening Wider the Service Sector to the Outside World

We will consolidate the foundation for opening services to the outside world. Overall plans will be formulated for the entry of foreign capital and private capital into China's market, and all types of ownership will be treated equally without discrimination. We will explore a more streamlined negative list of service industry opening. The experience of pilot free trade zones and comprehensive pilot opening of the service sector will be promoted nationwide. Industrial subsidies for individual enterprises and industries will be substituted by providing better infrastructure and market environment for industries in need of support. We will align with internationally advanced rules, including intellectual property rights, legal affairs and production standards of service industries, so as to create international business environment based on market and laws.

We will further the liberalization and facilitation of service trade. The service trade management system and policy system will be improved to make innovation of the development model and supervision model and enhance the liberalization and facilitation of service trade. Export of emerging services and import of key services will be encouraged. We will promote the opening of key service trade areas, eliminate trade barriers in the fields of finance, transportation, medical care and services, and continuously widen and deepen the opening up in service trade areas.

We will establish a negative list management system for cross-border trade in services. The market access system will be improved for service trade under the modes of cross-border delivery, consumption abroad and natural person movement, so as to promote implementation of the national treatment and negative list system for foreign investors in the service sector.

We will ensure that the eastern region and the pilot free trade zones play a leading role in expanding the opening of service trade. The pilot role of above areas in the opening of service sector will be enhanced by introducing international practices, market access rules and management methods, relaxing entry barriers and business scope restrictions and expanding open areas. We will also constantly implement economic and trade rules in the international service sectors and align with international standards to promote further opening of China's service sector.

We will establish service trade cooperation mechanisms with more countries. Service trade will be added into multilateral and bilateral free trade negotiations so as to promote the process of multilateral and bilateral free trade based on expanding the opening of service trade, and establish a mechanism for service trade negotiations based on the negative list for foreign capital's entry into Chinese market. We will increase free trade with countries and regions along the Belt and Road in education,

health, medical care and tourism. Import of services will be further expanded through China International Import Expo.

13.3.4 Improving the Quality of Foreign Capital Utilization

We will comprehensively implement the management system of pre-establishment national treatment and a negative list for foreign investment. The negative list will be shortened through the country and in pilot free trade zones to allow sole proprietorship of foreign investors in more sectors. We will cancel the restrictive measures that have not been included in the negative list for foreign investors' access to Chinese market and pilot free trade zones, revise or abolish relevant regulations and normative documents and improve relevant procedures in a timely manner.

More efforts will be made to protect the legitimate rights and interests of foreign-funded enterprises. We will resolutely implement the Foreign Investment Law and its implementing regulations, strengthen the standardization of the implementation of regulatory policies, improve the transparency of the formulation of administrative normative documents, and protect the legitimate rights and interests of foreign-invested enterprises. We will step up efforts to protect intellectual property rights of foreign-funded enterprises, establish and improve a complaint mechanism for foreign investment, seriously handle various issues raised by foreign-funded enterprises, especially strengthen fair competition review of newly formulated laws, regulations and policies, and urge domestic enterprises to follow the principle of "competition neutrality". A world-class business environment will be created based on market and laws to further enhance China's international competitiveness in attracting foreign investment.

We will further optimize the structure of foreign direct investment. Chinese enterprises will be guided, encouraged and supported to attract investment in key areas such as production service industry, modern pharmaceutical industry, electronic information industry, high-end manufacturing, intelligent manufacturing, green manufacturing and high-end links of the value chain. Foreign enterprises will be encouraged to set up regional headquarters, research and development centers, procurement centers, financial management centers and other functional institutions. Foreign-funded enterprises will be encouraged to make more investments in the central and western regions, so as to realize rapid development of foreign capital economy in the central and western regions, and optimize the regional distribution pattern of foreign capital. We will deepen reform of the evaluation system of investment promotion by improving quality and efficiency, and gradually form a positive guiding mechanism for investment promotion.

We will increase negotiations of bilateral and multilateral investment agreements. Our work in this regard includes improvement of the China-EU investment treaty, bilateral and multilateral investment agreement negotiations with CPTPP member countries and developed countries such as South Korea and the United States, the

construction of a new multilateral investment framework, and the establishment of bilateral and multilateral investment systems.

13.3.5 Supporting Chinese Enterprises to “Go Global” and Participate in the Reconstruction of the Global Industrial Chain

We will safeguard the safety of national industrial chain. From the perspective of national strategy, we will strengthen top-level design, accelerate import substitution of key leading industries with global influence, strengthen innovation investment in high-end manufacturing industries, and comprehensively enhance China’s position in the global value chain. We will work out a plan for the state to support enterprises to “go global” and participate in the restructuring of the global industrial chain, and support more enterprises to integrate deeper and wider into the global division of labor system. Based on the advantages of China’s economic scale and expanding market, we will build world-class cities and create a platform to absorb the world’s advanced production factors and promote the industry to move towards the middle and high end.

A group of new leading entities will be fostered to participate in global competition and dominate the global industrial chain. Support will be provided for the development of multinational enterprises with the ability to integrate upstream and downstream of the industrial chain, give full play to the functions of organization, integration, production and services, encourage technology, standards, products and services to “go global”, and enhance our ability to integrate the global industrial chain. We will encourage qualified Chinese enterprises to establish and improve the global R&D, production and marketing system by participating in cross-border mergers and acquisitions and equity cooperation. We will also enhance the international layout level and operational capability of the industry, actively build a global supply chain led by Chinese enterprises, and consolidate the position of Chinese industries in the global value chain.⁹ Efforts will be made to stimulate the innovation vitality of state-owned enterprises, modern research institutes and new R&D institutions, so as to establish an evaluation system that adapts to major technological research and cultivation of leading enterprises in the industrial chain. We will also increase support for “specialized and innovative” SMEs, and encourage SMEs to participate in the research and development of key common technologies.¹⁰

The industrial chain will be reconstructed through international cooperation. The alignment of infrastructure construction plans and technical standard systems of countries along the Belt and Road will be consolidated to promote integration of industrial chains, encourage more countries to integrate into the global industrial chain network system, and upgrade the global layout of Chinese industries.

⁹ Lu (2019).

¹⁰ Sheng (2020).

13.3.6 Steadily Promoting Financial Openness

The management system of pre-approval national treatment and a negative list for foreign investment has been fully implemented in the financial sector. Both Chinese-funded and foreign-funded institutions can enter the fields and businesses outside the negative list equally according to law. The same regulatory requirements and standards are applied to Chinese-funded institutions and foreign-funded institutions in terms of shareholding ratio, establishment form, shareholder qualification, business scope and number of licenses so that domestic and foreign-funded financial institutions are treated equally in a more transparent and international practice way.

We will continue to accelerate the connectivity and two-way opening of financial markets. The foreign exchange management system will be reformed and improved for qualified institutional investors, so as to facilitate and standardize domestic issuance of bonds and money market instruments by overseas institutions. Support will be provided for domestic financial institutions to participate in international financial markets. Chinese-funded institutions will be allowed to participate in offshore RMB markets. Securities and futures institutions will be allowed to carry out cross-border business, for the purpose to expand pilot projects for settlement and sale of foreign exchange by securities companies. We will continue to deepen the market-oriented reform of RMB exchange rate. We will continue efforts in the reform of the RMB exchange rate formation mechanism, improve the managed floating exchange rate system based on market supply and demand, enhance the flexibility of the RMB exchange rate, and give full play to the regulatory role of the exchange rate in macroeconomic stability and balance of international payments. In addition, the reform of exchange rate formation mechanism will cooperate with the process of opening up the financial industry and convertibility of capital account.

We will quicken the internationalization of Renminbi. Overseas financial institutions and funds will be encouraged to enter Chinese financial market, so as to accelerate innovation of international financial products which are denominated, traded and settled in RMB, and strive to expand the types and scale of RMB assets that overseas institutional investors can hold. We will further improve the cross-border use policy of RMB, encourage the use of RMB for pricing and settlement in economy, trade, infrastructure investment and industrial park construction of countries along the Belt and Road, and expand real demand of RMB in countries along the route. Full use will be made of the pricing role of RMB in bulk commodities to consolidate the pricing power and international status of RMB based on bulk commodities such as gold, crude oil and iron ore. While accelerating the internationalization of RMB, we should establish and improve the macro-prudential policy system to prevent the occurrence of systemic financial risks.¹¹

¹¹ Liu (2019).

13.3.7 Deepening the Building of the Belt and Road and Promoting Institutionalization of the “Belt and Road” Initiative

We should strengthen relevant mechanism to provide solid support for building the “Belt and Road” Initiative with high quality. We will improve the development mechanism of Belt and Road projects, do a good job in project selection, construction and evaluation, and promote sustainable development of these projects. We will build a smooth trade mechanism, conclude bilateral or multilateral free trade agreements with countries along the route, and provide mechanism guarantee for trade liberalization and facilitation.

We will join hands with countries along the route to build a security guarantee system. Under the guidance of the overall national security concept and through improving China’s overseas security capability and level, we will strengthen the overall planning and unified deployment of the Belt and Road security, and explore and build the overseas security risk identification, prevention and control and emergency response system framework with countries along the route.

We will promote the establishment of the Belt and Road free trade zone network. Based on existing free trade agreements, we will actively negotiate agreements with countries that are economically advanced, politically stable, highly opened and strategically important along the route, and will promote the construction of free trade zones in batches. Meanwhile, we will conduct negotiation on upgrading the existing free trade agreements, and consolidate these agreements with the help of SCO, China-ASEAN Free Trade Area and China-South Korea Free Trade Area, so as to build a platform for bilateral and multilateral trade exchanges and cooperation and further improve the level of trade and investment facilitation and liberalization along the Belt and Road. An effective dispute settlement mechanism recognized by the international community will be established to strengthen the coordination of judicial systems among different countries. We will explore ways and means for arbitration in support of international dispute settlement mechanisms such as trade and investment, and ensure the implementation of bilateral investment agreements and free trade zone agreements among countries along the route. Eventually, there will form a high-standard free trade zone network that is based on the periphery, radiates to BR countries and faces the world.

We will promote green and sustainable development of the “Belt and Road” Initiative. We will carry out Belt and Road green economic cooperation, promote the building of green parks and green projects, and jointly promote the greening of cooperation in infrastructure, product trade and other fields. More efforts will be made to expedite the development of green finance, guide bilateral and multilateral development funds to participate in green investment and financing, promote the rapid development of green bond market, establish green financial standards, and provide financial support for the construction of green “Belt and Road”. The coordination between sustainable development goals and planning of countries and regions along

the Belt and Road will be strengthened to promote alignment of ecological and environmental protection policies and regulations. We will make joint efforts to promote the process of sustainable development, and achieve sustainable development goals of the United Nations.

13.3.8 Resolutely Safeguarding National Economic Security

We will safeguard the security of industrial chain and supply chain. With institutional advantages of coordinating all our efforts to complete key national undertakings, we will strengthen the support capabilities of key areas, key technologies and key products. By consolidating China's super-large market scale, complete industrial system, perfect infrastructure and a large number of high-quality scientific research personnel, we will strive to form a significant advantage in the science and technology leading cities that need super-large investment, and greatly enhance the ability to check and balance external constraints.

We will increase efforts to intensify trade remedies. The coordination of trade remedies will be enhanced to strengthen the overall coordination and departmental cooperation in dealing with trade friction, and reduce the negative impact of trade friction on enterprises' participation in international trade. Industry associations will be allowed to play roles of early warning, organization and coordination so as to strengthen industry self-discipline, standardize enterprise behaviors, prevent vicious competition, and create an international and legal business environment.¹² Efforts will be increased to promote the negotiation of WTO anti-dumping and countervailing rules, prevent abuse and misuse of trade remedy measures, eliminate discriminatory rules and practices, safeguard the interests of developing members, small and medium-sized enterprises and the public, and secure the free trade and fair competition environment. We will strengthen international exchanges and cooperation, control trade frictions and safeguard the multilateral trading system.

We will strengthen the protection of overseas investment interests. The monitoring and early warning system of overseas investment risks will be improved. Chinese diplomatic missions, embassies and consulates, economic consular's office, overseas business agencies and overseas branches should strengthen analysis and tracking of the situation in the host country and related countries, give early warning in time, and guide enterprises to evade and prevent possible risks. We will step up efforts in the negotiation of bilateral investment agreements, especially in the protection of interests in investment agreements with developing countries with low market economy, so as to better protect the overseas rights and interests of Chinese enterprises through bilateral institutionalized mechanisms. Efforts will also be increased to improve the overseas investment insurance system. Based on current situation and development trend of China's overseas investment, we should learn from and absorb effective measures and practices of the overseas investment insurance system

¹² *Chinese Government Network* (2014).

implemented by developed capital exporting countries and the international investment insurance system established by the *Convention Establishing the Multilateral Investment Guarantee Agency*, and establish our own overseas investment insurance legal system.¹³

The coverage of investment insurance will be enlarged to further improve the service for overseas investment of private small and medium-sized enterprises. To improve emergency response capability, we will establish a crisis management mechanism, and change previous mode of expanding and maintaining sudden interests. We will make reasonable efforts to formulate the expansion mechanism of overseas interests, plan the format and domain of China's overseas interests distribution, and work out medium and long-term development plans, so as to better meet the overall requirements of China's political and economic development.

Efforts will be increased to strengthen domestic financial security. We will construct a perfect financial risk early warning system. We will monitor the financial operation pressure in real time, and strengthen the construction of financial risk monitoring, assessment, early warning and disposal system. The coordination framework of financial supervision will be improved. By perfecting the financial supervision structure of the Financial Stability and Development Commission, the People's Bank of China, China Banking and Insurance Regulatory Commission and China Securities Regulatory Commission, we will rationalize the functions and division of labor of financial supervision, strengthen the overall coordination of financial supervision, further clarify the supervision responsibilities of various regulatory agencies, and prevent regulatory arbitrage.¹⁴ We will build a sound macro-prudential policy framework, strengthen coordination with other policies such as monetary policy, fiscal and taxation policy, and prevent systemic financial risks. More efforts will be increased to improve the deposit insurance system and the financial risk disposal mechanism. The market clearing conditions of financial institutions will be perfected to allow financial institutions with controllable risks but poor management to go bankrupt, ease the market clearing conditions of financial institutions, and improve the disposal methods of creditor's rights and debts.

13.3.9 Taking Active Part in the Reform of Global Governance System

China will firmly safeguard the authority and status of the international system with the United Nations at its core. China will safeguard the authority and effectiveness of WTO rules, consolidate an open, inclusive, transparent, non-discriminatory and rule-based multilateral trading system, and oppose any form of trade protectionism.¹⁵ We will strive to maintain the position of the WTO in the global trading system,

¹³ Liu (2017).

¹⁴ Dong et al. (2019).

¹⁵ Liu (2020).

support necessary reform of the WTO, solve key and urgent problems that endanger the survival of the WTO, enhance the relevance of the WTO in global economic governance, improve the operational efficiency of the WTO and consolidate the inclusiveness of the multilateral trading system.

We aim to promote the development of the global governance system in a more just and rational direction. China will actively participate in the work of the United Nations in various fields such as refugees, health care and networks. Our efforts will aim to promote developing countries to participate in global governance more equally, deepen the reform of governance institutions of international economic institutions such as the International Monetary Fund and the World Bank, and enhance the voting rights and voice of emerging and developing countries to better reflect the changes in the global economic structure. Active efforts will be made to facilitate the establishment of international organizations and cooperation mechanisms with developing countries, make up for the shortcomings of southern regions in the global governance system, and continuously improve China's ability to shape and lead global governance.

We will continue to support G20, Shanghai Cooperation Organization, BRICS and other mechanisms to play a greater role. It is believed that G20 will continue to serve as the main platform for international economic cooperation. China will support G20 to promote the construction of an open world economy, and promote dialogue and cooperation in macroeconomic policy coordination, structural reform, trade liberalization, international financial architecture and sustainable development under the framework of the G20 platform. The G20 mechanism will help promote policy coordination between big countries, especially between China and the United States. We will secure greater roles of the Shanghai Cooperation Organization, BRICS and other mechanisms in regional and global governance, and create more opportunities for emerging market countries and developing countries to participate in global governance.

Following the principles of dialogue and consultation, co-building and sharing, win-win cooperation, exchanges and mutual learning, and green and low carbon, China will be committed to establishing a sound, effective, open, rule-based and development-friendly multilateral international economic order, and promote the building of a community with shared future for mankind.

13.3.10 Undertaking International Responsibilities and Obligations More Effectively

China will further play its constructive role as a responsible major country, actively assume international responsibilities based on its own strength in building a community with shared future for mankind, and provide more international public goods.

We will increase efforts in providing assistance for developing countries, especially for the least developed countries, support and help recipient countries to reduce poverty and improve people's living standards, and work with recipient countries to formulate development strategy and mid-to-long-term economic cooperation plans, so as to seek common development with recipient countries. China will also increase investment in South-South cooperation, provide support and help for developing countries to implement the 2030 Agenda for Sustainable Development and promote common development.

We will continue to support and actively participate in UN peacekeeping operations, and always be a builder of world peace and a steadfast force for safeguarding world peace. We will actively promote the reform of UN peacekeeping operations and continuously improve the efficiency and effectiveness of UN peacekeeping. Our efforts will be continued to increase investment in building UN peacekeeping capacity, and provide more technical and human support to the UN.

We will continue to provide more humanitarian assistance. The scale and response speed of humanitarian assistance will be furthered to continuously improve the aid effectiveness. We will strengthen international cooperation in the humanitarian field, increase capacity building for relevant countries, and provide more assistance and investment in infrastructure, agriculture, health care, education and other fields to help relevant countries create jobs and improve people's living standards. We will help relevant countries improve their capability of disaster relief and prevention, and jointly cope with the impact of disasters. In alignment with international advanced standards, we will promote the internationalization, legalization and systematization of humanitarian assistance in China.

We will make constant efforts to effectively control greenhouse gas emissions and actively respond to climate change. We will continue to actively fulfill our responsibilities under the *Paris Agreement* and strictly implement the indicators promised in "China's national independent contribution scheme". We will continue to strengthen South-South cooperation and enhance the capacity building level of developing countries to cope with climate change.

We will maintain global network security. We will establish a multilateral, democratic and transparent Internet governance system through effective international cooperation. We will actively participate in multilateral network dialogue and cooperation, and help developing countries bridge the "digital divide" and jointly crack down on cybercrime.

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Chapter 14

Research on Future Mid-to-Long-Term New Technologies, Digital Economy Development and Innovation-Driven Development Strategy and Major Policies



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In 2012, the 18th National Congress of the Communist Party of China put forward the innovation-driven development strategy, stating that innovation is the primary driving force for development. In 2016, the Central Committee of the Communist Party of China and the State Council issued the *Outline of the National Strategy of Innovation-Driven Development*, which put forward the goal that China should become an innovative country by 2020. In 2017, the report of the 19th National Congress of the Communist Party of China further clarified that China should be in the forefront of innovative countries by 2035. With smooth implementation of the 13th Five-Year Plan, China will enter the ranks of innovative countries as scheduled. The period of time in the future is a crucial period for China to build a modern socialist country, and it is also the starting stage for China to rank among the forefront of innovative countries. We must further implement the innovation-driven development strategy, make innovation the first driving force for development, and promote the transformation of development driving force from factor-driven to innovation-driven mode.

To achieve innovation-based development, we must focus on technological innovation for China's overall development. It is the rapid evolution of the new round of scientific and technological revolution and industrial transformation, and continuous breakthroughs in new technologies that has spawned the emergence of new industries, new types and new models, thus promoting the rise and development of digital economy and leading to the transformation of technology-economy paradigm in the whole society. Promoting technological innovation and digital economy

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transformation has become an important part and the path for innovation-driven development.

Therefore, this chapter is written according to the logic of techno-economic paradigm transformation, that is, innovation drives scientific and technological change, then the latter promotes digital economy, and finally digital economy supports high-quality development. The future medium and long-term research is divided into two parts. The first part involves the innovation-driven development strategy, and the second describes major policy research on new technology and digital economy development.

14.1 Research on the Innovation-Driven Development Strategy in the Mid-to-Long Term

The 18th National Congress of the Communist Party of China put forward the strategy of innovation-driven development, emphasizing that technological innovation is the strategic support for improving social productivity and composite national strength. This is a major national development strategy established by the central government in the new development stage, which is based on China's overall deployment, facing the world, focusing on key points and driving development of the whole country.

The innovative engine is closely related to the fate of the country, to the general trend of the world and to the development situation. In the critical stage of accelerating socialist modernization, in order to realize the "two centenary goals" and the Chinese dream of national rejuvenation, we must always insist that innovation will be sure to drive development in the future, and that innovation will represent the will of the country and the common action of the whole society.

At present, opportunity coexists with danger in the process of China's development. Our world is undergoing momentous changes unseen in a century. The new round of scientific and technological revolution and the accelerated evolution of industrial transformation have brought great opportunities for China's development. With the increasing downward pressure on domestic economy and growing constraints on resources, ecology and environment, the demographic dividend is gradually disappearing. Therefore, how to achieve stable and sustainable economic and social development will be a severe challenge in the future. Innovation-driven development is the only way to promote the change of China's economic quality, efficiency and driving force, and realize the transformation of old and new driving forces. It is also an effective way and an important starting point for cultivating and continuing new driving force of China's economic development. The implementation of innovation-driven development strategy reflects the inherent needs of China's economic transformation and upgrading in the new era, and is the core of the overall development of the country in the medium and long term in the future.

14.1.1 Progress and Effectiveness of the Implementation of the Innovation-Driven Development Strategy During the 13th Five-Year Plan Period

- (1) The leading role of innovation is more prominent. (1) More investment in innovation. From 2016 to 2019, the total R&D investment of the whole society increased by 11.3% annually, and the investment intensity reached 2.19% in 2019, exceeding the average level of 15 EU countries and ranking second in the world. The financial investment in science and technology increased to 951.82 billion yuan in 2018, an increase of 22.64% compared with the initial period of the 13th Five-Year Plan (2016). (2) Enhancing the primary role of enterprises in innovation. The expenditure on enterprise research and experimental development (R&D) increased by 11.9% annually, accounting for nearly 80% of the whole country. According to CB Insights, the share of Chinese candidates for global “unicorn” enterprises in 2019 increased from less than 20% in 2016 to 28% in 2019, and the status of innovation-based enterprises continued to improve. (3) More contributions made by technological progress to economic growth. The scale of technology transactions continued to expand. In 2019, a total of 484,000 technology contracts were reached, with a turnover of 2239.8 billion yuan, up 57.7% and 127.7% respectively over the end of the 12th Five-Year Plan. The contribution rate of scientific and technological progress increased by 2.5 percentage points to 57.8%, compared with that at the end of the 12th Five-Year Plan. (4) Healthily and orderly development of new R&D institutions. In 2016, the innovation-driven development strategy and the 13th Five-Year Plan for technological innovation proposed to “develop new market-oriented R&D institutions”. In 2018, it was included in the government work report for the first time. In 2019, the *Guiding Opinions on Promoting the Development of New-type R&D Institutions* was issued, and new R&D institutions developed rapidly nationwide. By 2019, the number of such institutions exceeded one thousand. (5) Breakthroughs in strategic frontier areas. Major achievements have been made in basic science such as quantum regulation, nanotechnology, protein, stem cells, human genome sequencing, development and reproduction. We have made significant progress in key core technologies such as new energy vehicles, rail transit, semiconductor lighting, supercomputers and 5G mobile communications, some of which even led the world. We have achieved substantial breakthroughs in many strategic high technologies such as manned spaceflight, quantum communication, manned deep diving and deep cold exploration. (6) Improving China’s basic capability of innovation. With their basic research capabilities being enhanced, colleges and universities have undertaken more than 60% of basic research tasks in China, supported the construction of 60% of state key laboratories, and won more than 60% of national science and technology awards. The construction of “National Science and Technology Innovation Base Guided by National Laboratories” has progressed

in an orderly manner. By the end of 2019, there were 505 national key laboratories in operation, with a total of 133 national engineering research centers, 217 national engineering laboratories and 1540 nationally recognized enterprise technology centers. (7) Enhancing the leading role of regional innovation. By 2019, four comprehensive national science centers have been approved in Shanghai, Hefei, Beijing and Shenzhen. During the 13th Five-Year Plan period, the number of national independent innovation demonstration zones doubled from 11 to 21; especially, seven national self-created zones in Beijing, Wuhan, Shanghai, Shenzhen, South Jiangsu, Tianjin and Xi'an contributed more than 20% to GDP growth in their regions in 2018, and became the "leading goose" in regional development. From 2016 to 2017, the number of high-tech industrial development zones increased from 146 to 156.

- (2) Mass entrepreneurship and mass innovation are constantly deepening. (1) Advancing the reform of "streamlining administration and decentralizing powers, combining decentralization with appropriate control, and optimizing services" to optimize China's business environment. According to the World Bank Group's *Doing Business* report, China's business convenience index climbed from 84th in the world in 2015 to 31st in 2019. (2) Improving market vitality. In 2019, there were 23.77 million newly registered market entities and 20,000 newly registered enterprises every day, 1.6 times those of 2015, with an average annual growth rate of 13.6%. In 2019, tax and fee reductions exceeded 2.3 trillion yuan. Newly established small and micro enterprises have seen a good momentum of development. In 2018, the anniversary opening rate of newly established small and micro enterprises reached 74.7%, an increase of 4.6 percentage points over the fourth quarter of 2015 at the initial stage of statistics. Nearly 90% (87.8%) of the operating enterprises have achieved operating income, and the proportion of enterprises that have achieved revenue was 9.1% higher than that in the fourth quarter of 2015. As of October 2019, the disposal rate of "zombie" and extremely poor enterprises in all state-owned enterprises has exceeded 95%. By the end of 2017, the main business income, profit rate and the number of effective invention patents of high-tech enterprises increased by 13.87%, 10.39% and 53.42% respectively compared with those at the end of 2015. (3) Improving the innovation and entrepreneurship platform and increasing the number of incubating institutions. By the end of 2018, 120 "mass entrepreneurship and innovation" demonstration bases had been built nationwide, covering all provincial administrative regions in China. There were 11,808 incubating institutions nationwide, more than doubling that of 2015. Among them, there were 4849 technology business incubators and 6959 *entrepreneurial spaces*. There were 620,000 incubated enterprises and teams in China. (4) Growing number and scale of government guide funds in China. By the end of 2018, a total of 1267 government guide funds had been set up nationwide with a capital scale of 1878.5 billion yuan, 4.6 times and 3 times that of 2015 respectively. During the 13th Five-Year Plan period, the average annual growth rates were 66.2% and 46.91% respectively. (5) Roles of newly established small and micro enterprises in stimulating new grads' employment. In

2018, the newly established small and micro enterprises nationwide absorbed 29.1788 million employers on their anniversary date, accounting for 88.9% of newly established private enterprise that year. 6.9% of the employed were college graduates.

- (3) The establishment of mechanisms and institutions to encourage innovation has achieved remarkable results. (1) Deepening the reform of sci-tech mechanisms and institutions. The reform of sci-tech mechanisms and institutions presented a new situation of comprehensive advancement, multi-point breakthrough and in-depth development, and has produced systematic reform measures covering innovative macro management, allocation of scientific and technological resources, cooperation between production, education and research, achievement transformation, talent management, scientific research management, incentive mechanism, evaluation mechanism and risk mechanism. The efficiency of the national innovation system has been significantly improved. China's ranking of the global innovation index in 2019 (14th place) has increased by 15 places as compared with the end of the 12th Five-Year Plan. (2) Systems for transformation of scientific and technological achievements and income distribution are more perfect. We have taken three steps for transfer and transformation of scientific and technological achievements, i.e. revising legal provisions, formulating supporting rules, and deploying specific tasks.¹ A series of measures have been worked out by departments, regions, universities and research institutes to address issues such as the right to dispose of achievements, ownership, and income right. (3) Optimizing and improving the inclusive innovation support policy system. From December 1, 2015 to December 31, 2017, this system was tried out in some areas. By 2018, a national unified negative list system of market quasi-persons was implemented, i.e. "all is permissible unless prohibited". We will establish and improve the implementation rules and guarantee services of preferential policies for additional tax deductions for R&D costs. In May 2019, the pre-tax deduction ratio of R&D expenses of enterprises increased from 50 to 75%, and the new tax reduction was 87.8 billion yuan, and enterprises enjoying preferential policies for high-tech enterprises accounted for about one-third (52,700 households) of the total number of high-tech enterprises in China, and the enterprise income tax was reduced or exempted by 190 billion yuan. Thanks to extensive use of such new technologies as big data, cloud computing and artificial intelligence, inclusive finance has been developing rapidly.
- (4) The strategy of training competent personnel as a priority has been implemented in depth. (1) Improving the quantity and quality of our talent team. The scale of all kinds of talents has been growing, among which the total number of scientific and technological human resources and R&D personnel has increased to 87.05 million and 4.034 million respectively by 2017, ranking first in the world for many years. The overall quality of the talent team has been continuously improved, and the average number of years of education of the working-age population in China has risen to 10.5 years in early 2018. (2) Important

¹ Wang (2016).

measures for service guarantee of talents flow and allocation. Documents such as *Opinions on Giving Full Play to the Market's Role in Promoting the Smooth and Orderly Flow of Talents* and the *Opinions on Promoting the Reform of the System and Mechanism of Social Mobility of Labor and Talents* have been issued one after another to establish a policy system framework for promoting the social mobility of labor and talents. At the same time, talented persons were encouraged and guided to flow to remote and poverty-stricken areas, frontier ethnic areas, old revolutionary base areas as well as towns and villages. From 2016 to 2018, the Ministry of Human Resources and Social Security selected a total of 85,000 college graduates and encourage them to provide community-level services by serving as teachers, agro-technicians, medical staff, and poverty relief workers in townships. We will promote the implementation of the "Action Plan for 10,000 Experts to Provide Services at Community Level", with a total of about 9500 experts going down to the grassroots level and training and guiding more than 164,000 grassroots professional and technical personnel. In order to give full play to the supporting role of high-level talents in promoting the sustained and healthy economic and social development in the western and northeastern regions, 54 demonstration projects have been selected and implemented from 2016 to 2017. (3) Continuously optimizing the talent development environment. A number of policies and measures have been introduced around talent evaluation and incentives to provide clear and powerful support for improving the performance and contribution-oriented talent evaluation standards and ensuring the participation of knowledge and skills in benefit distribution. The policies and regulations on the introduction of foreign talents' intelligence have been perfected. By 2018, China has issued a total of 336,000 work permits for foreign talents, and 2212 experts have served in international non-governmental scientific and technological organizations.

- (5) Changing new development momentum and expanding new development space. (1) Upgrading of the consumption structure and innovation of the consumption pattern. Commodity consumption has turned to service consumption. In 2019, service consumption accounted for 50.2% of household consumption expenditure, an increase of 2.1 percentage points over 2015. The consumption of transportation, communication, education, culture, entertainment and medical care maintained high growth, and their proportion in consumption expenditure increased. The average annual growth rate of per capita consumption expenditure from 2015 to 2019 reached 8.21%, 9.89% and 13.04% respectively. The development momentum of new types and models continued to increase, and the new models of live e-commerce, social e-commerce and fresh e-commerce developed rapidly. The national online retail sales increased by 34.57% annually from 2015 to 2019, while the consumption showed new trends such as customized consumption and shared consumption. (2) Optimizing the investment structure to boost the development of new industries and products. Resources have been transferred to industries with high return rate and high growth rate. Investment in high-tech industries increased rapidly from 2015 to 2019 with an average annual growth rate of 13.06%. New changes have taken

place in investment in scientific research. The cumulative expenditure of R&D funds and the investment in scientific research and technical service industries in China have maintained rapid growth, with an average annual growth rate of 11.29% from 2015 to 2019. High-tech manufacturing and strategic emerging industries grew rapidly, with the added value and average annual growth rate up to 11.16% and 9.69% respectively in the same period. New products emerged one after another, and new products with hi-tech content and high added value to meet the needs of consumption upgrading maintained rapid growth. (3) Optimizing the export structure and expanding the technology trading market. Export commodities have been gradually moving towards the high end of the global industrial value chain. From 2015 to 2019, the total export volume of services increased by 6.37% annually, and the export volume of high-tech products increased by 5.48% annually. Especially in communication and information products, Chinese products became more competitive. The total turnover of technology contracts continued to grow rapidly, with an average growth rate of 22.85% from 2015 to 2019. The proportion of total turnover of technology contracts in GDP maintained a steady growth trend, and the importance of promoting economic restructuring and industrial transformation and upgrading increased year by year.

14.1.2 Outstanding Problems and Causes of Innovation-Driven Development During the 13th Five-Year Plan Period

- (1) The problem of weak original innovation capability. China is faced with obvious shortcomings of basic science. The investment intensity of basic research funds (5%) is lower than that of major innovative countries in the world (15–20%). China lacks major original achievements. The output of China's high-quality papers and patents lags behind that of major innovation-driven countries in the world, and its contribution to the world's original innovation and scientific frontier development is obviously insufficient.
- (2) China's scientific and technological R&D focuses on the bottleneck of industrial development, and is not enough to meet the major needs of the country. China has put less research cost on major issues in science and technology foundation, frontier, key industries and public welfare fields; As a result, it has obvious shortcomings of industrial technology, and its industry remains at the middle and low end of the global value chain. We rely heavily on others for key core technologies. With insufficient international influence and weak discourse power, China finds it hard to participate in or lead international scientific and technological cooperation.
- (3) The new national innovation system suitable for innovation-driven development needs to be improved. A joint force has not been formed in companies

in innovation due to unsmooth channels for the transformation and application of scientific and technological achievements and the small number of new R&D entities and providers of new scientific and technological achievements transformation service.

- (4) We need to strengthen the building of high-level innovative talents. There is obviously a shortage of high-level innovative talents for the development trend of innovation, and there is a common phenomenon that more attention is paid to introduction than to training. There is a clear gap between the number of R&D personnel per 10,000 people and that of major developed countries. China is short of top talents and teams, let alone leading talents in science and technology.
- (5) The reform of science and technology system needs to be deepened. The management system of science and technology cannot meet the needs of new innovation-driven development. In particular, the reform in the allocation of technological innovation resources, the use and management of scientific research funds, the evaluation system of science and technology, the incentive system and the protection system of intellectual property rights have not been put in place.
- (6) There is insufficient expansion of new space for development momentum. On the whole, there is still a big gap between the development of innovative industries in China and developed countries. The vitality of innovation and entrepreneurship needs to be further improved. The development of new technologies, new industries, and new forms and new models has not yet become an important driving force to play its leading role in innovation-driven development, and consumption and export cultivation need to be further promoted.

14.1.3 Opportunities and Challenges Faced by Innovation-Driven Development in the Medium and Long Term

- (1) China's economic pattern and status will be fundamentally changed during great transformation unseen in a century. In the medium and long term, major changes will take place in the international environment, global economy, science and technology, finance, energy resources and international governance system. As the gap in technological innovation between emerging economies and traditional developed countries is narrowed, the trend of multipolarization of global scientific and technological forces is becoming increasingly prominent. The United States will still maintain its position as the center of world science, and the competition between a "rising power" and an "established power" is getting particularly fierce. China and the United States will coexist in the competition and cooperation in science and technology. China will strive to be in the forefront of innovative countries, and strengthen its participation in global science and technology governance.

- (2) The new round of scientific and technological revolution and industrial transformation are further deepened. Global technological innovation has entered an unprecedented intensive and active period, where disruptive science and technology will emerge intensively and scientific research itself may make major breakthroughs. Information science and technology will change our social life in all respects. Advanced materials and manufacturing technology will bring about changes in manufacturing industry, and technological innovation will give birth to new demands and new types of business. The organization and mode of science and technology promoting R&D will undergo innovative changes, and the globalization and network development of innovation will become more and more prominent.
- (3) The reshaping of global competition landscape will provide important opportunities for leap-forward development. All previous scientific and technological revolutions and industrial revolutions have brought about profound changes in the global landscape. During the new round of scientific and technological revolution and industrial transformation, the global innovation paradigm is reconstructed, and the global economic structure and international competition pattern is reshaped. Therefore, it has provided a strategic catch-up opportunity for China to achieve leap-forward development, provided an innovative source force for China's high-quality economic development, and brought an important opportunity for China to use international innovation resources to enhance its independent innovation capability.
- (4) There are severe challenges brought by inadequate preparation for change. The complex international situation has led to various uncertain factors from the outside, and the worldwide competitive layout has made China's scientific and technological development face a situation of the "up and down attack" between developed countries are occupying the commanding heights and emerging economies are catching up in technology. Sino-US trade friction and conflicts in high-tech fields have become the new focus of international competition. Western developed countries, led by the United States, have adopted various forms of blockade, suppression and restriction on China in the field of technology, which has led to the fact that core technologies in key areas of China are controlled by foreign companies. With the change of social production mode and the improvement of production efficiency in the future, some areas in China may face structural unemployment, or will face the challenge of rapidly changing old productive forces and the old relations of production. This will aggravate the contradiction between traditional institutional system and new social productive forces in China.

14.1.4 Strategic Goals of Medium and Long-Term Innovation-Driven Development in the Future

- (1) The overall positioning and development goals of the future medium and long-term innovation-driven development strategy

First, overall positioning of the future medium and long-term innovation-driven development strategy.

We will comprehensively deepen reform to strengthen innovation ability and enhance the vitality of innovation, building an innovative economic structure and vigorously implement the innovation-driven development strategy, take technological innovation as core to promote innovation transformation and development, and driven by institutional reform and open cooperation to achieve high-quality economic development. We will create an innovative ecology, stimulate innovation vitality, expand innovative industries, expand open cooperation, fully promote the construction of an innovative country, promote the fundamental transformation of economic and social development momentum, and rank among the forefront of innovative countries.

Second, strategic goals of medium and long-term innovation-driven development in the future.

More efforts will be made to improve the basic research level and national innovation capability so as to realize the vigorous development of advanced manufacturing industry with strategic emerging industries at its core, and keep pace with developed countries in the strategic fields of science and technology and industrial competition. A batch of original scientific achievements with important influence in the world will be produced to realize the transformation from a consuming country of original knowledge and technology to an important supplier. We will completely reverse the situation that core technologies are in the hands of foreign companies, and enhance our global competitiveness in some important technical fields. We aim to form a complete system of public technology research and development, and initially build a modern national innovation system.

First, we will ensure our leading industries enter the high end of the global value chain. We will strive to create new technologies and new products, new models and new types of business, new demands and new markets, and set up a modern industrial system based on science and technology. A good innovative economic structure has been established to improve the level of high-quality economic development, deepen the degree of modernization, and perfect people's living standard.

Second, we will fundamentally reverse the situation that technological innovation follows the footstep of foreign companies. We must lead, or at least keep in pace with advanced economies in a number of strategic areas, so as to increase the output of high-level scientific research achievements, achieve breakthroughs in some key core technologies, make rational layout of forward-looking strategic technology reserves, and improve the overall national defense capabilities in science and technology.

Third, we will establish a synergistic and efficient modern national innovation system with Chinese characteristics, build a perfect common technology R&D

system, and realize the deep integration and mutual promotion of technology and economy.

Forth, we will make sure that the scientific spirits and the culture of innovation are deeply rooted in the hearts of the people, that the guarantee of the rule of law is practical and powerful, and that the innovation environment is more optimized, so that an ecological environment with high innovation vitality and advocating innovation and entrepreneurship will soon be created in the whole society.

14.1.5 Strategic Goals of Innovation-Driven Development in the Near Future

(1) Predicted objectives of recent innovation-driven development

The Institute of Quantitative and Technical Economics of Chinese Academy of Social Sciences has obtained the forecast result of economic development through China's economy-energy-environment-tax dynamic computable general equilibrium (CN3ET-DCGE) model: under the benchmark scenario, the average annual GDP growth rate from 2021 to 2025 is 5.7%. The outbreak of the COVID-19 in early 2020 obviously exceeded the scope and degree of negative impact of SARS on economic development in 2003. At present, China's economy is dominated by the tertiary industry, but the COVID-19 pandemic has caused serious impacts on catering, tourism, entertainment, wholesale and retail, transportation, education and training. In order to prevent and control the epidemic, a series of measures have been introduced, such as reducing the flow of personnel and extending holidays. This has not only directly interrupted consumption but also interrupted production and investment, resulting in difficulties in the operation of small and medium-sized enterprises, increased default rate of enterprises, increased unemployment rate and other risks. In addition, more and more countries and regions imposed restrictions on the export of Chinese goods in order to cut off the spread of the COVID-19, which has directly led to the downward pressure on the global economy. It is estimated that China's economic growth rate in 2020 decreased by 2.7–3 percentage points as against that in 2019. According to above analysis, the average annual growth rate of China's GDP from 2021 to 2025 has been adjusted to close to 5%. On this basis, the basic predicted value of each index is determined by benchmarking analysis at the same development level as that of developed countries, and the target value of individual indexes is adjusted according to the principles of history, dynamics and relativity. Table 14.1 illustrates the predicted values of the main indicators of innovation-driven development and economic and social development in the next five years.

(2) Recent innovation-driven development strategic goal

The next five years will be the key breakthrough stage of innovation-driven development. We will give full play to China's institutional advantages and market scale advantages of coordinating all our efforts to complete key national undertakings, and

Table 14.1 Predicted values of main indicators of innovation-driven development and economic and Social Development (2025)

Dimension	Targets	Indicators	2019	2025
Level of economic development	Productivity level	1. Overall labor productivity (10,000 yuan/person)	11.5	17.2–18.5
	Urbanization level	2. Urbanization rate (%)	60.6	64.0–67.0
	Resources and environment	3. Energy consumption per unit of GDP (2011 constant PPP USD/kg oil equivalent)	1.73	1.18
Innovation environment	Social basis	4. Number of persons surfing the Internet per 100 people (persons)	54.3	63.0–66.0
		5. Gross enrollment rate of higher education (%)	48.1	55.0–60.0
Investment in innovation	Capital investment	6. Percentage of R&D expenditure in GDP (%)	2.19	2.30–2.40
		Proportion of basic research in R&D funds (%)	5.56	8.00
	Manpower input	7. Number of R&D personnel per 1000 employed persons (persons/1000 persons)	2.24	3.30
Innovation output	Knowledge output	8. Global proportion of third-party patents (%)	7.86	13.00–14.50
		9. Number of scientific papers per million people (articles/million people)	309.11	435.00
	Innovation benefit	10. Turnover of technology transactions (100 million yuan)	22,398	54,121–62,036
		11. Ratio of sales income of new products of industrial enterprises above designated size to main business income (%)	19.3	24.7–27.7
		12. Proportion of high-tech products in manufactured exports (%)	30.89	29.00–32.00
		13. Added value of knowledge-intensive industries (%)	21	25–26

(continued)

Table 14.1 (continued)

Dimension	Targets	Indicators	2019	2025
		14. Difference between intellectual property income and expenditure in total trade (%)	-1.0	0.1-0.4

Note Some indicators that cannot be obtained from 2019 data are replaced by the latest year data

fill the shortcomings that hinder China's high-level economic and social innovation-driven development as soon as possible. We will focus on cutting-edge science and technology fields, and strive to achieve breakthroughs in some key core technology fields and strategic fields. We will actively change the situation of scientific and technological development where China simply follows or try to catch up with developed economies, so as to enhance the agglomeration and output of innovation elements, and strive to move towards the forefront of an innovative country. By 2025, China's development momentum will be greatly transformed, and its economic and social development level and international competitiveness will be greatly improved, thus laying a solid foundation for entering the forefront of an innovative country.

By 2025, the level of science and technology input and output will be significantly improved. R&D expenditure will account for 2.3–2.4% of GDP, basic research will account for 8% of R&D expenditure, and the number of R&D personnel in the employed population will reach 3.3 persons per 1000 people. The number of third-party patents will account for 13.0–14.5% of the world, and the number of scientific papers per million people will reach 435 per one million people. The turnover of technology transactions will reach 5412.1–6203.6 billion yuan. The sales revenue of new products of industrial enterprises above designated size will account for 24.7–27.7% of the main business income. High-tech products account for 29–32% of the export of finished products, and the added value of knowledge-intensive industries will account for 25–26%. The difference between intellectual property income and expenditure in total trade will change from a negative figure to a positive one, reaching 0.1–0.4%. We will enhance our economic strength. The overall labor productivity will reach up to 172,000–185,000 yuan per year. The education level of citizens will be continuously improved, with the gross enrollment rate of higher education exceeding 55%.

14.1.6 Key Tasks for the Implementation of the Future Medium and Long-Term Innovation-Driven Development Strategy

- (1) We will build a modern national innovation system to produce a joint force for vigorous development of various innovation enterprises. The reform of

science and technology system and the construction of modern national innovation system are the breakthroughs and strategic focus of implementing the innovation-driven development strategy. Functions and roles of various innovation enterprises in different links of innovation chain will be further clarified, so as to build a modern national innovation system with complete innovation activities from basic research and cutting-edge technology to transformation of scientific and technological achievements in an attempt to stimulate the vitality and enhance the innovation ability of various enterprises, and consolidate the foundation of innovation-driven development. New market-oriented R&D institutions will be set up in order to build a specialized technology transfer service system. We will encourage the construction and development of various forms of research universities, make innovation of the construction mode of national laboratories and engineering technology research institutes, focus on basic functions of universities, and strike a balance between education, basic research and transformation of scientific and technological achievements. Large and medium-sized enterprises will be encouraged and supported to establish R&D institutions. Industry leaders will be encouraged and supported to build high-level research institutes and global R&D systems for key technologies and world cutting-edge technologies. Through institutional innovation, we will improve the efficiency of the transfer and transformation of scientific and technological achievements in China, including further decentralization of intellectual property ownership and disposal power to universities and research institutes. We will explore the construction of substantive national laboratories independent of universities and research institutes, and focus on undertaking task-oriented, strategic research and development of cutting-edge technologies that are different from universities and facing the future needs of people's livelihood and national defense strategy.

- (2) We will make more efforts to strengthen basic research and achieve major breakthroughs in basic research and original achievements. We aim to promote the balanced and coordinated development of disciplines, strengthen interdisciplinary and integration, attach importance to supporting a number of non-consensus projects, and cultivate emerging disciplines and characteristic disciplines. Strong support will be provided for basic research in free exploration, and build a number of infrastructures and platforms to support high-level innovation. We will earnestly increase the stable support for basic, strategic and public welfare research, and improve the coordination mechanism between stable support and competitive support. We will ensure the important role of the National Natural Science Foundation of China in supporting source innovation, and invest more in basic disciplines and frontier exploration. We will promote the overall level of basic research in China and enhance its international influence, and achieve a number of major original scientific achievements in the important direction of scientific frontier.
- (3) We will make efforts to promote the organic combination of technological breakthroughs and major needs, and lead high-quality development with the support of technological innovation. We will also promote innovation of industrial

technology system, and actively explore and rebuild the common technology research and development system that is conducive to the improvement of national innovation system and the promotion of industrial competitiveness. We will step up efforts to expand the implementation of major national science and technology projects, and strengthen the forward-looking deployment of basic frontiers and strategic areas. Technological breakthroughs and applied research in key industries and emerging industries will be strengthened to promote the implementation of major projects and base platform layout in strategic cities, such as 5G, aerospace, ocean, big data, new energy, new materials and advanced manufacturing, eco-environmental protection technology and biotechnology. We need also to strengthen the overall deployment of new technology innovation and application, and promote the technical application and industrialization deployment of technological innovation, application scenario development, infrastructure investment, technical standards and architecture construction for major scientific and technological projects, so as to form a benign interactive mechanism between technological innovation and demand guided innovation. Our efforts will be aimed to cultivate and absorb overseas high-level talents and build China Industrial Technology Research Institute from a high starting point.

- (4) We will optimize the layout of regional innovation and form multiple regional innovation centers. Based on the basic conditions of innovation, innovation characteristics, supporting industrial clusters and gathering characteristics of innovation elements in various regions, we will promote the construction of national science and technology innovation centers according to local conditions and industrial classification and differentiation. Beijing will continue to aim at the forefront of world science and technology. For this end, we will improve the overall level of basic research and original innovation capabilities, and pool technological innovation resources, especially gathering and training top talents and building a national science and technology innovation center. Relying on the advantages of Shanghai Zhangjiang Comprehensive National Science Center, such as strong manufacturing base and developed financial capital, we will accelerate the construction of a comprehensive science and technology innovation center with global influence, and ensure that the Guangdong-Hong Kong-Macau Greater Bay Area plays its role of industrial innovation advantages, and help build an important source of global emerging industries. In addition, we will accelerate the building of regional innovation centers with different characteristics, such as Wuhan (Global Industrial Innovation Center), Xi'an (Capital of Global Hard Science and Technology) and Hefei (Comprehensive National Science Center), and form a regional innovation-driven development pattern supported by multiple points. We will increase efforts to strengthen exchanges and cooperation between science and technology innovation centers in different regions, and promote the co-construction and sharing of cross-regional sci-tech infrastructure, tech innovation resources and information.
- (5) We will boost the integration of defense and civilian technologies and give full play to their respective innovative advantages. The working mechanism for the development of tech integration of defense and civilian technologies will be

improved so as to integrate the national defense and civil science and technology industries into a unified national science and technology industry foundation. We will increase efforts in the overall coordination of strategic planning, policies and regulations, technical standards, resource conditions and application of achievements of military-civilian scientific and technological collaborative innovation. Under the leadership of the Science and Technology Committee of the Military Commission, a support plan for major national defense science and technology projects has been established to provide continuous support for integration of defense and civilian technologies. We aim to accelerate the construction of military-civilian science and technology collaborative innovation platform, organize the implementation of key projects of science and technology integration of defense and civilian technologies, and make overall plans to promote basic research, key technology research and development, and new technology integration and application to integrated design of equipment manufacturing.

- (6) A more innovative ecological environment will be created to stimulate the vitality of the whole society. We will strengthen the construction of technology public service system, meet market demand, and foster new technologies, new industries and new forms and models of business. We will improve carrier construction and actively incubate and cultivate innovative small and micro enterprises. We aim to foster a number of innovative enterprises and industrial clusters with international competitiveness, make some key industries enter the high end of the global value chain, and increase the proportion of the added value of knowledge-intensive industries in GDP. Enterprises will be encouraged to participate in the research of major national projects, and increase their participation in applied research and research facing major practical problems. We will give full play to the role of large state-owned enterprises and leading enterprises in innovation, guide enterprises to increase investment in innovation, and encourage enterprises to carry out research and development of cutting-edge technologies in the industry. For private enterprises, we will fully mobilize their innovation enthusiasm, increase support for them to involve in technological innovation projects, help them strengthen the construction of technological innovation infrastructure, and encourage them to create innovation alliances. In compliance with the requirements of business model changes brought about by new technologies, we will adjust industry supervision rules in a timely manner, strengthen property rights incentives and ownership protection for rights holders, and enhance the enthusiasm of all parties for innovation and entrepreneurship.
- (7) We will step up efforts in international cooperation in technological innovation and deeply integrate into global tech innovation network. Full use will be made of scientific apparatus and big science centers to strengthen innovative cooperation and exchanges with top international research institutions and top scientists. By actively participating in and lead international scientific programs and projects, we will encourage and support Chinese scientists to initiate and organize international scientific and technological cooperation

programs. Domestic enterprises will be encouraged to “go global”, integrate into the innovation network of developed countries, and embed into the global innovation chain. We will encourage Chinese enterprises to carry out cooperative research and development with foreign universities and scientific research institutions, improve the public service system for enterprises’ foreign investment, support enterprises to merge foreign small and medium-sized technology companies, and transfer and digest foreign emerging technologies.

14.1.7 Major Policy Recommendations for Medium and Long-Term Innovation-Driven Development in the Future

- (1) We will continue to deepen the reform of the scientific and technological system and improve the governance system of technological innovation. First, we will improve the coordination level and implementation effectiveness of science and technology policies. The formulation and implementation of China’s science and technology policy involves many departments such as science and technology, education, intellectual property rights, and finance. Due to the lack of coordination and communication among various departments, many policies restrict or even conflict with each other, thus reducing the effectiveness and implementation effect of policies. We will strengthen the top-level design of science and technology policies, improve the overall coordination mechanism of competent departments, and make the innovation governance chain organically connected. At the beginning of R&D, we will focus on the connection of innovation chain, industrial chain and capital chain, fully realize the cooperation of production, education and research, and improve the transformation efficiency of scientific research achievements. Second, we will further improve and implement the assessment, evaluation and incentive system for scientific and technical personnel. We will seek for establishment of an innovation income distribution system that is in line with the national conditions and conducive to the real benefits of innovation subjects, and make clear applicable provisions on the market-oriented pricing mechanism of scientific and technological achievements and the income mode of scientific research personnel’s achievements transformation, so as to stimulate the innovation power of all market players. The starting point of income tax payable by scientific research institutions and universities for technology transfer income will be raised, so as to refine and implement preferential policies for personal income tax for income from transformation of scientific and technological achievements. We will actively reform the evaluation mechanism and reward mechanism of scientific and technical personnel, and scientifically set the assessment cycle and classification evaluation standards in line with the laws of scientific research work. Third, we will further deepen the reform of “streamline administration, innovative supervision, and efficient service”, continuously push forward the reform of administrative

examination and approval items, lower the threshold of starting a business, and release the innovation vitality and potential of the whole society.

- (2) We will improve financial, fiscal and tax policies to effectively promote the deep integration of science and technology and economy. First, we will increase investment in innovation through multiple channels and improve the financial investment mechanism for technological innovation. By deepening the reform of the central government's science and technology plan management, we will give full play to the main role of financial funds in basic research investment, guide and encourage local governments, enterprises and social forces to increase investment in basic research, and fully mobilize the enthusiasm of social organizations and individuals for basic research investment. We will support the development of seed capital and venture capital by means of government-guided funds, loan interest subsidies, insurance and guarantees, and establish a diversified investment system composed of central financial expenditure, local governments, venture capital institutions, enterprises and financial institutions. We will also implement the financial subsidy policy and subsidize the innovation alliance by means of government procurement and demonstration projects, and expand market space for innovation achievements and new product promotion and application. Second, we will achieve the combination of inclusive policies and preferential policies so as to encourage innovation and entrepreneurship activities. We will continue to implement the tax deduction policy for enterprise R&D, and strengthen preferential tax support for high-tech industrial enterprises, small and micro enterprises and innovative start-up enterprises. Third, a multi-level technology and finance system will be established to provide financing support for enterprise innovation activities. We will transform scientific and technological achievements into credit tools, and guide the flow of capital elements to the transformation subject of scientific and technological achievements. We will enhance the supporting role of multi-level capital markets to strengthen the construction of professional banks and financial institutions to serve technological innovation. We will improve the financing service system of small and medium-sized science and technology enterprises, and make every effort to alleviate their financing problems.
- (3) We will improve industrial innovation policies and effectively cope with international economic competition. To take the optimization and adjustment of industrial policies as an important breakthrough in the construction of an innovative country, we will allocate industrial resources to innovative enterprises, and formulate new policies and measures to encourage technological innovation in original industries in view of the new trend of international technological competition. The input mode of financial science and technology funds will be adjusted, so that we can distribute more science and technology subsidy funds to public R&D institutions and public science and technology service institutions, so as to carry out cooperative R&D with enterprises and avoid violating relevant provisions of the WTO's *Agreement on Subsidies and Countervailing Measures*.

- (4) We will improve the science and technology service system and promote deep integration and development of science and technology and economy. (1) Strengthening the protection of intellectual property rights. We will improve the intellectual property system framework as soon as possible, and make operable detailed rules and regulations on the ownership of intellectual property rights and cost sharing. Innovate the patent licensing mode, encourage universities and research institutes to carry out patent implementation transformation by ordinary licensing methods, and improve the transformation efficiency. The law enforcement system of intellectual property rights will be perfected to strengthen actual protection of intellectual property rights. We will improve the intellectual property trading market and maximize the value of scientific and technological achievements. In the planning stage of major scientific and technological tasks, we will carry out intellectual property analysis, planning and layout simultaneously, and especially strengthen intellectual property management in the links of “reverse engineering” and “secondary innovation”. We will show respect to the sharing mode of intellectual property compensation, and actively promote the expansion of the scope of intellectual property licensing and enhance the value embodiment by exploring cooperation methods such as building patent pools, establishing intellectual property alliances and technology transactions. An early warning mechanism will be built for intellectual property rights in response to possible conflicts of rules in a timely and effective manner. In policy design, we will make effective use of the flexible space of international rules and have our voice heard in the formulation of international standards. (2) Improving the intermediary service system of science and technology. In order to promote rapid connection between the latest scientific and technological achievements and industrialization forces, the independent legal status of intermediary service enterprises will be defined as soon as possible. Under the guidance of the concepts of independent disposal, institutional construction, market-oriented pricing and professional service, establish a perfect environment conducive to the development of social science and technology intermediary service institutions in the gathering areas of technological innovation, so as to form a number of influential science and technology service brands. We will build a complete public service system for technological innovation, including independent national laboratories, common technology research and development institutions, technology diffusion institutions and comprehensive public service systems for small and medium-sized enterprises.²
- (5) We will establish a high-level and multi-level training system for scientific and technological talents to attract high-level talents from all over the world. (1) Increasing the proportion of education funds in the general public budget, and extending the years of compulsory education. The personnel training mode will be reformed to strengthen the construction of teaching staff in science and technology education, and set up relevant courses such as critical thinking and innovative thinking ability. (2) Establishing a classified assessment mechanism for

² Jiang (2019).

research-type universities and teaching-type universities, increasing financial investment in research-type universities, and improving the scientific research level of research-type universities. (3) Optimizing and adjusting the discipline and professional structure according to national major strategic needs. Majors that are related to the national economy and people's livelihood and are in short supply of industry development will be supported "leniently, preferentially and quickly". To cultivate and foster "elite" practical technical talents and engineering talents, we will step up efforts to strengthen the cultivation of top-notch technological innovation talents through talent plans such as "Excellent Talents Education and Training Plan" and "Strengthening Basic Disciplines Plan". (4) Based on major scientific and technological tasks and innovation bases, cultivating a group of high-level innovative talents and teams who can grasp the general trend of world science and technology and judge the development direction of science and technology in innovation practice. (5) Bringing together global scientific and technological elites through institutional innovation, and introducing international high-level talents. All kinds of institutions will be encouraged to explore various forms of cooperation modes with foreign first-class universities and research institutes, and introduce high-tech talents and talent teams. We will seek for establishment of a skilled migration system, moderately relax the conditions for foreign cutting-edge skilled talents to obtain permanent residence permits, and attract foreign high-tech talents to work in China.

- (6) Improving the scientific quality of the whole people, carrying forward the innovation culture and optimizing the innovation ecological construction. By improving citizens' scientific quality and cultivating scientific spirit as important values in scientific research and management activities and in the process of cultural construction with Chinese characteristics, we will uphold scientific spirits and foster innovative culture so as to create a scientific and cultural atmosphere that encourages innovation, and establish the value orientation of advocating innovation and getting rich by starting businesses. We will encourage academic contention, stimulate critical thinking and advocate academic freedom. We will improve the academic research atmosphere where each school of thought is respected, and value the personality of scientists in academic research. We will attach importance to the value of free exploration and establish a fault-tolerant and error-correcting mechanism that encourages innovation and tolerates failure. Through anti-monopoly and curbing unfair competition, we will create a fair competitive market environment and form an innovative ecology conducive to the growth and development of innovative enterprises.

14.2 Research on Major Policies for Mid-to-Long-Term Development of New Technologies and Digital Economy

14.2.1 Characteristics of the Technological Layout and Leading Technology System of a Big Innovation Country Under the New Industrial Revolution

From the perspective of industrial revolution, the new round of scientific and technological revolution and industrial transformation is basically equivalent to the fourth industrial revolution, also known as the “new industrial revolution”.³ After the international financial crisis in 2008, in order to seize the commanding heights of the fourth industrial revolution and meet major economic and social challenges, major powers in the world, including China, have issued various scientific and technological strategies or plans and actively laid out emerging frontier technology fields. According to many commonalities in the layout of various countries, we can roughly judge the composition and characteristics of the leading technology system of the new industrial revolution.

The highly convergent layout of emerging frontier technology fields between China and the world’s major innovation countries has reflected the mainstream technology development direction and the trend of the new round of scientific and technological revolution and industrial transformation to a great extent. It can be inferred that the leading technology system corresponding to the fourth industrial revolution is mainly composed of the new generation of information technology, biomedicine, new energy, new materials and other related technologies. Based on the information such as the layout of subdivided technology fields, the commercial application of technology and the major challenges that all countries focus on, we can make the following judgments on the main characteristics and evolution trends of the leading technology system.

- (1) The new generation of information technology is at the core of the leading technology system. In the past 5–10 years, the interrelated and complementary cutting-edge technologies in the field of new generation information technology, such as 3G/4G/5G communication, mobile internet, big data and cloud computing, have successively entered the stage of large-scale commercial application, and have spawned various new types and models, such as online car rental, bike-sharing and O2O local services. As a new economic form, digital

³ Xie (2019, pp. 4–13). Klaus Schwab, president of the World Economic Forum, advocated that the third industrial revolution began in the 1960s and could be called the “computer and digital revolution”, which was driven by a series of important inventions such as integrated circuits, mainframe computers, personal computers and the Internet. In the twenty-first century, the mankind has gradually entered the fourth industrial revolution, which is based on the previous digital revolution with “intelligent revolution” at its core, and will span the boundaries of the physical world, the digital world and the biological world.

economy has been widely recognized. After the outbreak of COVID-19, digital technology has played an important supporting role in helping to prevent and resist the epidemic and resume production. In the post-epidemic era, all aspects of economy and society will see rapid digital transformation, and the new generation of information technology will also play a greater supporting role.

- (2) The importance of biomedical technology has become increasingly prominent. On the one hand, from the perspective of major economic and social challenges, all major innovation countries regard medical health as the main challenge, and from the perspective of the specific technical field layout of “medical health and coping with aging” in various countries, most of them focus on biomedical technology. On the other hand, from the perspective of the layout of subdivided fields in various countries, biotechnology shows strong technical characteristics of general purpose, involving different industries such as agriculture, industry, medical care and information. In addition, the global spread of the COVID-19 pandemic has enabled the whole society to have a deeper understanding of major public health events. The importance of biomedical technology will become more prominent after the epidemic.
- (3) The new generation information technology and other technologies have been integrated and penetrated into each other. In the field of biomedicine, gene sequencing and smart medical care are used for commercial purposes. In the field of new energy, supported by the new generation information technology and new material technology, the commercial application of new energy vehicles has been realized, and the energy Internet/smart grid has been gradually matured from demonstration application. In addition, new material technology is also the material basis to support the progress of the new generation information technology.
- (4) The competition and cooperation between China and major innovation countries are getting increasingly complex. To cope with major economic and social challenges, China has reached consensus with the United States, Japan, South Korea, Germany, Britain and France. The common problems faced by the mankind, such as medical care and environmental protection, have provided ties and space for all countries to strengthen scientific and technological cooperation. However, from the perspective of the layout of technology subdivision, there is a great overlap between China and other countries, which may inevitably lead to direct competition.

14.2.2 Prospect Analysis of Recent Commercialization of Emerging Cutting-Edge Technologies

Judging from the development trend of cutting-edge technologies and emerging industries, in the next 2–3 years, most of the cutting-edge technologies in the field of aerospace technology will still be in laboratory prototypes and non-civil states, such as deep space exploration and deep sea exploration, which are difficult to achieve

large-scale commercial applications. Cutting-edge technologies concerning equipment manufacturing, transportation and other fields will be progressively optimized along the existing technology track rather than along the subversive technology route. Although these leading-edge technologies have good commercial application prospects, they are not enough to bring great impact to the industrial structure and economic and social development model in a short term. The cutting-edge technologies that are truly radical and subversive and are expected to accelerate the realization of large-scale commercial application in the next 2–3 years may focus on the new generation of information technologies (e.g. 5G technology, intelligent robots, unmanned driving, etc.), biomedicine and health, new energy (including new energy vehicles) and other fields.

(1) New generation information technology into the commercial application of related technologies

Around 2018, in the field of new generation information technology, cutting-edge technologies represented by artificial intelligence, 5G communication and blockchain have started the experimental or demonstration application process, and are expected to gradually enter the stage of large-scale commercial application in the next 2–3 years.

Other information and communication technologies in relation to artificial intelligence and 5G communication include narrowband Internet of Things (NB-IoT), industrial Internet and industrial intelligent robots, which will play a synergistic role in industrial digitalization, especially in the digitalization and intelligent transformation of the manufacturing industry. Meanwhile, with the development of the Internet into the industrial Internet stage, the physical connection makes the network security problem more and more prominent, and the network security technology will also have a larger commercial application market. In addition, virtual reality and quantum information technologies are also expected to enter the stage of demonstration application and even commercial application.

(2) Relevant technologies for commercial application in biomedicine and health fields

In the next 2–3 years, new drug research and development, treatment of major diseases, rapid gene sequencing, human body (function) enhancement and other technologies will be more widely used, greatly improving people's health. New anti-tumor drugs, stem cell regenerative medicine and CAR-T immunotherapy will greatly improve the survival rate and cure rate of patients with major diseases such as non-small cell tumors. The popularization and application of gene testing and targeted drugs in clinical practice will promote the transformation from traditional empirical medicine to precision medicine. Biomedical engineering technology related to medical devices, implant interventional materials and products, in vitro diagnostic products, etc. will bring further improvement to disease prevention, diagnosis, treatment, surgery, first aid and rehabilitation. It is notable that the commercial application of related technologies in biomedicine and health fields will benefit from the penetration and integration of new generation information technologies such as artificial

intelligence. For example, artificial intelligence technology improves the efficiency of drug synthesis and shortens the cycle of new drug research and development. The rapid gene sequencing technology formed by the combination of BT and IT greatly reduces the cost of gene sequencing. The biomedical engineering is in fact the result of deep integration of biotechnology, material technology and information technology.

In a longer time span, the disruptive technologies represented by synthetic biology in the future are expected to provide more efficient, cheaper and more environment-friendly solutions to challenges faced by human beings in disease, health, environment, energy and food through bio-manufacturing and bio-agriculture.

(3) Relevant technologies for commercial application of new energy (including new energy vehicles)

A round of energy revolution is being boosted by distributed generation, advanced energy storage, smart grid, energy internet, high-efficiency fuel cells, new energy vehicles and electric vehicle charging technologies. Similar to biomedical technology, new energy technology also incorporates a large number of new generation information technologies such as cloud computing, industrial Internet and artificial intelligence, and the related technologies are complementary in themselves. The breakthrough and application of individual technologies can accelerate the popularization and application of other technologies. For example, the construction of smart grid covering power generation, transmission, substation, distribution, power consumption and dispatching can more effectively absorb intermittent energy such as wind energy and solar energy, and improve the grid-connected access capability of new infrastructures such as microgrid, distributed generation and electric vehicle charging piles.

In the future, the integration of new energy technology and new generation information technology will continuously increase the proportion of clean energy sources such as wind energy, solar energy and hydrogen energy in the energy supply structure, and promote the transformation of power structure in the fields of automobiles and rail transit. Besides, it is expected to realize efficient connection and real-time linkage between energy supply and energy consumption, and build a new low-carbon, clean and efficient energy supply and demand system.

14.2.3 New Generation Information Technology Supports the Development of the Digital Economy into a New Stage

(1) Key elements of the fourth industrial revolution and the transformation of technological and economic paradigm

Since 2010, the commercial application of the new generation information technology represented by 3G/4G/5G communication, mobile Internet, cloud computing

and big data has made great changes in data collection (production), transmission, storage, processing and analysis. This can be proved by the exponential growth of data resources and the nearly zero marginal cost of data production and processing. Data has become a key element of the fourth industrial revolution and plays an increasingly important role in economic and social operation.

In fact, the characteristics of data information in production, transmission, dissemination and feedback, such as immediacy and high connectivity, have made it easy to realize multi-agent, cross-time and distributed collaboration. From production to consumption, and from supply to demand, the organization mode of each link of economic and social operation has been continuously reconstructed. A new technology-economy paradigm with full utilization of data elements at its core has gradually taken shape. In the field of consumer services, the scale of new types and new models, such as platform economy and sharing economy, has grown rapidly. In the manufacturing field, the large-scale, low-cost, personalized and customized production mode has been initially realized, and economies of scope have surpassed economies of scale and become more important rules for enterprise production. So far, digital economy has established its status as a new economic form to provide new impetus for the high-quality development of China's economy.⁴

(2) The development of digital economy has entered the stage of intelligent economy/intelligent society

After 2017, with the start of commercial application of artificial intelligence, Internet of Things, 5G communication and other related technologies, the penetration and integration of new generation information technology into the economy and society has entered a new stage. The scope of industrial digitalization is expanding to more and more complex application scenarios such as manufacturing, medical and health care, energy, transportation and other public services. Economic and social development will enter the era of intelligent economy/intelligent society characterized by high connectivity and high intelligence, or the stage of Digital Economy 3.0. In the manufacturing industry, for instance, realistic application scenarios such as unmanned factories, intelligent manufacturing and industrial Internet platforms have appeared and spread rapidly, and the Internet has officially entered the industrial Internet stage from consumer Internet. In terms of transportation, unmanned driving has already entered the stage of experimental verification and demonstration application. With the wider coverage of 5G communication and the application of other new generation information technologies such as NB-IoT, IPV6, IPV9, image recognition, VR/AR, a brand-new intelligent transportation system will be formed around unmanned driving.

⁴ In fact, the concept of digital economy was put forward as early as in 1996. Around 2010, the commercial application of new generation information technologies such as big data, cloud computing and 3C/4C mobile communication networks has successfully promoted the comprehensive transformation of information Internet to consumer Internet. The development of digital economy has gradually evolved from the digital transformation of information at the turn of the century (i.e., binary or digitization) to the infiltration transformation of digital search technology to various economic and social cities such as production, life, supply and consumption.

Intelligent economy/intelligent society led by large-scale commercial applications such as artificial intelligence and industrial internet will present a brand-new technology-economy paradigm different from that in the mature industrialization period. In terms of production, it can bring about the improvement of efficiency (total factor productivity), and in terms of consumption, it helps to better connect the supply and demand sides and increase consumer surplus. All these will boost the supply-side structural reform, achieve high-quality development, and provide strong support for solving the contradiction between people's growing needs for a better life and unbalanced development.

(3) Obstacles and problems faced by the development of digital economy in the next five years

In the next five years, the development of digital economy will truly enter the stage of intelligent economy. There will be many obstacles and problems in the realization of improving the operational efficiency of the whole society and effectively supporting the high-quality development of China's economy.

First, obstacles and constraints in the flow of data elements. The premise of the effective operation of digital economy and intelligent society is the full flow and use of data elements. In addition to the basic characteristics of two key elements: low cost and large-scale availability, data elements also have technical-economic characteristics such as non-competitiveness, low replication cost, (partial) non-exclusiveness and externality. The economies of scope and non-diminishing marginal returns brought by these technical-economic characteristics are the sources of improving efficiency and supporting high-quality development of digital economy. However, in the process of data element flow, the above-mentioned technical-economic characteristics will inevitably bring about practical problems such as ownership definition and privacy protection. Without reasonable and standardized institutional arrangements, data will show disorderly flow. Although it may show temporary prosperity in the short term, it will inevitably bring damage to social efficiency in the long run. Too strict restrictions on data flow will directly affect the operation of digital economy. In addition, around the problem of data element (cross-border) flow, the European Union, the United States and Japan have issued relevant bills one after another, the essence of which is to compete for data element resources on a global scale. In the future, the competition for the dominance of data elements among big countries will become more and fiercer.

Second, network information security. Under the condition of full networking, the problem of network information security will become more prominent. Highly connected intelligent society, with improved efficiency and convenience, will also face more network information security problems, including personal information privacy security and cyberspace security at the national level. Due to the full networking state, the equipment, workshops and factories in the production process are connected together. Once the network is damaged, its negative impact will be immeasurable.

Third, employment and distribution. Under the condition of intelligent economy, the most direct consequence of wide application of artificial intelligence technology

is the substitution of existing posts and the resulting structural unemployment, which will in turn affect the income distribution. Unmanned factories, unmanned driving and smart grid will bring about the disappearance of production line workers, drivers, meter readers and other jobs. Although many new jobs can be derived from the replacement of machines, new jobs either may put forward higher requirements for workers' skills and quality, or only provide fragmented, temporary and informal low-skilled jobs. The former may not be able to match the skills and qualities of job replacements. Although the latter compensates for the structural unemployment caused by machine substitution, its income level may not reach the level of the original post, thus widening the income distribution gap.

14.2.4 Economic and Social Impact of Commercialization of Other Emerging Cutting-Edge Technologies

(1) Roles of other emerging cutting-edge technologies in promoting economic and social development

In the medium and long term, the organic integration of biomedicine, health, new energy and other emerging cutting-edge technologies with new generation information technology and the realization of large-scale commercial application will also play an important supporting role in the high-quality development of China's economy and society.

First, improving people's health and quality of life. In the coming period, relevant cutting-edge technologies in the field of biomedical health are expected to be commercialized on a large scale, especially the integration of these technologies with new generation information technology, which will bring significant improvement to the health status of ordinary people. The wide use of drugs for treating major diseases such as cancer, the wide commercial application of rapid gene sequencing technology, and the application of artificial intelligence and robot technology in medical rehabilitation will enhance and extend human functions, and improve individual quality of life and life expectancy of the whole society.

Second, improving energy efficiency and relieving the pressure on ecological environment. Related technologies, such as smart grid, new energy vehicles and unmanned driving, will improve the energy utilization efficiency of the whole economy and society, reduce the consumption intensity of energy resources, and help alleviate the pressure of climate change and ecological environment.

Third, creating new leading industries to provide support for maintaining rapid macroeconomic growth. The commercial application of biomedicine, new energy (new energy vehicles) and other related cutting-edge technologies is expected to create a number of new leading industries in the coming period, so as to realize the rapid growth of industrial scale, and then drive the major adjustment and optimization of industrial structure. Among them, relevant technologies in the field of biomedicine are easier to create new economic growth points quickly. On the one hand, China's

current accelerated population aging process provides huge market space for the application and promotion of cutting-edge technologies in biomedicine and health fields. On the other hand, after the COVID-19, higher quality medical and health-related products and services will occupy a greater weight in the social demand structure.

(2) Economic and social problems that may arise from the application of cutting-edge technologies

The large-scale commercial application of emerging cutting-edge technologies will bring about efficiency improvement and support high-quality development. At the same time, there will also be problems such as increasing the pressure on social security funds, expanding structural employment contradictions and social gaps, and complicating international science and technology competition.

First, the superposition of a healthy society and an aging population will increase the pressure on the balance of social security funds. On the one hand, the popularization and application of cutting-edge technologies in the field of biomedical health, especially breakthroughs in the treatment of major diseases, will soon lead to more health needs. With the treatment of major diseases gradually accepting the reimbursement scope of medical insurance, the financial pressure of medical insurance accounts in various places will continue to increase. On the other hand, the improvement of health level and the extension of life expectancy will also deepen the aging of the population, and the existing sustainability of pension accounts will become more prominent.

Second, coping with the pressure of social security funds may lead to contradictions in employment and income distribution. The direct means to deal with the funding gap of medical insurance account and pension account is to increase the contribution ratio and delay retirement. Increasing the proportion of fees is equivalent to increasing the labor cost and burden of enterprises, which will force enterprises to reduce jobs, while delaying retirement will increase the employment pressure of young laborers. The interaction of these two effects will aggravate the structural employment contradiction and lead to the widening income gap of residents.

Third, the international competition around the emerging frontier technology field will intensify. After 2008, the United States, Britain, Germany, Japan, South Korea and other major innovative countries in the world have continuously launched various national-level strategic plans for emerging cutting-edge technologies. Therefore, frictions and contradictions between big countries in cutting-edge technology fields are getting increasingly prominent. After the “ZTE incident” in April 2018, the game between China and the United States in the field of science and technology continued to escalate. The US government directly suppressed Chinese high-tech enterprises represented by Huawei through the so-called “entity list”. As of July 2020, more than 300 Chinese enterprises and institutions have been affected. In August 2020, the Trump administration pointed its finger at Chinese Internet head companies such as ByteDance, Tencent and Ali, and banned some mobile phone applications. It can be expected that this kind of suppression and friction against China will further intensify in the short term and gradually become the norm. Sharp contradictions were also

breaking out from time to time between other innovation powers besides China and the United States. In July, 2019, the semiconductor friction between Japan and South Korea caused by Japan's restriction on the export of semiconductor materials once caused a great shock all over the world.

14.2.5 Countermeasures and Suggestions for Promoting the Development of Digital Economy and the Application of New Technologies

In order to effectively break the institutional obstacles in promoting the new round of scientific and technological revolution, and promote the healthy development of digital economy and the large-scale commercial application of emerging cutting-edge technologies, we propose the following countermeasures and suggestions.

First, we will speed up the improvement of domestic institutional mechanisms, laws and regulations related to the flow of data elements, actively participate in the formulation of international rules for cross-border data flow, and provide institutional guarantee for giving full play to the role of key elements of data resources. (1) In terms of domestic data flow, we will work on the principle of "promoting orderly data flow and improving data utilization rate", and carry out various system construction. (2) In view of the opening of public data, governments at all levels should gradually build a unified and open platform for public data, improve the data sharing, integration and coordination mechanism among data generation departments, standardize the public data opening procedures, and make arrangements for data opening applicants, data uses and follow-up tracking. (3) We will actively cultivate and develop the data factor market, promote the standardization of data transactions, straighten out the ownership relationship of data factor subjects, establish a reasonable data factor income distribution mechanism, strengthen market supervision, speed up the legislation of data rights protection, and earnestly safeguard the data factor market transaction order. (4) In terms of cross-border data flow, "maintaining data sovereignty and national security" will be the fundamental principle. On the one hand, we will strengthen the supervision and management of cross-border data outflow and window guidance, and increase law enforcement. On the other hand, we will take the initiative to participate in the negotiation of international data cross-border flow, carry out consultation and cooperation with major powers, and actively participate in the formulation of international rules related to data elements through G20, APEC and other platforms.

Second, we will work to strengthen the supervision of network information security, and speed up the domestic substitution of underlying software and hardware products and the layout of key infrastructure. The functional scope and supervision object of China's network information security department currently include traditional information Internet, and the focus of attention is more limited to situation and publicity. With the advent of intelligent economy and intelligent society, the regulatory authorities will quickly adapt to the reality that the virtual world is

highly connected with the physical world, and expand the regulatory (monitoring) model to consumer Internet, industrial Internet and energy Internet. In addition, we will increase efforts in research and development of core technologies of underlying software and hardware, such as high-end general-purpose chips and operating systems, and take the lead in promoting and using them in departments at all levels of the party, government and army. We will also accelerate the construction and layout of information and communication infrastructure such as IPV6 root server.

Third, a digital skill upgrading plan will be formulated for the whole people. We will establish a demand-oriented talent training mechanism, strengthen vocational education and employment security for low-and middle-skilled laborers, and create a lifelong learning atmosphere. Conforming to the historical trend of accelerating the arrival of intelligent economy and intelligent society, we will establish and improve the evaluation mechanism of labor employment status and supply and demand structure, identify the skill shortcomings of different labor groups, especially low-skilled labor groups with digital skills shortcomings, and then strengthen and improve personnel training and digital skills upgrading in basic education, higher education, vocational education and social training. In the process of cultural education and skills training, we will emphasize the importance of lifelong learning and establish the goal of creating a learning society (community).

Fourth, the integration of biomedical technology and the new generation of information technology will be strengthened so as to speed up the digital construction of public health service system, improve the utilization efficiency of social security funds, and alleviate the contradiction between supply and demand of public resources in the aging society. On the one hand, we will increase the integration of biomedical technology and the new generation information technology to improve the efficiency of disease prevention and diagnosis and treatment from the technical level. On the other hand, we will intensify the digital construction of health system, infiltrate the digital construction work into community and rural health service institutions, and improve the efficiency of public health, health management, disease prevention and treatment of urban and rural residents by means of digitalization and informationization. We aim to improve the input–output efficiency of medical insurance funds, and alleviate the contradiction of insufficient supply of public resources after deepening aging.

Fifth, as for some key nodes in the emerging frontier technology fields, especially the new generation information technology, biomedical technology and other fields, we will intensify research and development and commercial application, form global competitiveness and control as soon as possible, and take the initiative in development during the increasingly complex international scientific and technological competition. In recent years, the potential influence of the fact that we rely heavily on others for key core technologies has been exposed after ZTE and Huawei incidents. In the field of emerging frontier technologies, the characteristics of super-long industrial chain and global distribution of each link have determined that no country has the ability to control all links in the industrial chain/technology chain. This also provides us with a new strategy to deal with the fact that we depend heavily on others for core technologies. As long as we possess an absolute advantage in technology

and industry, we will have the chips and confidence to counter it, so as to strive for initiative in the increasingly complex scientific and technological competition of big countries.

Sixth, while emphasizing independent research and development, we will make full use of international multilateral organizations and other platforms to strengthen cooperation with other countries, and expand China's international cooperation space in cutting-edge technology fields. In the field of integrated circuits, for example, we can consider making full use of the geographical advantages of China, Japan and South Korea in East Asia to realize the complementarity between Japan and South Korea's technological advantages and industrial advantages and China's super-large-scale market advantages, and strive for more room in response to extreme situations such as ban on selling chips.

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Chapter 15

Enhancing Resilience, Maintaining Financial Stability and Innovating Macro Control in China as a Major Power



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Since the current international financial crisis, the international community has paid more attention to resilience, and enhancing resilience has become a priority of national policies. China's economy is facing a comprehensive transformation, in which institutional and structural problems are intertwined with cyclical problems, economic downward pressure resonates with external adverse shocks, and risks in the financial sector are prone to high incidence. Fighting against major risks has become a prerequisite for achieving high-quality development. Therefore, enhancing the resilience and maintaining financial stability are not only the fundamental requirements for stable economic and social development in the medium and long term, but also an important guarantee for no occurrence of systemic risks in China.

Government macro control is an important part of the national governance system. Innovating and perfecting macro control will promote China's modernization of national governance and enhance its resilience. Macro control lies not only in smoothing fluctuations, but also in grasping the dynamic balance between stable growth and risk prevention. We will strive to improve the resilience of China's economic and financial system in dealing with internal and external impacts. At the same time, we will correctly handle the relationship between government and market, define the boundary of macro control, and guard against macro control becoming the source of economic and financial fluctuations.

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15.1 Enhancing the Resilience of China as a Major Power

15.1.1 Two Dimensions of “Resilience”

The so-called “resilience” originally refers to the ability of an ecosystem to restore its original state after suffering some external disturbance. Maguire and Hagan summarized it as three dimensions: defense and resistance ability, adaptation and recovery ability, and learning and transformation ability.¹ Stark distinguishes two different kinds of “resilience” by comparing the “elastic pad” of sports shoes with the “immune system” of living things: the former gradually fades after use (that is, after more impact), while the latter is continuously strengthened in use, mainly after many small impacts.²

Coincidentally, some scholars emphasize the randomness and even the necessity of the “black swan” incident. This is because this kind of “destructiveness” is necessary for system evolution and resilience enhancement.³ Generally speaking, we are afraid of and may overreact to any random event. In escaping this fear and thirst for order, some systems established by human beings often disrupt the hidden logic of things, or disrupt the less obvious logic, resulting in the “Black Swan” event. Nature is the best expert in managing rare events, and also a master in managing “Black Swan” events. For billions of years, it has successfully evolved to this day without any command and control from a director appointed by a research committee. Nature is not only “safe”, it can also actively destroy and replace, choose and reorganize. Whenever random events happen, it is obviously not good enough to stay “strong and resilient”. In the long run, even a little flaw will be destroyed by ruthless years, but our Earth has been in operation for about 4 billion years. Obviously, it is impossible to rely solely on resilience: how perfect resilience you need to prevent a crack from eventually causing the collapse of the whole system. Since there is no such perfect resilience, we need a mechanism that can constantly utilize (rather than escape) random events, unpredictable impacts, pressures and fluctuations to achieve self-regeneration. For example, every new venture is vulnerable, but this promotes the improvement of anti-vulnerability of the whole economy. It is the vulnerability of individual entrepreneurs and their necessary high failure rate that have produced endless entrepreneurial spirit. Some parts of a system may have to be vulnerable in order to make the whole system anti-vulnerable. Such an understanding has extremely important enlightenment for us to understand the concept of resilience and put forward measures to enhance China’s resilience.

We believe that resilience has two meanings or two dimensions: the ability to keep the system stable under external shocks (the so-called adaptability), and the ability to maintain evolution and sustainable development of the system after reaction to shocks. It is thus clear that resilience is not a static equilibrium in the general sense

¹ Maguire and Hagan (2007).

² Stark (2014).

³ Taleb (2012).

(it can return to the normal track after being shocked, or the past mean or normal state), but an evolutionary equilibrium, that is, it can evolve to a new equilibrium state after being shocked.

According to most studies, resilience mainly lies in how the economy absorbs and mitigates the negative impacts after a certain impact or crisis, and maintains or restores to stability or so-called “normal state” of the whole system as soon as possible. We believe that staying calm and determined in face of an endurable frustration is of course important; however, because the economic system can “tolerate” or even “encourage” certain volatility, randomness and uncertainty (instead of rejecting them), it can not only moderately reduce the probability of the economic system suffering from big shocks, prevent the crisis from happening before it happens, but also strengthen its own ability under the action of small shocks, which is also a very important aspect. It is far from enough to be busy coping with shocks instead of improving one’s own capacity building, especially by accommodating small fluctuations and reducing big shocks to enhance resilience. In addition, from a dynamic point of view, resilience also ensures that the economic system has the ability to evolve, progress and keep developing. Stability and evolution are both important to the economic system. If we only pay attention to stability, but ignore innovation and evolution, especially the progress of the system, this stability will make the system lack vitality and competitiveness. We may have achieved temporary and static stability, but if it greatly weakens or eliminates the ability of evolution, it is very dangerous in the dynamic sense, so it can’t really enhance resilience.

15.1.2 Characteristics of China’s Resilience

From resilience in the general sense to resilience in a major power, there are two changes. First, understanding resilience from a national perspective makes us no longer simply highlight resilience in some aspects such as economy, finance and society, but emphasizes the sum of all these resilience. Second, “a major power” highlights the scale factor and international influence, thus highlighting the fundamental difference between the resilience of a major power and that of a general economy. The first point determines that we need to grasp China’s resilience from the perspective of institutional resilience and national governance. The second point determines that we can grasp China’s resilience from the perspective of scale (influence is largely derived from scale). It is noted that in economics, the so-called major power refers to such an economy that is no longer a price receiver but has a decisive influence on prices. Therefore, the behavior of a major power will definitely have spillover effects. From this perspective, the development and growth of a major power and related strategic planning and policy arrangements will inevitably arouse the reaction of other economies. Typically, China’s rise (reflected in the expansion of scale, with GDP reaching more than 60% of that of the United States and wealth accounting for a higher proportion) has caused the United States to counter it. This explains China’s resilience from another angle: as China’s economic scale grows,

the external pressure will increase, and the so-called “Thucydides trap” is related to this, making China’s resilience need to withstand the test of more severe external shocks.

There is a nonlinear relationship between scale and resilience. The nonlinear effect brought by changing scale (such as the familiar increasing or decreasing returns to scale), complexity and changes in system resilience has provided us with an important perspective to understand the uniqueness of resilience in a major power. The relationship between scale and resilience can be understood from the intuitive experience of flight experience. Generally speaking, a larger aircraft flies more stably and safer than a small one. This seems to indicate that the larger the scale, the stronger the resilience. But there are also counterexamples, e.g. a smaller ship is easier to turn around. That is, the scale is small, and it is easier to take advantage of the trend when external shocks occur, thus achieving stronger adaptability. This is the so-called “Singapore paradox”. Taken together, the resilience of large scale lies in its stronger ability to resist impact, while the resilience of small scale lies in its stronger ability to adapt to impact.

Larger economies generally come out with industrial diversity, network relevance and other characteristics.

According to relevant research, an economic system with a high degree of diversification and coordinated development of multiple departments is usually more resilient.⁴ According to studies on the relationship between industrial structure diversity and economic resilience, it is considered that diversification is an ideal state for industrial structure to consider regional adaptability and adaptability, which can not only ensure that these industries are highly related in each field and enable full and effective technological exchanges among industries, but also promote technological combination and innovation in different fields, and breed new development paths. Therefore, the economic system with diversified industrial structure is resilient.⁵ Berkes’ research also pointed out that economic diversification is an important attribute to ensure the response to economic fluctuations and shocks. Compared with an economic system that relies too much on a small number of industries, it can better alleviate the impact of exogenous economic shocks.⁶ The research from Pike et al. holds that the economic system with “narrow” economic resource conditions (income, savings and investment) has higher vulnerability and lower resilience because there is no alternative diversified economic structure to implement when suffering from economic shocks and pressures.⁷

In terms of network connection, relevant research argues that if an economy can integrate itself into a larger network structure, and the external effect of this network structure is stronger than the internal effect, then the disintegration of this network requires a greater impact, so the resilience of this economy and its network structure is relatively stronger. Beckouche adopts the method of “graph theory” to measure the

⁴ Minsky and Kaufman (2008).

⁵ Boschma (2015).

⁶ Berkes (2007).

⁷ Pike et al. (2020).

correlation degree of the network formed by enterprises in an economy through financial links, and argues that the higher the network correlation degree, the stronger the resilience of the economic system.⁸ Raco and Street focus on analyzing the network correlation between Hong Kong SAR of China and the outside world. It is considered that the economic network between Hong Kong SAR and its neighboring regions (mainland China, especially the Pearl River Delta region) will become the advantage of Hong Kong's long-term sustainable growth. With the help of regional economic network, cooperation with provinces and cities in mainland China and participation in global market competition will enhance its own economic resilience.⁹ In terms of network connection, the network correlation degree of economic system is usually considered to contribute to the improvement of economic resilience. According to relevant research, if an economy can integrate itself into a larger network structure, and the external effect of this network structure is stronger than the internal effect, then the disintegration of this network requires a greater impact, so the resilience of this economy and its network structure is relatively stronger.

However, there is not a simple linear relationship between industrial diversity and relevance and economic resilience. As far as industrial diversity is concerned, excessive diversification may lead to insufficient industrial specialization, thus affecting the spillover of Marshall externalities and weakening the ability of industries to cope with shocks. Some academic studies at home and abroad have proved that technical gatekeepers or focal firms in the region play an important role in the process of industrial evolution. Under certain conditions, the technology guardian plays the role of industry leader. With its mature production system and strong innovation ability, it guides the region to resist shocks and make adaptive adjustments to market changes, thus guiding the industrial evolution and changes in the region. In addition, industrial diversification is by no means a simple stacking among different industries. When some industries are impacted, some unrelated industries are difficult to accept the resources of transforming the impacted industries. From this point of view, the positive role of industrial diversity needs organic links among industries, and the diversification of unrelated industries may not make much contribution to regional economic elasticity. It is the diversity of related industries that really plays an important role in resisting risks and promoting industrial evolution. Besides, high correlation may also bring vulnerability. As we know, in the familiar Battle of Red Cliff, Cao Wei's "connecting warships iron rope" did not bring much resilience, but greatly enlarged the impact transmission between different subsystems, which made the whole system more fragile. From above aspects, in order to improve economic resilience at the industrial level, it is necessary to avoid risk amplification caused by over-reliance on a single industry, avoid the lack of leading ability of leading enterprises caused by excessive industrial dispersion, and at the same time, prevent the cross-risk between industries from causing "burning and even running". In the Sino-US trade friction, the relationship between China's domestic value chain and innovation chain and the world (especially in major developed economies) is even

⁸ Pierre (1999).

⁹ Raco and Street (2012).

highly dependent, which also led to China' being very passive in the face of US suppression. The connection of financial networks also leads to risk contagion and systemic risk aggravation, e.g. the Baoshang Bank incident. Although Baoshang Bank is a small and medium-sized bank, due to its strong network correlation, if it goes wrong, it will bring problems to other financial institutions or industries associated with it. Because of its strong network correlation and inability to fail, the government provided assistance to it.

15.1.3 Enhancing China's Resilience: Potentials and Challenges

Since the founding of the People's Republic of China 70 years ago and since the reform and opening-up more than 40 years ago, China's comprehensive national strength and economic resilience have been continuously enhanced. This includes: a relatively complete industrial system and industrial chain, a more balanced economic structure, an increasingly powerful domestic market, a regional pattern with complementary advantages, and a gradually improved market mechanism.

(1) A relatively complete industrial system and industrial chain

In the past 70 years, China has formed the richest and most complete industrial system and industrial chain in the world.

Generally speaking, China has become the only country in the world with all 41 industrial categories, 191 middle categories and 525 small categories classified by the United Nations, and has surpassed the United States to form the largest manufacturing sector in recent years. For example, China has established a complete industrial chain of key industries such as light industry, textile, petrochemical industry, coal, iron and steel, non-ferrous metals, automobiles, ships, transportation, logistics, wholesale and retail, and e-commerce. At the same time, among more than 500 kinds of major industrial products in the world, the output of more than 220 products in China ranks first in the world, and these products are spreading more than 230 countries and regions in the world. This has made China a well-deserved "world factory" and a big trading country. Obviously, this provides a solid industrial foundation for improving China's economic resilience, especially resisting supply chain shocks.

Specifically, facing the new round of scientific and technological revolution and globalization, China's industrial chain is undergoing profound changes, moving towards ecology-friendly, intelligent, digital, platform-based, international and multi-format integration. In China, new industrial chains are constantly emerging, and traditional industrial chains are being reconstructed and integrated, giving birth to many new industrial forms and market opportunities. We will accelerate the integration of three industries, advanced manufacturing and modern service industries, industrialization and informationization. The degree of synergy among industrial chain, innovation chain, supply chain and value chain has been continuously improved. Through the application of new technologies and new models, a large

number of enterprises have constantly improved the efficiency of supply chain operation and adapted to the needs of industrial and consumption upgrading. More enterprises are deeply and widely integrated into the global division of labor system, and their influence on the world is constantly increasing. According to the statistics of the World Bank and UNCTAD (WITS), the average proportion of intermediate products imported from China in the world is as high as 21.7%, and China plays a key role in the international division of labor system.

In fact, China not only has strong competitiveness in traditional industrial sectors such as light industry and textile, but also reaches or approaches the level of developed countries in some major equipment, consumer and high-tech products, resulting in a number of leading enterprises with strong quality competitiveness and brand influence, leading the development of the industry. China has shifted from a low-end assembly link in the global value chain to a major exporter with an increasing proportion of high-tech products. In many new technologies and industries, China has made remarkable progress, laying the foundation for a new round of industrial revolution. The development of digital technologies such as Internet, mobile Internet, big data, Internet of Things, cloud computing, artificial intelligence and robots is particularly remarkable, which makes China's position in the global digital economy increasing day by day.

China has ever-increasing scientific and technological innovation capability, and is accelerating the innovation and competitiveness of economic development. At present, China's economy is in the process of quality improvement, efficiency improvement and power transformation, and is gathering new kinetic energy of economic development with new industries, new forms and new models. For example, according to the data of the National Bureau of Statistics, in 2018, the added value of the national "three new" economy (new industries, new forms and new business models) reached 14,536.9 billion yuan, equivalent to 16/1% of GDP, an increase of 0.3 percentage points over the previous year. At current prices, the growth rate was 12.2%, 2.5 percentage points higher than the current GDP growth rate in the same period. Accelerating the continuous transformation of old and new kinetic energies has brought new vitality to China's economic development. This has become an important force to promote high-quality development of China's economy, and further enhance the resilience and endurance of China's economic development.

The level of scientific and technological innovation has been significantly improved, and the transformation and upgrading of industrial structure has been continuously promoted. Enhancing innovation ability, promoting economic transformation and upgrading, and moving towards high-quality development are the result of economic laws, and are also the inevitable choice under profound changes in the domestic and international environment. In the future, China's economy will change from a factor-driven economy to an innovation-driven economy, and move forward from the low-end to the high-end of the global value chain. According to the *Statistical Communique of the People's Republic of China on the 2019 National Economic and Social Development* issued by the National Bureau of Statistics, China's R&D investment has been increasing in recent years, and the proportion of R&D expenditure in GDP has been continuously increased to 2.19% in 2019, ranking 14th in

the Global Innovation Index. According to the annual report of the World Intellectual Property Organization, in 2019, the number of international patent applications in China was nearly 59,000, surpassing the United States by nearly 58,000, and ranking first in the world, among which Huawei topped global companies in terms of patent number. At the same time, with the new demand and innovative development, China's emerging industries are also developing rapidly, especially among above-scale industries. The growth rate of strategic emerging industries and high-tech manufacturing industries continues to be faster than the overall industrial growth rate, which were 8.4% and 8.8% respectively in 2019, 2.7 and 3.1 percentage points faster than the overall industrial growth rate respectively. According to the *Nature* index compiled by the top international academic journal *Nature*, China's scientific research has made remarkable progress from 2015 to 2018: China's *Nature* index has increased from 7680 to 11,026, and the relative value with corresponding index in the United States has increased from 37 to 56%, as compared with other major scientific research center countries in the world (Germany, Britain, Japan, France). In the future, China will put scientific and technological innovation in a more important position, and will work hard to promote the transformation and upgrading of traditional industries and accelerate the growth of emerging industries, which will create new growth space for the economy.

To sum up, China's complete industrial system, constantly improving industrial chain, and continuously improved innovation capability will not only help enhance its market responsiveness, international competitiveness and added value of Chinese products and services, but also greatly enhance the ability of Chinese economy to resist various internal and external shocks, and promote the process of new industrialization, urbanization and modernization, thus laying a solid supply-side foundation for Chinese economy to grow stronger.

Of course, it is also noted that China's industry is "big but not strong" and features low added value, high consumption of resources and energy and poor economic benefits. Some key products or technical links, such as chips, aero-engines, intelligent storage, biomedicine and precision machine tools, are still far behind those of the first-mover countries, and even at the risk of being controlled by foreign companies, which directly threatens the smooth operation of China's industrial supply chain. These problems are particularly obvious in this Sino-US economic and trade friction, and the "decoupling" of technology is worrying. In addition, during the outbreak of the COVID-19 in early 2020, the shortcomings in Chinese public governance and industrial organization were exposed intensively, and the industrial supply chain also suffered unprecedented pressure. In this regard, if we only look into it at domestic level, the virus will not cause long-term negative impact especially after China's control policy, despite huge short-term impact of the epidemic. However, from an international perspective, the situation is not optimistic, that is, under the background of the existing low tide of globalization, the epidemic may further promote "decoupling" and reorganization of the international industrial division of labor system and China. In this way, it will have a very serious negative impact on China's innovation and opening up, and then lower the long-term growth trend. Judging from the current situation, although this prospect is far from clear, it must not be taken lightly.

Therefore, as an important member of the international industrial division of labor system, China should make short-term hedging policy to address the epidemic situation while making overall plans for economic and social development. We should aim at medium and long term goals, deepen reform in all respects, open wider to the outside world and promote innovation. We will seek further integration into the international division of labor system; in particular, we will enter many links of the industrial value chain, and widely distribute and disperse risks in space, so as to shape and consolidate our own comparative advantages, international competitiveness and industry-market system that can play an important role, and enhance its ability to resist the impact of the industrial chain.

(2) Seeking a more balanced economic structure

China focuses on different aspects in different stages and periods of industrial development; however, the balanced and coordinated development of our three industries has been maintained on the whole, and the production system and production capacity have been continuously improved and upgraded, which has laid an important foundation for maintaining stable economic development.

First of all, as the lifeblood and foundation of economic and social development, the modernization of agriculture and rural areas has been continuously promoted in recent years, especially under the promotion and guidance of various policy systems. We have maintained minimum area of cultivated land to ensure national food security. In 2019, China achieved “sixteen consecutive years of bumper harvest”, with grain output reaching over 1327.7 billion *jin* (0.5 kg) and grain self-sufficiency rate remaining above 95%, outperforming the world average. Meanwhile, by deepening reforms of rural land system, collective property right system and agricultural support and protection system, the tertiary industry have also achieved integrated development in rural areas, providing a broader space for farmers to expand employment, expand business, increase income and become rich. Secondly, as mentioned above, China has established a complete industrial production system and the world’s largest manufacturing sector. This helps solve employment problems, especially absorb rural surplus labor. What’s more, a complete and huge industrial system can produce high-quality and low-price products more efficiently on a larger scale to meet domestic demand, and reduce dependence on foreign products. In addition, it should be noted that China’s well-developed industry (especially manufacturing) also played a vital and fundamental role in promoting innovation and building national defense. Finally, in recent years, China’s service industry has developed rapidly and played an increasingly important role as a “stabilizer”. In fact, since 2013, the added value of service industry accounted for 46.7% of GDP, surpassing industry for the first time and becoming the largest industrial sector in China. By 2019, this proportion ascended to 53.9%, and its contribution rate to GDP growth reached 59.4% (driving economic growth by 3.6 percentage points). In addition, the service industry absorbed 360 million laborers, accounting for 46.3% (2018 data). This has fully illustrated that under the downward pressure of economy, the key role of service industry in stabilizing growth and employment has become increasingly prominent.

However, it must also be pointed out that there are still many deep contradictions in China's industrial structure, exerting a lasting adverse impact on China's economic and social stability. Among them, the most important is that there is a certain degree of disconnection between entities and financial sectors, that is, as the main component of modern service industry, the financial industry has developed rapidly in recent years, and its added value accounted for more than 7% of GDP since 2013. However, this seeming prosperity was caused by funds simply circulating in the financial sector and complicated transactions, while the services such as financing support, asset allocation, inter-temporal transactions and risk management provided to entities (including manufacturing) were seriously insufficient and of low quality. In the long run, this disconnection will inevitably lead to a series of economic and social problems, such as rising asset prices, prevalence of speculation, false prosperity of financial industry, shrinking of real industries and innovation activities, and even give birth to systematic financial and economic risks.

(3) Increasingly powerful domestic market

As a big country with the largest population in the world and medium and high-speed economic growth for many years, China has huge market scale, enormous consumption capacity and endless development potential, which have become important conditions for promoting the sustainable development and stability of China's economy. From the perspective of demand structure, consumption has become the main driving force of China's economic growth in recent years.

First of all, as measured by its contribution to economic growth, the final consumption (of which nearly 70% became residents' consumption and 30% became government consumption) increased from 47% in 2013 to 57.8% in 2019, driving GDP growth by 3.5 percentage points. Although this share declined from the previous year, it remains at a high level in recent 20 years. Secondly, new consumption formats continued to grow rapidly. Especially in the past two years, the growth rate of online sales was obviously faster than the total retail sales of social consumer goods, and the corresponding proportion increased from 20% in January–February 2018 to 26% at the end of 2019 (all based on the accumulated amount of that year). It is also worth noting that the sales turnover of Tmall on the day of "November 11" in 2019 reached 268.4 billion yuan, an increase of 25.7% as compared with 213.5 billion yuan in the previous year, and the growth rate was basically the same as that in 2018 and 2017 (26.9%). Thirdly, consistent with the change of industrial (supply) structure, China's consumption structure has also changed from excessive concentration on physical consumption to service consumption. According to the National Bureau of Statistics, residents' service consumption accounted for 50.2% in 2019, an increase of 0.7 percentage points over the previous year. To a certain extent, this also helps spread the risks at the industrial sector level. Finally, with the rapid development of China's economy and the rapid growth of residents' income in recent decades, residents' wealth as a stock has also accumulated rapidly. According to the estimation of the research group of the National Finance and Development Laboratory, the net wealth of Chinese residents increased from 28.7 trillion yuan to 318.6 trillion yuan from 2000 to 2016, faster than GDP growth in the same period. As a

result, with the growth of wealth, the number of middle-income people in China is also expanding. According to Credit Suisse's *2019 Global Wealth Report*, among nearly 1.7 billion middle-income people in the world (referring to 10,000–100,000 US dollars/adult/year), China's proportion has rapidly increased from 12.6% in 2000 to nearly 1/3 in 2019. It is estimated that China's proportion will rise to 40% in 2022. Obviously, all above factors will help further improve consumption capacity and enrich consumption levels.

To sum up, the large market scale and increasing consumption capacity will not only constitute an important demand-side foundation of China's economy, but also provide enough market space for the development and application of new technologies, new business types and new business models. This not only strongly promotes the upgrading of industry and consumption, but also makes China gradually reduce its dependence on external markets (especially external demand), thus enhancing its ability to resist external shocks. Moreover, consumption remains relatively stable under normal circumstances. Despite fluctuation in investment, import and export, consumption is contributing more to economic growth, which also helps to enhance the stability of economic operation. Of course, it goes without saying that, due to a series of deep-seated reasons, such as the serious segmentation of domestic market, the need to improve social security system, the high transaction costs including taxes and logistics, and the uncoordinated financial-entity relationship, China's consumption (mainly refers to residents) potential has not been fully exerted, the household savings rate (maintained at about 40% in recent years) remains significantly higher than that of other major economies, and the consumption level is quite different from that of the first-mover countries. Industries and regions that are highly dependent on external demand will widely exist, which also means risk exposure to the international market.

(4) Regional pattern of complementary advantages

As we all know, the imbalance of regional development in China has a long history. In fact, in the past 20 years, through regional coordinated development strategies and practices such as "Western Development", "Northeast Revitalization" and "Rise of Central China", the development gap between regions has been narrowed, despite significant differences. For example, according to the National Bureau of Statistics, the per capita disposable income in China's eastern region in 2019 was 1.64 times that in the western region, and the urbanization rate of the former also reached 68.5%, while that of the latter was only 54.08%. However, this should also be treated dialectically. Different stages of economic development, different humanistic and social environments, rich natural and geographical conditions and vast land area have brought great advantages in spatial structure and room for enhancing gradient development momentum and economic resilience, resisting shocks and dispersing risks, just as a Chinese proverb says "there's more than one way to skin a cat".

From the perspective of industrial distribution, China has formed a coordinated and different industrial spatial structure in its long-term development: there are a large number of labor-intensive manufacturing industries in the southeast coastal areas,

while the inland areas of Northeast and Northwest focus on developing resource-based heavy industries, that is, one end produces a large number of export products, while the other end produces a large number of investment products. Meanwhile, China's eastern region and first-tier cities have outperformed other regions in innovation and development of modern service sector. In this way, in the face of external shocks such as Sino-US trade friction, export-oriented economic regions, especially manufacturing-oriented regions, may be directly affected. However, areas focusing on domestic demand and service industry are relatively less affected. From the current epidemic situation, when the local area is affected by internal shocks, other regions can not only provide timely and adequate assistance to the corresponding regions under the unified deployment of the central government, but also disperse and weaken the impact caused by shocks through more active economic activities.

From the perspective of regional coordinated development, the heterogeneity between regions may also give birth to several regional growth poles with different levels and complementary advantages, and then achieve relative balance in differentiated development. As Chinese President Xi Jinping pointed out, "We will form several new power sources that can drive high-quality development of the whole country, such as the Beijing-Tianjin-Hebei region, the Yangtze River Delta and Pearl River Delta regions, and some important urban agglomerations. Imbalance is common, so we will seek for relative balance in development. This is the dialectics of regional coordinated development".¹⁰

(5) Gradually improving the market mechanism

As the basis for improving economic resilience, we will further promote market-oriented reform in an all-round way and give full play to the internal stabilizer role of market mechanism. In fact, the operation of market economy has a natural and spontaneous stable mechanism, e.g. adjusting the supply and demand of commodities and factors through prices to realize market clearing. However, it also has an unstable mechanism, e.g. negative externality of financial market behavior and fallacy of composition. Therefore, under the condition of market economy, the key to improving resilience lies in: on the one hand, giving full play to the inherent "stabilizer" function of free market competition, especially promoting fair and orderly market competition and full disclosure of information. Among them, the relevant regulatory agencies should pay attention to tolerating reasonable and moderate market fluctuations and decentralized behaviors. It is in this environment that economic resilience can be promoted and consolidated. In particular, as an important micro-foundation of market economy, enterprises have their own advantages and disadvantages, which constitute an endless economic ecology. The vitality and resilience do not mean immortality of enterprises but creative destruction and replacement of the old and new. Every new venture is fragile, but it promotes the improvement of anti-vulnerability of the whole economy. It is the vulnerability of individual entrepreneurs and their necessary high failure rate that has made them strive for self-improvement. Some parts of a system may have to be fragile and will be eliminated in order to make the whole system

¹⁰ Xi (2019).

resilient. This requires the realization of the freedom of entry and exit of enterprises. The freedom of “entry” means expanding market opening, relaxing market access, reducing discrimination in ownership, breaking monopoly (especially administrative monopoly), and removing various “glass doors” and “revolving doors”. The freedom of “exit” means canceling the “iron hat” and “death-free gold medal” of specific enterprises and speeding up the exit of “zombie enterprises”, so as to allow bankruptcy of enterprises and financial institutions, which is also the most general form of market cleaning mechanism to play a mandatory role. In fact, free entry and exit is an inevitable requirement for the market mechanism to play its role. Without exit, there will be no cycle between old and new, and the system will degenerate and die of old age. This is true of living things, and so is the economy. Otherwise, it is impossible to produce an effective market pricing mechanism, and then impossible to form an optimal allocation of resources. More importantly, without normal exit, the economy will be dragged down by a large number of ineffective and inefficient enterprises, resulting in a large number of misallocation of resources and accumulation of risks, greatly weakening the ability of the economy to resist risks. Therefore, giving play to the decisive role of the market will be the basis for enhancing economic and financial resilience.

On the other hand, we should also see the natural unstable factors and mechanisms of market behavior. Through system design and policy intervention, including counter-cyclical macro-stability policies, financial supervision, expected guidance, etc., all kinds of procyclical market behaviors will be suppressed, “planning ahead” achieved, and sufficient policy space, resources and tool reserves reserved in the period of good economic operation, thus strengthening and widening the “cushion” for coping with risk shocks. Among them, good central and local financial situation, flexible and effective monetary intervention tools, more credible information disclosure mechanism, perfect social security system, sufficient strategic material reserves and efficient management and allocation will be particularly critical. In a word, only by forming a benign interaction and cooperation between the market and the government, rather than confrontation, can the resilience and sustainability of economic development be realized.

It should be emphasized that China has made important progress in market-oriented reform in recent years, but there is still much room for improvement. According to China’s “Marketization Index” compiled by the National Economic Research Institute, the national average rose from 5.45 points in 2008 to 6.72 points in 2016. Among them, from different dimensions of marketization, three indicators (“the development of non-state-owned economy”, “the development degree of factor market”, and “the development of market intermediary organizations and the legal environment”) ascended significantly, with an increase of 2.42 points, 2.11 points and 2.93 points respectively in the same period. However, the index reflecting “the relationship between government and market” did not rise but fell (down 1.3 points), and the index of “the development degree of product market” also made slow progress (up only by 0.19 points). In addition, from the perspective of regional distribution, the marketization process in the western and northeastern regions was obviously slower than that in the eastern and central regions. Obviously, this may further aggravate the

development gap between regions and increase the difficulty of coordinated development. In terms of international comparison, the Index of Economic Freedom (IEF) of the Heritage Foundation shows that China's overall IEF score ascended from 52 in 2007 to 58.4 in 2019 (out of 100), a rise from the last place to 15th in the G20 (19 economies). From sub-indicators that constitute IEF, the three indicators related to the rule of law, including "property rights", "judicial efficiency" and "government trust", have been greatly improved in recent years, and the last two indicators outperformed the world average. On the whole, however, there is still a big gap between China and the first-mover economies. The overall score is lower than the world average (60.8), ranking only 100th. In particular, the "investment freedom" and "financial freedom" indexes about market opening are obviously lower than the world average and lower than large developing countries such as India, and even decline in the vertical dimension. Both indexes are lower than the level in the 1990s. While there are some errors and deficiencies in above two index systems, on the whole, there is still much room for improvement in the process of marketization in China, and its stabilizer function has not been fully exerted. Building a modern economic system and giving full play to the stabilizer role of market mechanism are important directions for enhancing economic resilience.

15.1.4 Modernization of State Governance—The Key to Enhancing Institutional Resilience

Enhancing China's resilience is a highly complicated "systematic project", because it involves economic growth momentum, economic structure, regional layout, financial system, infrastructure, technical means, social security system, policy framework and so on. Moreover, if related concepts are further expanded, that is, taking into account other influencing factors, such as politics, society, security, culture, ideology, natural ecology, international relations, etc., a country's economic "resilience" cannot exist on its own, but must cooperate with other aspects of "resilience". Furthermore, the "resilience" of a country in all aspects seems to be applicable to the "barrel principle": if there are serious shortcomings in one aspect, it is difficult to maintain the resilience in other aspects. For example, it is hard to imagine that a country with a fragile ecological environment can be resilient in economic operation. In this regard, relevant policy practice must proceed from the overall national security concept, and focus on the overall and long-term strategy of national development. We will make overall plans and take a long-term view, and prevent "letting every man skin his own skunk" at the departmental and local levels. Therefore, improving China's resilience will not be limited to one aspect but to the sum of all aspects of resilience. Moreover, the resilience highlights the flexibility of its own system and mechanism, which could be understood at the institutional level and from the perspective of modernization of state governance. The modernization of the governance system of national governance capacity proposed by the Fourth Plenary Session of the 19th CPC Central Committee is the fundamental measure to improve China's institutional resilience.

The rise and fall of a major power and the change of world hegemony have shown that it is the key to strengthening China's resilient system. Throughout the history of the world, the competition between two countries involves economic competition, scientific and technological competition and military competition on the surface, development mode competition at a deeper level, and institutional competition and national governance mode competition in essence. First of all, this means that, in the traditional sense, the competition of national strength, that is, the superiority of a country's governance model, is often manifested in fast development of national economy, fast breakthroughs in science and technology, and more advanced and powerful weapons and equipment. Therefore, countries with superior governance models are more able to settle down in the international system full of security difficulties and cruel competition. In addition, in the era of globalization, there is a fierce "legitimacy competition" among the governance models of various countries. That is, a country's governance model has high governance efficiency and strong vitality to show positive stability and policy continuation. Today, when information dissemination and transportation are so developed, it is easier for one country to cause strong demonstration effect, win the admiration of citizens of other countries, and cause other governments to face the dilemma of learning and imitating this governance model (or facing legitimacy crisis).

(1) Openness and inclusiveness are two pillars to enhance institutional resilience

The enhancement of resilience needs to be based on the openness, inclusiveness and diversification of economic and social order, and marked by effectively responding to external shocks and steadily promoting transformation and development.

Generally speaking, an open system is much safer than a closed one. The Chinese traditional society has been summarized as a "super-stable structure" by some scholars. From a static point of view, the super-stable state means a certain degree of resilience. In fact, however, this is a closed and rigid system, which stifles the germination of all kinds of innovations, thus eliminating its ability to evolve and progress. According to the "law of entropy", open system will lead to order and generate new vitality, while closed system will lead to disorder and death. Closure generally forms temporary stability, but this is a kind of static security. However, from a dynamic point of view, closure may lead to the rigidity of a system and social inertia, which will eventually lead to the turbulence and even collapse of the system. Opening up means breaking all kinds of prejudices and discrimination, thresholds and obstacles, letting all kinds of ideas collide with each other and resource elements flow freely. In comparison, the gap is already identified to promote the flow of factors, so as to learn from each other's strengths, seek common ground while reserving differences, and narrow the gap. Open development is bound to face open competition. Open competition includes economic competition among countries and institutional competition. From a global perspective, institutional competition and reform competition derived from institutional advantages will be a normal state. Open competition is the internal driving force to promote institutional reform, maintain institutional vitality and enhance institutional resilience. Openness is not limited to economic opening, but also involves social opening and political opening. Inclusive development is the goal of social development and also the means to achieve sustained

economic growth. Research shows that the elite society can achieve short-term but not long-term prosperity, mainly because it is a low mobility society. In order to monopolize the development income, the elite (or vested interest groups) may set up various barriers to entry, leading to the waste of talents and inefficiency of human resources allocation. It also suppressed the enthusiasm of various production factors, thus making long-term economic growth lose its engine. Inclusive system aims to give social members fair opportunities to participate in social construction and share the fruits of social development, improve social mobility, stimulate the enthusiasm of all strata, and promote the prosperity and development of society.

(2) Modernization of state governance highlights governance by government, market and society

The overall goal of comprehensively deepening reform is to improve and develop the socialist system with Chinese characteristics and promote modernization of the national governance system and governance capacity. State governance has become a new key word to promote reform. State governance is an institutional arrangement and technical means for a country to take collective actions for a common goal. The modernization of state governance is to enable all stakeholders to share risks and achievements, build a society together, and promote the openness, tolerance and equality of economic and social forms. It can be considered that the improvement of national governance capacity will directly lead to the openness, inclusiveness and diversification of economic and social order, and enhance the country's ability to prevent risks and achieve self-repair and transformation. The enhancement of a country's "physique" means that it is getting more resilient. In short, modernizing national governance capacity is the fundamental way to enhance a country's economic and social resilience.

The basic institutional structure of contemporary China's governance system can better cope with social and political risks and challenges, and has a strong ability to regulate and control local divisions, social conflicts and political divisions. It can effectively maintain the leadership of the central government over local governments, the state over society and the CPC over political power, and maintain the unity, adaptability, innovation and vitality of political power. Since the founding of the People's Republic of China 70 years ago, it has created a miracle of rapid economic development and long-term social stability rarely seen in the world. All these have fully demonstrated the institutional resilience of contemporary Chinese governance system.

However, we still have a long way to go to promote the modernization of state governance. In the past, the understanding of the government was often limited to the relationship between the government and the market. Now it seems that the society is also of much concern. From state management to state governance, the governance of the government, the market and the society is based on the following: first, the power of the government, which allocates social resources with the help of the compulsion of state power to make it operate and develop orderly; second, the market power, that is, the "invisible hand" emphasized by Adam Smith, which promotes the optimal allocation of social resources through market mechanism (especially free competition

and price signal); and third, the social forces, also known as social self-organization forces, which is composed of individuals or organizations with strong public spirit and public responsibilities to consciously follow certain public behavior norms and undertake certain public governance responsibilities by means of self-management, self-service, self-education and self-supervision, thus promoting economic and social development. In national governance activities, government forces are best at the governance of public domain, market forces are best at the governance of economic domain, and social forces are best at correcting and making up for the defects and deficiencies of government forces and market forces. Social forces can find their best role in both public domain and private domain.

A good national governance model must be a pattern in which three forces of government, market and society are relatively balanced and can support and restrict each other. At present, the government is in a strong position both in the face of the market and the society, which is still far from the emphasis on tripartite governance in national governance. In particular, some local governments do not have enough understanding of governance, and are still limited to the past mode of management and control. In many things, there is still an antipathy or even opposition to the intervention of the market and society. These should be the key problems to be solved in the future modernization of governance. Openness and inclusiveness are two pillars to enhance institutional resilience, and are also important connotations of the new development concept. It noted that openness and inclusiveness are not completely exogenous, and the formation of a real open and inclusive system should be the result of tripartite cooperation among government, market and society. Only in this way can we truly enhance the institutional resilience and win the institutional competition in the era of globalization.

15.2 Maintaining Financial Stability

15.2.1 Challenges Facing Financial Stability

High-quality development is the theme of China's economic and social development for a long period of time in the future, and ensuring no systemic risks is the basic premise of achieving high-quality development. In view of the fact that China is still in the stage of economic transformation where institutional and structural problems are intertwined with cyclical problems, financial and real economy are seriously out of balance, and economic downward pressure resonates with external adverse shocks. These factors have added to the uncertainty of medium and long-term development, and posed severe challenges to financial stability.

(1) Financial risks in a period of high incidence

High-quality development means a comprehensive transformation of economic development in the new era. The original balance between development mode, economic structure and growth momentum will be broken, and a new balance will be established between finance and real economy sectors. In such a comprehensive

transformation process, the survival of the fittest and creative destruction will lead to an increase in bankruptcy defaults. Excessive financial development will be “forced to fall back”, and internal and external economic rebalancing may cause cross-border capital flows. All these will aggravate potential financial risks.

It is in this sense that we believe that at present and in the future, the financial sector is still in a period of high risk. This is reflected in the following facts: (1) some institutional and structural contradictions and problems under the cover of rapid growth in the past are “coming out in the wash” and exposing risks; (2) the shift period of economic growth rate along with the painful period of structural adjustment and the digestion period of previous stimulus policies makes various risks intertwined and superimposed; and (3) great changes in the world have accelerated and profoundly evolved, with more sources of global turmoil and risks and intensified external risks. In the near future, current risks in the financial sector mainly focus on real estate, hidden debts of local governments, rebound of non-performing assets, high stock of shadow banks, and increased uncertainties of external shocks. In the medium and long term, it is mainly caused by high macro leverage ratio, structural imbalance between finance and real economy, social security debts, and the interweaving and transformation of financial risks and financial risks. Special attention must be paid to financial risks arising from the intensification of cross-border capital flows brought about by further financial opening.

Fundamentally speaking, the biggest development risk lies in the failure to realize the transformation of development mode, especially the failure to really let the market play a decisive role in resource allocation. The government intervention role is still too strong, but the regulator’s early warning and macro governance are not in place. This, on the one hand, has restricted the improvement of the efficiency of real economy, and on the other has made the government bear various explicit and implicit liabilities, and aggravated the moral hazard of various economic players. What is particularly important is that the leading role of the government in credit allocation seriously has hindered the function of risk pricing and risk allocation in the financial system, thus leading to the misallocation of financial resources and further increasing financial distortions and financial risks. Technical means such as bad debt write-off, inflation and asset replacement can be adopted to prevent and resolve risks; however, to fundamentally resolve risks and avoid financial crisis, we are required to promote supply-side structural reform, highlight the decisive role of market in risk allocation, improve financial governance capacity, correct the imbalance between finance and real economy, and make finance better serve the real economy.

(2) Serious imbalance between finance and real economy

The structural imbalance between finance and real economy has not only aggravated the accumulation of potential risks, but also increased the relevance and complexity of economic and financial risks.

First, the financial industry is expanding rapidly. Since the twenty-first century, China’s financial industry has experienced a period of rapid growth. From the perspective of the proportion of total assets of financial industry to GDP, it increased from 2.55 times in 2004 to 3.85 times in 2016. From the perspective of the proportion

of financial added value to GDP, it increased from a low of 4% in 2005 to a high of 8.2% in 2015, exceeding the proportion of developed economies such as Britain and the United States in the same period. Compared with the average wage of the financial industry and the average wage of the whole society, they had basically remained the same before 1992, and in some years, the financial industry was even lower than the average of the whole society. The reform of the financial industry wage system in 1993 made it possible for the average wage of financial industry to increase by 40–50% as compared with the whole society. Since then, the average wage in the financial industry has increased steadily. From 2010 to 2014, it was nearly twice the average wage of the whole society. The supply-side structural reform started in 2015 and the subsequent financial deleveraging policy has significantly reduced the scale of China's financial industry. Among them, in 2018, the total assets of the financial industry decreased to 3.26 times of GDP, the added value of the financial industry declined to 7.68% of GDP, and the ratio of the average wage of the financial industry to the average wage of the whole society fell down to 1.57.

Second, shadow banking has expanded rapidly. In recent years, in addition to the scale growth, China's financial industry has also undergone many new changes in its structure. Among them, the rapid expansion of shadow banking has aroused widespread concern. The formation and development of shadow banking in China was the result of the imbalance of China's financial system. Different from international shadow banking, China has formed a shadow banking system dominated by banks, with their funds mainly coming from bank savings deposits and mainly used by bank customers. Banks played a leading role in the operation mode, and non-bank financial institutions served as channels. According to Moody's *Quarterly China Shadow Banking Monitor*, the absolute scale of China's shadow banking peaked in 2017, amounting to 65.6 trillion yuan, and the relative scale of China's shadow banking peaked in 2016, when the total scale accounted for 28.5% of the total assets of the banking industry and the ratio to GDP was 87.2%. In terms of total amount, the financial deleveraging policy gradually consolidated since 2016 has obvious effect, and the total scale of shadow banking was under control. Only three shadow banking assets, namely trust loans, entrusted loans and undiscounted bank acceptance bills, were considered. The ratio of asset scale to GDP in 2019 was 22%, which dropped by 10 percentage points as against 2017 and basically returned to the level of 2010. According to the statistics of China Banking and Insurance Regulatory Commission, the scale of shadow banking has dropped by 16 trillion yuan as compared with the historical peak. Nevertheless, shadow banking is still large and risky.

Third, the imbalance between real estate and real economy. Since the twenty-first century, with the advancement of urbanization, the real estate industry has developed rapidly. Risks in the real estate market continued to accumulate, featuring high price, high leverage, high financialization and high relevance. The development of real estate industry was a process in which debt ratio ascended continuously, and now the debt ratio has reached a higher risk level. In this process, China's economy was based on real estates, and the latter was highly financialized. Among them, real estate loans still accounted for a large proportion of financial institution loans (29% in 2019), and real estate development was closely related to local government land

finance. At the same time, the trend of real estate was also an important influencing factor of the change of residents' leverage ratio. This shows the financial relevance of real estate industry. The real estate market in first-tier cities and some second-tier cities presented strong financial attributes and brought huge siphon effect, deviating from real economy to virtual economy. A large part of real estate financing demand was obtained through the shadow banking system. This was a cross-border and highly related real estate financial ecosystem. The risk of real estate may lead to the deterioration of asset quality of financial institutions, and to local financial risks and even systemic financial risks. All localities had to be cautious and meticulous in dealing with real estate. This fully reflects the high risk of the real estate industry.

(3) High macro leverage ratio

High leverage is the total root of macro-financial fragility, which is reflected in excessive debt in the entity sector and excessive credit expansion in the financial sector. The risk of macro leverage ratio can be analyzed from three dimensions: risk level, growth rate and structure.

In terms of risk level, the leverage ratio of China's real economy sector in 2019 was less than 250%, very close to that of the United States, but much higher than the average level of 190% in developing economies. In terms of growth rate, from 2008 to 2016, China's leverage ratio increased by nearly 12 percentage points per year, almost twice the global leverage ratio in the same period. China's leverage ratio risk was worthy of attention from both the risk level and growth rate. However, the bigger problem lies in the structure of leverage ratio. In 2019, the leverage ratio of Chinese residents was 55.8%, the government (explicit) leverage ratio was 38.3%, and the enterprise sector leverage ratio was 151.3%. Compared with the international market, the most "abnormal" was the leverage ratio of enterprises, basically ranking first in the world. On the surface, these problems and risks were found in the enterprise sector, but in-depth analysis shows that the crux lies in the public sector. Reasons for this may be as follows. First, among corporate debts, state-owned enterprise debts accounted for more than 60%, and about half of the debts of state-owned enterprises were so-called financing platform debts. If the debt of financing platform was deducted, the leverage ratio risk of the enterprise sector would be less prominent. Second, just because of this, we reconstructed the macro leverage ratio: classifying state-owned enterprises, central governments and local governments as public sector, and classifying residents and non-state-owned enterprises private sector. In 2019, the leverage ratio of the public sector was about 140%, while that of the private sector was about 105%. The leverage ratio of public sector in China is much higher than that of private sector, rarely seen in the world. Third, the high leverage ratio of China's public sector is mainly due to the lack of rigid constraints on debt expansion of state-owned enterprises and local governments, thus reflecting the "institutional feature" of China's debt accumulation.

Through international comparison, we can find special features of China's macro leverage ratio structure. According to the data of International Finance Association (IIF), the leverage ratio of private sector is much higher than that of government (public) sector in the world. Among them, the average difference between emerging

economies is more than 80 percentage points, the average difference between developed economies is more than 50 percentage points, and the average difference among all economies is more than 60 percentage points. This reflects the particularity of China. Because there are a large number of state-owned enterprises in the public sector, there is a “reversal” between the two, that is, the leverage ratio of the public sector is higher than that of the private sector. From the perspective of the proportion of government (public) sector debt to real economy sector debt, emerging economies account for 27%, developed economies account for 40%, and all economies account for 36%. It is more than 50% in China. The only similar country to China is Japan. Before 2004, the leverage ratio of the private sector was greater than that of the government (public) sector in Japan. Since the Bank of Japan implemented quantitative easing policy and qualitative quantitative easing policy at the beginning of the new century, the relationship between them has reversed, and the leverage ratio of government (public) sector started to be higher than that of private sector. Now the gap between them has reached 70 percentage points.

The above analysis shows that the core of high leverage risk lies in the accumulation and agglomeration of debt risks in the public sector.

15.2.2 Enhancing Financial Resilience and Maintaining Financial Stability

(1) Enhancing financial resilience

There is no an authoritative or unified definition of financial resilience as it generally corresponds to financial fragility and is closely related to financial stability and risk prevention and control. It is also believed that financial resilience in a broad sense is related to the rapid recovery of financial functions and the ability of sustainable financial development. Whatever the perspective, improving financial resilience is an important task of China’s financial work.

First, we need to improve the ability of financial institutions to resist risks and provide services. Based on international practices, we will broaden the capital replenishment channels of financial institutions, speed up the issuance of new capital replenishment instruments such as preferred shares and perpetual bonds, and transform existing capital replenishment instruments to meet regulatory requirements such as the total loss absorption capacity (TLAC). We will deepen the structural reform of the financial supply side, so as to adapt to high-quality economic development, optimize the financial system structure, and rationally arrange large, medium and small financial institutions. The development of private banks and community banks will be boosted to comprehensively promote the reform of city commercial banks and rural financial institutions, and increase financial services for small and micro enterprises and those engaged in fields related to “agriculture, rural areas and farmers”, and in scientific and technological innovation. The innovation of financial science and technology will be strengthened to support the development of financial industry

with modern technologies such as big data and cloud computing, and enhance the adaptability of finance to real economic services.

Second, enhancing the resilience of the capital market. We will deepen the reform of the stock issuance registration system, implement the registration system in all stock markets based on information disclosure, and choose the listing companies and transaction price by the market so as to create a standardized, transparent, open, dynamic and resilient capital market. We will reduce transaction costs and transaction damping, and let the market decide the rise and fall or prices without administrative intervention on the basis of counter-cyclical adjustment of leverage and prevention of systemic risks, so as to give full play to the decisive role of the market in resource allocation. We will accelerate the “legislative reform and abolition” of relevant laws, increase delisting efforts to achieve survival of the fittest, greatly increase the cost of violating laws and regulations in the capital market, and impose a fine several times of the transaction amount instead of the profit amount for violators, so that violators will be sentenced criminal imprisonment instead of money punishment. Efforts will be made to optimize the investor structure, strengthen investor education, introduce domestic and foreign long-term institutional investors into the market, and consolidate the micro foundation for the smooth operation of the capital market. We will accelerate the construction of multi-level capital markets. We will deepen reform of the National Equities Exchange and Quotations (NEEQ or the New Third Board), clarify independent open market positioning of the New Third Board, improve the public and non-public offering system, make a good connection with the listing and trading of Shanghai and Shenzhen Stock Exchanges, reasonably determine and appropriately lower the threshold of qualified investors, and implement various trading methods such as market makers, call auction, centralized bidding, block trading and agreement transfer to enhance the investment and financing functions of the New Third Board. We will accelerate the development of private equity funds, reform and improve the supervision system of private equity funds, establish a moderately strict and risk-oriented supervision concept, and unify the regulatory authorities and rules. We will further develop and expand the bond market, strengthen the innovation of bond products, coordinate the regulatory rules of issuance, trading and investor qualifications in the inter-bank and exchange bond markets, and unify the law enforcement in the bond market. In addition, the development of regional equity market will be standardized so as to build an important platform to serve the financing of SMEs.

Third, promoting the reform of financial market infrastructure. We will define the scope of financial market infrastructure, strictly enforce market access, unify regulatory rules, strengthen overall supervision and prevent regulatory arbitrage. We will make efforts to realize the interconnection of bond market infrastructure, and eliminate the segmentation of bond market. In addition to financial market infrastructure managed by the financial management department in international practice, the personnel and operation management of other financial market infrastructure will be decoupled from the financial management department so as to prevent “paternalism” and “sphere of influence” and avoid “being both a referee and an athlete”. A state-owned financial market infrastructure holding group will be established

to promote the integration of state-owned financial market infrastructure. We will steadily advance the commercialization process of financial market infrastructure, and transform qualified financial market infrastructure into a company system on a pilot basis to enhance operation and management capabilities. We will strengthen the construction of social credit system, build a unified and shared credit information platform, greatly increase the cost of breaking promises, and create a good credit culture.

(2) Improving financial governance capacity

Financial governance capacity is an important guarantee to prevent and resolve financial risks. On the one hand, the monetary policy control mechanism will be improved. We will basically realize the transformation of the quantity-based monetary policy regulation framework to a price-based one. Efforts will be made to study and clarify the rules of money supply growth so that the growth rate of M2 and social financing scale basically matches the nominal GDP growth rate when the economic growth rate is within a reasonable range. This will help maintain reasonable and abundant liquidity, and also reasonably controls macro leverage ratio and enhance financial resilience from the total amount of money. We will basically complete the marketization of interest rates and smooth out the transmission mechanism of monetary policy. We will see to it that the official loan benchmark interest rate is cancelled so that a more market-oriented interest rate is used as the loan pricing benchmark. On the premise that the deposit interest rate level is basically stable, the official deposit benchmark interest rate will be abolished in due course to realize the marketization of deposit interest rate. The construction of a clearer interest rate corridor mechanism will be accelerated. We aim to expand the scope of primary dealers in open market operations and increase the transmission channels of central bank funds. We will strengthen the communication between the central bank and the market and improve the transparency of monetary policy. We will consolidate the coordination among monetary policy, fiscal policy, industrial policy and regulatory policy. On the other hand, we will increase efforts to strengthen financial regulation. Our efforts will be focus on improving the macro-prudential management system, strengthening counter-cyclical adjustment of capital buffer and leverage level, strengthening supervision of systemically important financial institutions, and carrying out the additional paid-in capital system and the “living will” system. More efforts will be made to strengthen micro-prudential supervision and behavior supervision, so as to strictly enforce market access for financial business and financial institutions, and prohibit financial business without approval. We also aim to raise liquidity supervision requirements, consolidate corporate governance supervision, strengthen shareholder qualification examination and capital requirements, standardize related party transactions, prevent insider control, and prevent moral hazard. Under the premise of controllable risks, we will make appropriate efforts to develop comprehensive operations, strengthen the supervision of financial holding companies, reduce the level of parent-subsidiary companies, control the complexity of financial business, and enhance transparency. We will strengthen the supervision over new business

forms such as Internet finance, clarify market access and shareholder qualification requirements, and establish regulatory rules compatible with financial business and risk spillovers. The coordination mechanism of financial supervision will be improved to clarify the division of responsibilities among macro-prudential management, micro-prudential supervision and behavioral supervision. More efforts will focus on establishing and improving the coordination mechanism of central and local financial supervision, so as to enrich the supervision force and enhance the supervision professionalism.

(3) Building a “firewall” of financial risks

To prevent financial risks, we feel it necessary to build a “firewall”. On the one hand, with further expansion of financial opening, we will strengthen institutional guarantee and maintain financial security. On the other hand, we will improve the financial risk disposal mechanism. (1) Improving the level of two-way opening up of the financial industry. In the future, we will see to it that the market plays a decisive role in the formation of exchange rate, so as to maintain the flexibility of RMB exchange rate, and improve the regularity, transparency and marketization of the formation of the central parity of RMB exchange rate. Under the premise of controllable risks, we will align with international standards to accelerate the two-way opening of the financial industry, strengthen cooperation with international financial centers such as Europe, the UK and Hong Kong SAR of China, and realize a highly interdependent community of common destiny. Expanding the intersection of domestic and overseas interests (especially allowing foreign investors to share the dividends of China’s economic growth in expanding financial opening) will not only boost the competitiveness of China’s financial industry, but also improve China’s financial checks and balances and counter-measures, and enhance financial endogenous resilience. In accordance with the principle of national treatment, we will relax or cancel the access conditions of foreign-funded financial institutions, and allow fair participation in market competition. All kinds of hidden discrimination will be removed to combine the characteristics of foreign-funded financial institutions and realize real national treatment access. In the process of opening up the financial industry to the outside world, we will strictly implement various national security systems and requirements, promote two-way opening of the financial market on the premise of safeguarding national security, and carry out cross-border regulatory cooperation in a rational, beneficial and restrained manner. The reform of “convertibility under capital account” and “managed floating exchange rate” will be further promoted, but it is necessary to leave some space according to the actual situation of our country. We will strengthen interconnection operation monitoring and risk prevention and control in an all-round way, ensure smooth operation of financial markets, and earnestly safeguard core interests such as national financial security and network big data security. Our focus will be put on establishing and improving the national financial security review mechanism, so as to improve relevant laws and regulations, greatly increase the penalties for violations of laws and regulations by overseas subjects, and “leave room for improvement” in compliance with laws and regulations to ensure national financial security. (2) Improving the financial risk disposal mechanism. The deposit insurance

system will be improved to broaden the functions of deposit insurance institutions in the fields of early intervention and disposal of financial risks, increase the amount of deposit insurance protection, and clarify the repayment methods of social insurance funds, housing provident fund deposits and financial deposits. The coordination between deposit insurance and the central bank, financial supervision departments and financial departments will be strengthened to establish a market-oriented, legal and institutionalized financial risk disposal mechanism based on deposit insurance. We will make improvement in the financial industry guarantee fund system, integrate and make overall use in a timely manner, and enhance the ability of risk relief. We will increase efforts to conduct cost-benefit analysis of financial risk disposal, strengthen financial constraints on the central bank and finance, reasonably weigh the costs of monetary policy and fiscal policy in financial risk disposal, and enhance the awareness that the losses are ultimately borne by taxpayers. The division of responsibilities between the central and local governments in financial risk disposal will be clarified to strengthen coordination and cooperation.

15.3 Macro Control Innovation

15.3.1 *High-Quality Development Requires High-Quality Macro Control*

China's economic development has entered a new era, and its basic feature is that the economy has changed from a high-speed growth stage to a high-quality development stage. To promote high-quality development, we will innovate and improve macro control, and establish a macro control system that meets the requirements of high-quality development, so as to, on the one hand, keep the balance of economic aggregates and smooth the fluctuation of economic cycle, and on the other hand, guide adjustment of economic structure and optimization of productivity layout to achieve higher quality, more efficient, fairer and more sustainable development. In a word, high-quality development requires high-quality macro control.

- (1) High-quality development requires improving macro control objectives rather than increasing GDP

Macro control must adapt to the inevitable requirements of China's development entering a new stage and changes in major social contradictions, and focus on high-quality development to solve problems of insufficient imbalance. This inevitably requires further enriching and perfecting the target system of macro control.

The idea of macro control must focus more on achieving sustained and healthy economic development and strengthening the convergence and balance between control objectives. First, strengthening the overall planning of total indicators and structural indicators. This will help prevent drastic fluctuations in economic operation, and maintain the balance of economic aggregate. It can also effectively guide

all parties to intensify supply-side structural reform and continuously improve the quality and efficiency of economic development. This is what the macro control must observe.

The target system of macro control will focus on high-quality development and fully embody the five development concepts. China's economy has entered a new normal, and its growth rate has also slowed down. If this new development concept is ignored, the macro policy will tend to adopt stimulating means, and the government will allocate resources and guide enterprises to invest with subsidy guarantee. The growth rate stimulated this way cannot achieve the purpose of increasing effective supply, raising people's living standards, and improving development quality and efficiency because it is not accompanied by the improvement of enterprise competitiveness, by the enhancement of financial capacity and by the expansion of public goods supply, let alone innovative development, coordinated development and shared development. On the contrary, if we follow the concept of innovation-driven development and coordinated development, we will address deep-seated problems such as structural imbalance, biased development mode and lack of innovation ability in the real economy. It requires early transformation of macro control to take transformation of economic development mode and development of the real economy as the real foundation of China's development. We will also slow down demand management based on stimulating means, and accelerate the adjustment of supply-side system and mechanism. What actions to be taken are usually determined by the goal we are pursuing. The macro control goal in the new era will not be limited to economic growth or GDP, but will be based on broader goals and guided by the five development concepts to achieve high-quality development.

(2) High-quality development requires macro control to proceed from system theory and seek dynamic balance among multiple goals

Macro control aims to achieve multiple purposes, e.g. maintaining the balance of economic aggregate, restraining inflation, promoting the optimization of economic structure, sustainable development, realizing stable economic growth, and maintaining the balance of international payments. In 2019, the Central Economic Work Conference proposed that we should promote high-quality development, make progress in the three critical battles; step up efforts to ensure stability on six fronts and maintain security in six areas, promote steady growth, deepen reform, adjust structure, improve people's living standards, prevent risks and ensure stability, and keep the economy running in a reasonable range. Broadly speaking, these are the goals of China's macro control. Considering both consistency and conflict among multiple objectives, we must grasp the dynamic balance between them. This is a test for macro control authorities.

At the beginning of reform and opening-up, macro control focused on promoting reform and development, and paid little attention to stability and risks to a certain extent. In 1988, we learned a big lesson in unlashes price control. As a matter of fact, until the current international financial crisis, little attention was paid to risks, and if any, it was mainly inflation risk. This was caused by insufficient understanding of systemic financial risks and by lack of effective countermeasures. Since the current

crisis, financial risks, especially high leverage and debt risks, have become prominent, and the risk dimension has become an important dimension that needs serious consideration in macro control. At present, the world economic growth continues to slow down, and it is still in a period of deep adjustment after the international financial crisis. The characteristics of accelerated evolution of great changes in the world have become more obvious, and the sources of global turmoil and risk points have increased significantly. Therefore, preventing and defusing systemic risks is the first of the three battles, which also makes the weight of risk dimension increasing among multiple targets. No systemic risk is the bottom line for achieving high-quality development. This means that macro control should take into account the balance between stable growth and risk prevention, and grasp the relationship between them from a dynamic perspective. In fact, steady growth and risk prevention are only a simplified expression of multiple targets.

To grasp the dynamic balance among multiple goals, we need to look at problems from the perspective of development. There must be trade-offs between different goals, as it is impossible to be “even-handed” in this regard. For example, the focus of China’s policy was sometimes partial to steadying growth, and at other times it tended to prevent risks. This deviation did not indicate that there is something wrong with the policy. On the contrary, if we persist in policy regulation and control, it may become rigid and not conducive to the realization of balance at any time when facing multiple goals. In terms of regional development, for example, the central government proposed forming several new power sources that could drive high-quality development of the whole country, especially the Beijing-Tianjin-Hebei region, the Yangtze River Delta and the Pearl River Delta region, as well as some important urban agglomerations. Imbalance is common, so we will seek for relative balance in development. This is the dialectics of regional coordinated development. “Seeking relative balance in development” is precisely the best interpretation of dynamic balance.

(3) High-quality development requires well-measured macro control

Macro control policy, also known as stabilization policy, aims to smooth out fluctuations and prevent economic ups and downs. However, it is not easy to ensure that macro control will not cause economic fluctuations, aggravate fluctuations or even lead to “dangerous situations” due to excessive policies. The so-called “well-measured” has always been a very important concept in Chinese philosophy, and “how to be well-measured” fully reflects the connotation of high-quality macro control.

First, properly handling the government-market relationship to define the “boundaries” of macro control. To ensure well-measure macro control, we need first to correctly handle the government-market relationship and understand their boundaries because macro control can hardly resolve all the problems. In China, the boundary scope of macro control has not been clearly stated. From the perspective of regulators, there is a tendency to generalize macro control. Because there are many macro control objectives, there must be as many policy means according to the “Dingbergen Law”. Considering that China is still in the process of transformation, development

and drastic structural changes, and the current macro control system and means are not perfect, it is difficult for it to avoid the generalization and even offside of macro control. In particular, the generalization of macro control has a self-reinforcing logic. On the one hand, when the economic system is imperfect and we can't completely rely on market means to solve all the problems, administrative means and micro-intervention will come on stage, which proved truly effective. On the other hand, the generalization of macro control will restrict the role of market mechanism, which is not conducive to the real formation of market mechanism. In turn, it "creates conditions" for generalization of the next round of macro control. From the perspective of regulation objects, there was a certain degree of dependence on government regulation. For example, when the economy is sluggish, we expect stimulus, and when the stock market falls, we expect the government to take action. Not only did some decision-making authorities think that macro control was omnipotent, but also ordinary market participants and regulated enterprises believed that macro control could resolve all the problems. It is problematic for those who expect major or minor events in the economy, such as fluctuations and good market conditions, will be solved by macro control. Macro control "works only when necessary", and frequent intervention in the market is not only detrimental to ironing fluctuations, but may aggravate fluctuations. Worse still, it may interfere with normal operation of the market mechanism and is not conducive to the decisive role of the market. Macro control is essentially a kind of government intervention in the market, which must be based on and act according to the laws of the market. Macro control is premised by respecting and trusting the market. It cannot resolve all the problems. This is the basic principle for properly handling the government-market relationship and grasping the boundaries of macro control. Macro control in the new period is based on the "market determinism", so it follows market rules and minimizes government intervention in microeconomic activities. We will consolidate the institutional foundation of macro control, improve the policy transmission mechanism, and make more use of market-oriented and legal means such as price, taxation and interest rate to achieve control objectives, optimize resource allocation and move towards high-quality development.

Second, providing policy support by pre-tuning, fine-tuning and range-based macro-control. Pre-tuning and fine-tuning are important ways to grasp policy support and avoid market disturbance. The so-called pre-tuning means pre-regulation to prevent economic fluctuations. There is always a time lag for any policy from proposal to implementation and further to being effective. This time lag needs to be taken into account in policy pre-tuning; if otherwise, when the policy begins to play its role, the problem for which the policy is designed is already gone, especially in the face of short-term fluctuations. Pre-tuning can make the policy work at an appropriate time. As an ahead-of-schedule action, pre-tuning may not be so potent. If pre-tuning is made after the event, it will require greater regulation and control, and the cost will be higher. Fine-tuning refers to the government's moderate use of policy tools to

constantly adjust small changes in economic operation, which can reduce the amplitude of economic cycle and give full play to the best effect of macro control. Fine-tuning is actually adopted during the great moderation of macro-economy in developed economies, where there are no obvious economic cyclical changes. Fine-tuning is aimed at the “normal period” to avoid “irrigation by flooding (i.e. expansionary monetary policy)”, and highlight restraint in the intensity of policy implementation. However, the grasp of policy strength depends on a comprehensive understanding of the macroeconomic situation. For normal growth rate shifts, we must follow market laws, maintain concentration and tolerance, and make fine adjustments. However, at “extraordinary times”, e.g. major risks such as the international financial crisis in 2008 and the COVID-19 in early 2020, the government is required to take quick and accurate measures. Therefore, whether it is moderate or strong stimulus depends on the needs of the macro situation. Do not cling to the idea that fine-tuning must be better than strong stimulus. The so-called range-based macro-control means that an absolute number is not simply determined, but can be appropriately adjusted within a certain constrained interval. This constraint includes the “upper limit”, “lower limit” and “bottom line”. To be more precise, range-based macro-control means that we must keep the “lower limit” of stabilizing growth and ensuring employment, grasp the “upper limit” of preventing inflation, and never step over the “bottom line” of improving people’s living standards and avoiding financial risks. The “upper limit”, “lower limit” and “bottom line” have delineated the reasonable range of macroeconomic operation, and establish the reference basis for policy implementation, so that there must be rules for macro control. This is quite different from our past practice of simply setting absolute numbers. Focusing on specific values makes macro control have less room for manoeuvre, and often dances with the fluctuation of a certain index. Range-based macro-control makes regulation easier so that we will not frequently take macro-control measures due to short-term fluctuations of macro indicators. As long as the economy runs in a reasonable range, we can keep the macro-policy basically stable, without strong stimulus and major policy adjustment, thus creating favorable conditions for grasping the strength of implementing macro-control policies.

Third, grasping the policy accuracy by structural regulation. China’s economy is faced with more structural problems than total economic output problem. Structural regulation has become an important aspect of understand China’s policy accuracy. The structural problems of China’s economy can be summarized as follows: (1) the institutional structure, involving state-owned and non-state-owned, institutional transformation and dual-track transition, central-local relations, government-market relations, etc., and (2) economic and social structure, including industrial structure, regional structure, distribution structure, growth impetus structure, urban–rural dual structure, and population age structure. The existence of a series of structural problems in the process of drastic structural changes has made structural regulation very necessary. (1) Drastic structural changes mean changes in the basis of macro control and changes in policy transmission mechanism, which may lead to the failure of total regulation. (2) Rapid structural changes have caused changes in factor returns and factor flows, which may easily lead to structural imbalances when price signals are

inaccurate and imperfect so as to make structural regulation necessary. (3) Drastic structural changes and structural imbalances have made many problems not simply short-term macro-stability problems but related to the coordination between short-term macro control and medium-and long-term development. Therefore, structural adjustment is particularly critical for medium-and long-term sustainable development. It is generally believed that fiscal policy can play a greater role in structural regulation, while monetary policy mainly plays a role in aggregate regulation. In recent years, however, the “structural” monetary policy has also been implemented. In other words, we introduced differentiated credit policies by targeted cuts in the required reserve ratio, such as refinancing support for agricultural purpose, small financial institutions and poverty alleviation. We also established pledged supplementary lending (PSL), major water conservancy project loans and RMB “going out” project loans to provide long-term stable and cost-effective sources of funds for development of shantytown renovation. We also managed to solve the problem of relatively insufficient qualified collateral of local legal person financial institutions. These actions were aimed to guide financial institutions to increase financial support for key areas and weak links of the real economy sector, so as to meet the requirements of “making up for shortcomings” and moving towards a new stage of high-quality development in the supply-side structural reform. However, structural regulation needs to be treated dialectically. (1) One of the assumptions for the effectiveness of structural regulation is that the market is divisible. Otherwise, policy differences may lead to policy arbitrage. However, we cannot make sure if the market can be truly segmented in operation. (2) In the case of strong market heterogeneity, we may be forced to adopt targeted and structural policies. Otherwise, it may strengthen this heterogeneity and imbalance, and even lead to artificial market segmentation, which is not conducive to the formation of market integration and the improvement of market development. (3) The implementation of structural policies is based on the premise of emphasizing differences, thus leading to the bias and discrimination of policies, which goes contrary to the principle of fairness, distorts the market and hinders the improvement of resource allocation efficiency. This means that the accuracy of macro control policies should not be overemphasized.

15.3.2 An Important Measure for High-Quality Macro Control

- (1) Promoting supply-side structural reform in the whole process of macro control to achieve high-quality development

High-quality development is aimed to achieve changes in quality, efficiency and driving force. It is a development transformation in the new era. This requires China to carry out supply-side structural reform to solve deep-seated problems such as institutional and structural problems during economic development. In this sense, we must scientifically and steadily grasp the counter-cyclical adjustment of macro

policies, enhance the vitality of microcosmic subjects, and implement supply-side structural reform throughout the whole process of macro control. This proposal highlights the dialectical unity of macro control and institutional reform. Policy-makers cannot focus on macro stability (especially when the economy is overheating and going down); instead, they may pay more attention to short-term “bailout” than to reform. Nor can we ignore macro stability in order to promote reform. From the perspective of dialectical unity, both cannot be neglected, but we are more likely to make the mistake of delaying reform for macro stability (such as maintaining growth).

First, the main contradiction lies on the supply side, so it is necessary to promote the structural reform on the supply side. At present and in the future, China’s economic development faces problems on both sides of supply and demand, but the main contradiction lies on the supply side. In other words, China’s demand is not insufficient or there is no demand, but the demand has changed when the supplied products have not changed, let alone the quality and after-sales service. The contradiction of insufficient development imbalance is mainly caused by the supply side. Therefore, from the perspective of macro control, we must focus on both supply and demand, but we need to make a distinction between the primary and the secondary. We should focus on improving the supply structure and deepening supply-side structural reform to achieve economy development. Furthermore, China’s economy is currently faced with a principal contradiction, i.e. structural slowdown. In the medium and long term, China’s economy has various “supply constraints” in population and labor, capital and finance, resources and property rights, technology and innovation, system and division of labor, etc. The long-term potential growth rate of economy can be improved only by relaxing the birth control of population, unshackling the household registration system, reducing capital and financial control, optimizing the property right structure of land and resources, and promoting the institutional reform in inefficient areas such as state-owned enterprises. Therefore, we will step up efforts to improve the medium and long-term supply capacity. By strengthening innovation-driven development and optimizing and upgrading the economic structure, we will focus on improving the efficiency of factor output, the potential economic growth capacity and the quality and efficiency of economic development. To sum up, the ultimate goal of supply-side structural reform is to satisfy demands. In order to improve supply quality, we will have to deepen reform. The fundamental role of macro control is to balance aggregate demand and aggregate supply. We focused on the “gap” between actual output and potential output, but now we need to focus on potential output itself.

Second, the fundamental problem of ineffective macro control lies in the system and structure. China’s current problems include periodic, structural and institutional problems and contradictions. Therefore, reform must be carried out throughout the whole process of macro control. Take deleveraging as an example. The leverage problem is certainly related to the cycle, but there is a deep institutional reason behind it, that is, the public sector is expanding at a faster speed (typically state-owned enterprises and financing platforms), and accounts for a higher proportion. In this way, deleveraging needs to focus on the structure and public sector reform, such

as canceling implicit guarantees, intensifying budget constraints, and correcting the ownership preferences of financial institutions. Without these institutional reforms, we will see the result that the enterprise sector seems to have made achievements in deleveraging only in private enterprises, and the debt ratio of state-owned enterprises kept rising. Another example is the effect of monetary policy. Due to unsmooth transmission mechanism, the Central Bank's efforts to reduce required reserve ratio or cut interest rates may not have effect on SMEs. As a result, the "structural monetary policy" have been worked out and issued. Fundamentally speaking, the structural monetary policy serves as a last resort. More importantly, we need to break down barriers in the monetary policy transmission mechanism through reform. Therefore, we will deepen basic reform and improve the macro-policy transmission mechanism to create a good environment for effective implementation of macro control. This includes: (1) enhancing the automatic "stabilizer" function of fiscal policy through the reform of fiscal and taxation system; (2) enhancing the "breakwater" function of the exchange rate system through reform of the exchange rate formation mechanism; (3) improving the efficiency of price-based monetary policy tools through the reform of interest rate marketization; (4) improving the efficiency of macro-prudential policies through the reform of financial system and the rectification of market order; and (5) building a micro-foundation for high-quality development through the reform of state-owned enterprises.

Third, optimizing the spatial planning of national land and releasing new driving forces for economic growth. The national development strategic plan, which focuses on the five-year plans, is the "Chinese characteristic" of macro control, and it is also an institutional advantage highly praised by western mainstream scholars. For macro control in the new period, we will put more emphasis on the macro thinking that strategic planning guides economic development so as to have a good understanding of the general thinking and direction of macro regulation and control. What needs special emphasis here is to optimize the spatial planning of national land and release new driving forces for economic growth. The general guidelines are as follows: promoting the concentration of industry and population to advantageous areas, creating sources of growth driving forces with urban agglomeration as the main form, and promoting the overall efficiency of China's economy. We will spare no efforts to break down the barriers of resource flow, make the market play a decisive role in resource allocation, promote the free flow of various production factors into advantageous areas, and improve the efficiency of resource allocation. We will enhance the driving force for innovative development, speed up the construction of a high-quality development power system, and boost the economic and population carrying capacity of regions with economic development advantages such as central cities and urban agglomerations, so as to consolidate the functions of other regions in ensuring food security, ecological security and border security, and create a regional economic pattern with complementary advantages and high-quality development. To speed up the reform of the land management system, the construction land resources will be provided for principal cities and key urban agglomerations. On the premise that the national land spatial planning and rural land confirmation certification have been basically completed, the provincial government will be largely responsible

for the use of urban and rural construction land supply indicators. Greater space for development will be provided for advantageous areas. To sum up, the spatial planning of national land will shift its focus from achieving balance and coordination to improving innovation and efficiency. Imbalance is common, so we will seek for relative balance in development. This is the dialectics of regional coordinated development.

Fourth, stabilizing aggregate demand by means of reform. Our general idea for expanding and stabilizing aggregate demand is the use of stimulus policies. However, the demand problem cannot be solved on the demand side; instead, it often needs to be solved on the supply side and from the institutional mechanism. Therefore, the aggregate demand will be stabilized by means of reform rather than stimulus. (1) In terms of consumption, we will make adjustment of the income distribution pattern, expand middle-income groups, and release consumption potential. On the supply side, we will step up efforts to promote the opening and improve the quality of the service industry so as to meet social demands for high-quality services. Our priorities will be given to improving service industry consumption, and promoting the upgrading of service industry and service consumption, with the aim to increase social expenditure, build a social safety net, and minimize worries about consumption. (2) In terms of investment, we will focus on effective investments that can make up for shortcomings and improve people's living standards, including investments in poverty alleviation, renovation of old urban communities, infrastructure construction related to the development of urban agglomerations, and construction of the integrity of industrial chain innovation chain. Funds will be guided to flow into advanced manufacturing, construction of projects related to improving people's living standards, infrastructure shortcomings and other fields that benefit both supply and demand, and promote the upgrading of industry and consumption. Further efforts will be made to open up market promote and public-private partnership (PPP) so as to provide more development space for private economy, stimulate the vitality of private investment, promote the protection of private property rights, stabilize expectations, and give confidence to private entrepreneurs. (3) In terms of external demands, we will step up efforts to enhance institutional opening up based on rules and related institutions. To achieve this purpose, we will continue our efforts to foster a business environment that is based on market principles, governed by law and up to international standards, boost the construction of the "Belt and Road", promote the conclusion of bilateral and multilateral trade agreements, and expand international cooperation space and international markets. We will also spare no efforts to maintain foreign learning channels and gain new globalization dividends.

(2) Emphasizing the dimensions of risk and security and reshaping the macroeconomic policy framework

The 19th CPC National Congress proposed that risk prevention should be the first of three critical battles (against potential risk, poverty and pollution). All economic activities should be aimed to forestall systemic risks. Macro control must take into consideration the risk dimensions. This may bring about the reshaping of macroeconomic policy framework in the following aspects. (1) The change of macro-policy

focus, which used to be the trade-off between employment and inflation, is now the balance between stable growth and risk prevention. (2) The change of macro-policy tools. To cope with risks, we will enrich and replenish the policy tools.

First, adjusting the focus of macroeconomic policies.

In macro control, the occurrence of risk (and security) dimensions has also gone through a process. In 2014, the Central Economic Working Conference stated that the key is to maintain a balance between steady growth and structural adjustment. At this time, the risk problem was not directly reflected in policy objectives. In 2015, the Central Economic Working Conference stressed again that we would coordinate the efforts to stabilize growth, readjust the structure, improve people's livelihoods and prevent risks. "Preventing risks" was proposed for the first time; moreover, "deleveraging" was proposed in October 2015 from the perspective of risks. In 2017, the 19th CPC National Congress proposed "three critical battles (against potential risk, poverty and pollution)" to prevent and resolve major risks, with emphasis on preventing financial risks. Ever since then preventing risks has become the focus of economic work. In 2019, the Central Economic Working Conference stressed that "we will work holistically to pursue stable growth, continued reforms, structural adjustments, and higher living standards, and guard against risks while ensuring stability", not only highlighting risks but also supplementing "ensuring stability", which has gone beyond the economic and financial level and covered the stability and unity of the whole society. This can be understood from the perspective of national security. Generally speaking, risk and security are two sides of a coin, and there is no fundamental difference between them (for example, the so-called "safe assets" generally refers to low-risk assets). If there are any nuances, the word "risk" generally refers to the probability of loss in a market economy while security often involves national sovereignty. This means that a country's national economic development and economic strength are not fundamentally threatened in the era of globalization. It is clear that security has a clearer national position and a higher "political position" than risk. Especially in the context of Sino-US economic and trade frictions, concerns about food security, energy security, economic and financial security, network security, and key infrastructure are not alarmist but very pragmatic.

The prominence of risk (and security) dimensions has shifted the focus of macro-policy framework from the trade-off between employment and inflation to the balance between stable growth and risk prevention. To realize the dynamic balance between stable growth and risk prevention, we must recognize the primary and secondary relation between them. The healthy development of real economy is the basis for preventing and dissolving risks. With the distinction between what is primary and what is secondary, we can better grasp the main contradictions and put forward targeted countermeasures. We will prevent risks on the basis of steady growth, and strengthen the counter-cyclical adjustment of fiscal policy and monetary policy, so as to ensure that the economy operates in a reasonable range. In other words, we will prevent and resolve risks while promoting high-quality development. If economic growth is unstable, it may lead to and amplify financial risks and endanger financial stability. In particular, we must persist in preventing risks and controlling chaos on the basis of steady growth in response to sore points and difficulties in providing

financial services for real economy through chaos rectification. We will continue our efforts to improve financial services, guide funds to better serve major national strategies and support private enterprises and SMEs, and realize the organic unity of risk prevention, chaos control, steady growth and structural adjustment.

Second, enriching the tool kits of macroeconomic policies

Employment-first policy. Employment has always been an important factor to be considered in macro control. Although employment is very important and is often regarded as the goal of macro control, it is not satisfactory to include it in the process of specific policies. Here is an important reason. For a long time, this indicator published by the Statistics Department is the registered unemployment rate in cities and towns. Due to small statistical scope of this indicator, it can hardly be sensitive or fully reflect labor market conditions. The very limited volatility made us difficult to use it as the basis of macroeconomic policy. Therefore, the regulation and control departments judged the macroeconomic trend according to inflation rate and GDP growth rate, and the information about employment situation did not directly enter the consideration of macro control decision-making, thus leading to the imperfection of macroeconomic policy. However, if employment policy cannot be integrated into macroeconomic policy, especially if the application and implementing time of monetary policy fail to take the labor market signal as the basis, it will lead to inappropriate position of employment stabilization measures in the toolbox of macro control policies, to the lack of close connection with monetary policy and fiscal policy in implementation, and to the fact that the priority of employment objectives is easily ignored in implementation, and sometimes even replaced by the requirement of ensuring growth. Therefore, we will carry out an upgraded active employment policy to improve the statistics, collection and analysis of labor market indicators, and provide a more reliable basis for the support and orientation of macroeconomic policies. Active employment policy will be incorporated into the toolbox of macroeconomic policy, so as to stabilize the unemployment rate at the natural unemployment level, and maintain full employment as the bottom line of economic growth rate.¹¹

Social support policy. Social policies will be incorporated into the toolbox to ensure social security and safeguard people's livelihood. We will plan ahead to cope with the downward pressure of economy and the possible impact of the labor market. Since the 18th CPC National Congress, China has made great progress in improving people's livelihood. However, there are still many shortcomings in this field that need to be remedied quickly. The most urgent thing is to strengthen the implementation of policies and narrow the differences in basic public services between urban and rural areas, regions, household registration status and employment nature. Moreover, under the condition of limited resources, we will take measures to equalize basic public services and improve the level of social policy support. This will, on the one hand, provide assistance for low-income groups and maintain social stability, and on the other hand, help expand consumer demand to a certain extent.

Macro-prudential policy. In essence, macro-prudential policy will monitor economic operation from macro, counter-cyclical and cross-market perspectives.

¹¹ Cai (2019).

It aims to alleviate the adverse effects of cyclical fluctuations of the financial system and cross-market contagion of risks on macroeconomic conditions and financial market mechanisms, and to prevent financial systemic risks. Macro-prudential policies have their own toolbox, mainly “structural” tools, such as counter-cyclical capital buffer, capital adequacy ratio requirement, loan-value ratio, debt-income ratio and so on. China’s macro-prudential assessment is based on three aspects. First, China’s commercial banks are occupying an important position in the financial system, and their on-balance-sheet activities may affect general credit, while off-balance-sheet activities, especially off-balance-sheet financial management, may affect credit creation, as it is the main body of domestic credit creation activities. Therefore, macro-prudential policies will focus on monitoring and restraining the credit creation activities of financial intermediaries to avoid procyclicality in credit collection and withdrawal. Second, real estate is an important object of macro-prudential assessment. The current macro-prudential evaluation system has a small coverage of the real estate market, and its policy tools need to be enriched. It is thus necessary for China to further implement the national principles and policies for the real estate market, so as to improve the corresponding evaluation tool system, and guide financial institutions to make reasonable investments. Third, macro-prudential policies should not harm China’s real economy simply because they need to prevent or deal with risks. Considering the characteristics of China’s development stage, we will give equal priorities to both financial stability and financial development. This is why China has established the Financial Stability and Development Committee under the State Council, while it is called the Financial Stability Board (FSB) in international arena. Considering the dual goals of stability and development, macro-prudential policies may lead to different effects.

(3) Strengthening the coordination between fiscal and monetary policies and improving the coordination mechanism of macro control

Macro control has multiple objectives and tools, and it is particularly important to strengthen the coordination of different policies. We will exert the synergy of policies and improve the efficiency of policies, and will also avoid the superposition effect of policies and excessive regulation. What is involved in the coordination of macro policies is the macro control mechanism. On the one hand, this paper discusses the key points of coordination between fiscal and monetary policies; and on the other hand, it discusses how to further improve the coordination mechanism of macro control.

First, strengthening the coordination between fiscal policy and monetary policy.

Fiscal policy and monetary policy need to be coordinated at least for the following three reasons. (1) The time lag problem. Time lag here has two different meanings. From the perspective of law and policy procedures, fiscal policy (such as reviewing deficit scale and adjusting tax base rate, etc.) has a longer time lag, while monetary policy (such as interest rate, deposit reserve ratio and other innovative tools) changes with the situation, and has a shorter time lag and more flexibility. However, as far as the implementation effect is concerned, the time lag of fiscal policy is much shorter. For example, policies such as tax reduction, fee cuts and targeted subsidies generally take effect quickly, while monetary policy, because of its long transmission

channel and poor transmission mechanism, will have a long time lag in its final effectiveness. Here is a typical example. During the outbreak of the COVID-19 in 2020, fiscal policy was considered the leading policy, while monetary policy played an auxiliary role. (2) Functional problems. Generally speaking, as compared with monetary policy, fiscal policy has more advantages in structural adjustment. This is because the monetary control policy corresponds to funds, which is characterized by high mobility. It is therefore difficult and costly to monitor the directional flow of funds, and it is easy to generate arbitrage space. The structural tools of macro policies are more reflected in fiscal policy, including targeted tax reduction, burden reduction and financial subsidies, etc., which can realize the regulation and control of economic structure through differential design of policies. Therefore, fiscal policy is more suitable for targeted objects than monetary policy, producing direct and effective results and smaller deviation. Besides, in a specific macro environment, e.g. facing the lower limit of zero interest rate, conventional monetary policy often fails (and can only become “unconventional”), while fiscal policy can play a greater role. (3) The cost problem. This problem has been seldom discussed in theoretical circles. For example, there were different views on whether to relieve economic crisis by issuing bonds or currency. According to modern monetary theory (MMT), issuing bonds is essentially the same as issuing money. This is because the fiscal authority’s expansion of debt issuance to increase fiscal deficits can finally be realized by the monetary authority’s “deficit monetization”. In reality, however, under the condition of emphasizing the independence of the central bank, it is worth discussing whether monetization of fiscal deficit is feasible. Also, there may still be cost differences between issuing bonds and issuing currency. For example, China’s macro leverage ratio has risen sharply since 2008, which was mainly caused by credit expansion, while there accumulated fewer debts caused by government issuing bonds. In fact, as compared with the cost for local financing platforms to obtain funds through shadow banking and other channels, the cost for the central government to issue bonds is much lower. For the sake of cost, it may be more beneficial to stabilize growth and prevent risks if the financial authority issues more bonds and the Central Bank issues less money (reducing the growth rate of credit expansion).

For some time, discussions about “incorporation of government finance risks into financing activities” and “incorporation of financing risks into government finance” have become the basis for monetary and financial authorities to blame each other. In fact, this also shows that it is difficult to separate government finance from financing activities, and “blaming each other” is no more than a mirror image of poor cooperation with each other. Of course, today, there have been many upgraded versions of the coordination between fiscal and monetary (financial) policies. The modern monetary theory has revealed that: the combination of government finance and the Central Bank has highlighted the inextricable connection and coordination between government finance and monetary policies, that it is far from enough to emphasize the independence of the Central Bank, because the complexity and relevance of real economy require the Central Bank to cooperate more closely with the government finance to jointly cope with the problems and challenges in economic operation.

The coordination between financial and monetary authorities aims to change the management mode of foreign exchange reserves and improve the basic money delivery mechanism. Reserve management, national debt issuance and basic money delivery mechanism are critical nodes in the arrangement of financial and monetary systems, and are also the purpose for establishing modern financial system and modern central bank system. Since 1990s, with the development of open economy, foreign exchange reserves have been increasing, and funds outstanding for foreign exchange have gradually become an important channel for the Central Bank to issue base currency. Funds outstanding for foreign exchange have once influenced monetary policy, substantially weakening the independence of China's monetary policy. After 2014, the growth rate of foreign exchange reserves declined, leading to the narrowing of the Central Bank's base currency issuance channels. Liquidity can only be released through various structural monetary policy tools such as MLF, while national debts always account for a lower proportion in the Central Bank's balance sheet. Based on this reality, we need to change the management mode of foreign exchange reserves and improve the basic money delivery mechanism. With reference to international practice, the way of incremental reform is to study the institutional arrangement for the central government to issue special treasury bonds to purchase part of incremental foreign exchange reserves when the foreign exchange reserve situation is good, and cut off the impact of foreign exchange on money supply. Stock reform, or more thoroughly, is to separate the increase or decrease of foreign exchange reserves from currency issuance. That is, the foreign exchange reserves (assets) and corresponding statutory reserves are removed from the balance sheet of the Central Bank, and then based on divestitures of foreign exchange assets, the Central Bank will expand the issuance of national debts, and establish the money delivery mechanism based on national debts.

Secondly, we will further improve the coordination mechanism of macro control.

The coordination of fiscal policy and monetary policy is only one aspect of the coordination mechanism of macro control decision-making. As a matter of fact, each macro-control department has its own goals, positions (and interests) and tools, so it is often difficult to achieve coordination and cooperation among various departments. Therefore, we need to establish a higher level cross-sectoral coordination institution or mechanism. Given China's national conditions and practice, we can consider establishing and perfecting the "3 + 2" macro control coordination mechanism based on "three departments (Development and Reform Commission, Ministry of Finance, and the People's Bank of China) + two committees (Central Committee for Financial and Economic Affairs, Financial Stability and Development Committee under the State Council)", which may invite other departments to participate when necessary, and report major issues to the CPC Central Committee and the State Council according to procedures. The basic framework is as follows:

First, establishing an inter-ministerial joint session mechanism for macro control coordination. It is mainly responsible for coordinating major fiscal policies, monetary policies, industrial policies, trade policies, price policies, land policies and other macro policies, studying and analyzing domestic and international economic situation, evaluating the effects of macro control policies, proposing macro control policy

suggestions, and coordinating and solving major problems in economic operation. Its members include the Development and Reform Commission, the Ministry of Finance and the People's Bank of China. Other departments will be invited to participate when necessary. The convener is the person in charge of the Development and Reform Commission, and liaison units consist of relevant departments of the Development and Reform Commission, the Ministry of Finance and the People's Bank of China. As a deliberation and coordination mechanism, this mechanism will not supersede departmental responsibilities. Major issues must be deliberated in accordance with prescribed procedures. The joint session will be convened in the form of quarterly regular meeting, monthly brief meeting or special meeting. The quarterly meeting focuses on analyzing the economic situation and studying coordination issues. The monthly brief meeting is seen as a liaison meeting, focusing on informing macro control policy information and strengthening work coordination. Special meetings will be convened when necessary. Through above-mentioned mechanism, we will strengthen coordination and cooperation before and during the implementation of macro control policies.

Second, the Central Committee for Financial and Economic Affairs. According to the unified deployment of the CPC Central Committee, we will work to strengthen the centralized and unified leadership of the CPC Central Committee over major work relevant to the overall cause of the Party and the state, and enhance the responsibilities of decision-making and overall coordination. The Central Committee for Financial and Economic Affairs will be responsible for the top-level design, overarching plan, coordination, promotion and supervision of the implementation of major work in the financial and economic field. In view of the extreme importance of macro control policy coordination, it is suggested that macro control policy coordination should be regarded as an important topic of coordination by the Central Financial and Economic Committee, and reports should be listened to in a timely manner to study and solve major problems in the process of promulgation and implementation of macro control policies.

Third, the Financial Stability and Development Committee under the State Council. With the help of the existing Financial Stability and Development Committee under the State Council, we will make coordinated efforts to address major issues concerning monetary policy and financial policy as well as macro-policy related issues such as monetary policy, financial policy and related fiscal policy and industrial policy at the level of the State Council. According to the current mechanism, the Committee is chaired by a vice premier in charge of financial work of the State Council, with its member units including the Central Committee for Financial and Economic Affairs, the Development and Reform Commission, the Ministry of Finance, the People's Bank of China, China Banking and Insurance Regulatory Commission and the State Administration of Foreign Exchange. Major issues studied by the Inter-Ministerial Joint Conference on Macro control Coordination in relation to monetary policy and financial policy will be submitted to the Financial Stability and Development Committee of the State Council for consideration, while major issues will be reported to the CPC Central Committee and the State Council according to procedures.

(4) Attaching importance to external shocks, improving institutional prevention, and strengthening international policy coordination

China will face more severe external challenges for some time in the future. In particular, the world economy may even decline due to weak recovery, and there is still great uncertainty in Sino-US economic and trade frictions, which has deteriorated China's external environment. These will have a negative external impact on China's economy as they have adverse effect on China's economic expectations, import and export, and capital flows. Moreover, the global economic changes and the policy responses of major developed economies (especially the United States) will also have spillover effects, imposing shocks on China. From the perspective of macro control, therefore, it is necessary for China to keep a watchful eye on external shocks, improve institutional prevention and strengthen international policy coordination. Details are as follows.

First, Establishing and improving the national security review system for foreign investment. On March 15, 2019, the Second Session of the 13th National People's Congress approved by voting the *Foreign Investment Law of the People's Republic of China*, which came into force on January 1, 2020. The Foreign Investment Law of the People's Republic of China stipulates that China should establish a foreign investment security review system to conduct security review on foreign investment that affects or may affect national security. This means that China has formally established the national security review system for foreign investment at the legal level, and further strengthened the design of security scrutiny for foreign investment access on the premise of comprehensively expanding opening up and deepening reform, which is more in line with international practice. China's national security review system for foreign investment is a system to review direct or indirect investment transactions in specific fields by foreign investors. There are two main types of foreign-funded mergers and acquisitions that will trigger the start of the national security review process: (1) investment transactions in military industry, military supporting enterprises, key and sensitive military facilities and other fields related to national defense security, which must be subject to national security review, and (2) important agricultural products, critical energy and resources, key infrastructure, important transportation services, important culture, important information technology products and services, key technologies, major equipment manufacturing and other fields related to national security. Foreign investors who have obtained actual control rights of these areas must be subject to national security review. To build a new open security system, we will increase efforts in operational and post-operational oversight, improve the national security review and anti-monopoly review systems for foreign investment, and effectively provide "insurance" for opening up. We will prevent and resolve risks during high-level opening-up, and observe the principle of focusing on our own agenda for opening up and independently, so as to realize both power delegation and tightened oversight.

Second, strengthening the management of cross-border capital flows and continuing to implement capital control. With China's further opening to the outside world, especially with its financial opening, both domestic and foreign markets of China are

increasingly connected, and international capital flows will become more frequent, which may objectively weaken the original capital control. Therefore, we need to strengthen the monitoring of cross-border capital and establish a long-term early warning mechanism for cross-border capital flows. In addition, we will work out emergency plans against possible impact events. In the process of collecting information, different institutions and departments will share information and cooperate in supervision, so as to improve the transparency and efficiency of information disclosure and provide convenience for subsequent supervision. There are three aspects worth noting in the management of cross-border capital flows. (1) In terms of policy selection, quantitative tools are mostly used in China, and the application of price-based tools will be added in the future, which includes adjusting reserve ratio and exploratory Tobin tax. Such price-based policy tools are more market-oriented, flexible and operational, and conducive to reducing possible impacts in the process of policy implementation and maintaining market stability. (2) We will strengthen coordination and communication among various industry departments. Cross-border capital flows and their possible risks may exist in banking, securities, insurance and other industries. Unsmooth communication between different industries will easily lead to regulatory gaps and breed risks. Therefore, it can be considered that the Financial Stability and Development Committee under the State Council should take the lead in building a unified regulatory framework and enhancing the effectiveness of cross-border capital flow management with coordination and cooperation by the People's Bank of China, China Securities Regulatory Commission, China Banking and Insurance Regulatory Commission and the State Administration of Foreign Exchange. (3) Although capital control will inevitably bring a certain degree of distortion, it should be used as the last resort to prevent massive capital flight. Capital control must be adopted with caution.

Third, improving exchange rate flexibility, and making monetary policy the first line of defense against external shocks. During the "Great Depression", countries that first broke away from the gold standard system and thus implemented independent monetary policies for monetary expansion had taken the lead in getting out of the crisis. As China's economy integrates into the process of globalization, external shocks are also increasing on China's economy, and independent monetary policy can often be the first line of defense against external risks. However, in case of insufficient exchange rate flexibility, the independent monetary policy will become a castle in the air. Therefore, we should understand the importance of enhancing exchange rate flexibility from a longer-term strategic perspective. The reform of market-oriented formation mechanism of RMB exchange rate will be deepened so as to keep RMB exchange rate basically stable at a reasonable and balanced level, including the exchange rate with major countries, while we are implementing a "basket of currencies". This approach can effectively avoid the negative spillover effect of disorderly adjustment of RMB exchange rate and competitive depreciation of major currencies, so it is beneficial to the international community. In the future, we will see to it that the market plays a decisive role in the formation of exchange

rate, so as to maintain the flexibility of RMB exchange rate, and improve the regularity, transparency and marketization of the formation of the central parity of RMB exchange rate.

Forth, strengthening international policy coordination On the one hand, the rise of global value chains has generated a new form of spillover effect of international policies, because government policies that have an impact on domestic components of international production chains will also have an impact on the overall value of production chains. On the other hand, under the background of global financial cycle, the fluctuating financial markets in central countries may cause consistent fluctuation of global risk aversion, thus making the monetary policies of central countries produce strong spillover effects. These two points will make international policy coordination more and more important. (1) We will increase efforts to create a mechanism for China to participate in international macroeconomic policy coordination. We will also keep close track of the international economic and financial situation and changes in macroeconomic policies of major economies, and conduct careful evaluation and analysis of their impact on China's macro-economy and policy implementation. We will take the lead to strengthen policy coordination and communication with major economies, participate in multi-bilateral international economic cooperation, and have our voice heard on international arena. Efforts will also be made to deepen reform of international macroeconomic governance structure, promote a more just and rational international economic order, create a favorable institutional environment for China, expand development space, and safeguard the interests of China's opening up to the outside world. For example, in recent years, China has participated in the IMF's Article IV Consultation and Financial Sector Assessment Project (FSAP), which was a useful attempt to communicate, coordinate and cooperate with international organizations. (2) We should urge all countries to practice responsible economic policies. On the one hand, we will pay high attention to Chinese factors of world development; namely, China needs to take into account its potential impact on the outside world in both development planning and macro-policy formulation. This is the self-consciousness of a responsible major country. Macro control in the new era should be based on a global vision and team spirit, and adopt responsible economic policies. On the other hand, concerns about the influence and impact of external factors on China will require relevant countries to adopt responsible economic policies. For example, the United States should keep an eye on the spillover effects of its economic and financial policies (such as possible global impact of monetary policy normalization), and adopt responsible economic policies. This requires self-restraint, mutual supervision and coordination through certain mechanisms (such as G20, etc.). (5) Optimizing the basic database of economic governance and consolidating macro control infrastructure

The Fourth Plenary Session of the 19th CPC Central Committee proposed for the first time that we should optimize the basic database of economic governance. Four national basic databases include population basic database, legal person database, macroeconomic database, natural resources and spatial geography database. Among them, the macroeconomic database is an important basis for macro control, and

other three databases also play an important auxiliary role. Objectively speaking, China's current statistical system still has many shortcomings in grasping the rapid changes of the economic situation, reflecting the kinetic energy of the new economy, engaging in risk early warning, and predicting the future development trend. In order to consolidate the macro control infrastructure, reform and innovation are needed in the following areas.

First, our focus will shift from flow indicators to both stock indicators and flow indicators. For a long time, the judgment of macroeconomic situation and the formulation of macro policies both at home and abroad have been based on flow indicators such as GDP, investment, consumption, trade volume, fiscal revenue and expenditure, while little attention was paid to economic stocks, such as assets, liabilities and wealth at the macro level. However, for policy makers, it is obviously not enough to comprehensively examine the long-term cumulative effect and development path of economic development from the perspective of flow. More importantly, when measuring macroeconomic risks, especially financial systematic risks, we must have a clear grasp of the stock scale, project structure, correlation and changing trend of available economic resources and debt responsibilities, and have a deep understanding of the logical correlation and transmission mechanism of various creditor's rights and debts within and between various sectors of the national economy. Analysis of balance sheets of the whole national economy and sectors has provided an irreplaceable important stock perspective for understanding, discussing and evaluating macro-policy considerations. With the help of balance sheets, we can reflect and evaluate the sources, accumulation, evolution and transmission and diffusion mechanism of various risks at the overall and departmental levels of macro economy more clearly and deeply, thus providing sufficient reference for preventing and defusing risks and blocking the spread of crisis. In fact, in recent years, this method has been widely used in many financial crises, and has achieved rich practical results. At the same time, it has increasingly become the main content and direction of macro-policy research. Of course, as compared with GDP and other flow indicators, the statistical framework and tools of balance sheets are still immature, and the scientificity and standardization of accounting standards, subject setting and data estimation need to be improved urgently. Obviously, this will weaken its reference value for policy making.

Second, establishing a statistical indicator system in line with new development concept. In the existing indicator system, there are many indicators reflecting economic construction, but few reflecting social development and harmonious development between man and nature. Also, there are many indicators reflecting the economic aggregate, but few reflecting structural adjustment and transformation and upgrading. Currently, in accordance with the requirement of building a modern economic system and achieving high-quality development, we will increase the number of indicators that can reflect the structural coordination of sectors, industries and regions, as well as indicators that reveal quality and efficiency and new kinetic energy development. In the stage of high-quality development, more attention will be paid to the development of people's living standards, resources and environment,

and to indicators such as employment, income, consumption, and ecological environment. In recent years, the National Bureau of Statistics has conducted active explorations, established the “three new” survey and statistical system (new industries, new types of business, and new business models), improved the labor force survey system, and began to publish surveyed unemployment rate and green development index.

Third, improving the statistical system of new economy. The existing statistical system was targeted at the traditional business model as well as legal entities (including enterprises, administrative units of institutions) and self-employed business, which made insufficient statistics on new economy and underestimated their contribution to China’s economy and GDP. First of all, many websites provide residents with a large number of free or very low-cost services, including information services (commodity information, tourism information, medical information), communication services, and music services to earn income from enterprises through online advertisements; however, they neglected or seriously underestimated residents’ final consumption of services provided by websites. Second, the sharing economy makes idle resources circulate, and also blurs the boundary between consumers and goods and service providers. How to measure the added value has not yet been determined. Finally, with the rise of the Internet platform, the employment relationship is more independent of the constraints of the work unit and place, and there are more and more informal, part-time, irregular and even temporary work tasks, making it difficult to accurately collect such employment and income statistics. It is suggested that relevant statistical system should be revised and improved as soon as possible according to the characteristics of new economy, so that statistical data can reflect the economic operation more accurately and provide reliable basis for policy decision-making.

Forth, creating big data resources to provide services for macro control. With the development of new generation information technology such as the Internet, there has emerged real-time, unstructured and massive data related to production, operation and sales activities and people’s interaction. The government can adopt various measures to develop a large number of big data with wide sources and various forms in society, so as to integrate with government information, build a big data economic analysis model, monitor the operation status of various fields of the national economy in time, and improve the accuracy and effectiveness of macro control. For example, we can obtain big data via e-commerce platform to reflect the trend of consumer market, reflect the trend of real economy with the use of highway imaging system to obtain logistics big data, obtain the operating rate of construction machinery via the Internet of Things to reflect investment in fixed assets, judge the trend of real estate using Internet search engine, etc.

15.3.3 Strengthening and Improving the CPC's Centralized and Unified Leadership Over Macro Control

The Communist Party of China is the leader of the cause of socialism with Chinese characteristics and the highest political leadership force. We must firmly and consciously adhere to the leadership of the Party in accomplishing our work in all fields. Economic advancement is the central work of the Party, and the leadership of the Party must be fully reflected in economic work. We must strengthen the Party's leadership over economic work, and improve the Party's ability and determination to set the direction, seek the overall situation, formulate policies and promote reform in economic work. This will help us reach consensus, move along one direction, make macro control more strategic, coordinated and authoritative, and avoid fragmentation of macro control, conflicts between different policies, and ineffective and inadequate implementation by different departments or localities.

- (1) Centralized and unified leadership of the Party is the fundamental guarantee for high-quality macroeconomic regulation and control

First, we will observe the people-centered principle to coordinate the interests of all parties, and constantly safeguard and improve people's livelihood and enhance people's well-being. China's economic development has entered a new era. Macro control should not only focus on steady growth, but also on promoting reform, adjusting structure, benefiting people's livelihood, preventing risks and ensuring stability. We will also adjust the economic relations of general market players, and properly deal with various interest relations at the institutional level. Only by further strengthening the centralized and unified leadership of the Party over macro control can we transcend departmental limitations to coordinate the interests of all parties, consolidate various goals, and form joint efforts of regulation and control to promote sustained and healthy economic and social development.

Second, we will strengthen the authority of regulation and control so as to prohibit orders and ensure that macro control is more effective. Special attention should be paid to the role of local governments in the implementation of macro control. Local governments have their own interests, so in the process of implementing central policies, they may decide to implement some of central policies. "Policies come from above, counter-reactions from below" goes a proverb cited to explain the Chinese government's opaque inner workings, which may weaken the effects of macro control policies. Therefore, strengthening the centralized and unified leadership of the Party and enhancing the authority of the central government by improving institutional and legal procedures may help eliminate selfish departmentalism, mountain-stronghold mentality and local protectionism, so as to get government decrees executed and make macro control more effective.

Third, we can react calmly to complex situations and prevent and resolve risks. Facing the complicated situation that risks and challenges at home and abroad have obviously increased, we should adhere to the general principle of ensuring stability,

make far-sighted and scientific decisions, and give full play to the advantages of macro-control under the leadership of the Party.

(2) An important manifestation of the Party's centralized and unified leadership over macro control

(1) The Party Congress convened every five years prescribes the historical position, main direction and major strategy of future economic development. (2) The Five-Year Plan proposed by the Plenary Session of the Central Committee (for example, the upcoming Fifth Plenary Session of the 19th CPC Central Committee will release the *Proposal by the CPC Central Committee on the 14th Five-Year Plan on National Economic and Social Development*), has prescribed the guiding ideology, basic concepts, main objectives, key tasks and major measures of economic and social development in the next five years. (3) The meeting of the Political Bureau of the Central Committee of the CPC focuses on economic work. At the end of July each year, it deliberates on the current economic situation and economic work in the second half of the year. At the end of each year, it discusses the economic work of the next year to prepare for the convening of the Central Economic Working Conference. (4) At the Central Economic Working Conference convened at the end of each year, a keynote report is delivered by the General Secretary to summarize the economic development of this year and deploy the economic work for the next year. The Standing Committee of the Political Bureau of the Central Committee and the Premier of the State Council make specific arrangements for the economic work of the next year. (5) The meetings of the CPC Central Leading Group (Committee) for Financial and Economic Affairs are held several times a year to discuss special economic decisions. After the 19th CPC National Congress, the CPC Central Committee changed the Central Leading Group for Financial and Economic Affairs into the Central Committee for Financial and Economic Affairs, responsible for top-level design, overall plan, overall coordination, holistic advancement and supervision of major economic activities. The first meeting of the Central Committee for Financial and Economic Affairs has reviewed and approved the *Working Rules of the Central Committee for Financial and Economic Affairs*, which provides a more powerful institutional guarantee for comprehensively improving the Party's leadership over economic work, fulfilling the Party's function in leading economic work, and innovating and perfecting the macro control of socialism with Chinese characteristics.

(3) Further strengthening and improving the CPC's centralized and unified leadership over macro control

To strengthen the centralized and unified leadership of the Party over macro control, we must uphold and improve the leading role of the CPC Central Committee in macro control decision-making, promote institutional advancement, improve the scientific level of decision-making, perfect the decision-making consultation mechanism, and consummate the information release system.

First, improving the decision-making mechanism. We will work to improve the working mechanism of the Party Committee to study economic and social development strategies and major principles and policies, establish a system of regularly

analyzing the economic situation and studying major economic issues, and effectively improve the scientific level of decision-making. We will establish and improve the democratic decision-making mechanism. Various procedures such as social hearing, information disclosure, public participation and expert consultation will be perfected in the process of major policy research, so as to fully reflect social conditions and public opinions. We will establish and improve the policy evaluation and adjustment mechanism. By pre-tuning and fine-tuning in a timely manner, we will take a grasp of the direction, focus, intensity and pace of policies, and improve discretionary policy.

Second, improving the coordination mechanism. We will work to coordinate with the National People's Congress (NPC), the government and the Chinese People's Political Consultative Conference (CPPCC), and make overall arrangements for organization, publicity, discipline inspection, united front, politics and law, etc., so as to form a working pattern in which the Party Committee makes overall plans and all parties perform their duties and responsibilities in close coordination to promote development. A multi-level policy communication and coordination mechanism will be established among macro control departments, and between macro control departments and other relevant departments, so as to make overall evaluation and coordination of policies, especially major policy adjustments, and prevent individual policy from acting in its own way and from offsetting or replicating the effect of another policy. Meanwhile, in order to prevent some departments from delaying the introduction of policies due to non-cooperation in the process of coordination or "countersigning", an institution with sufficient authority and decision-making ability will be designated responsible for coordination and communication to improve the efficiency of decision-making.

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Chapter 16

Studies on Urbanization and Regional Development Strategies and Policies



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Creating a new dynamic for urbanization and coordinated regional development is one of the important goals and tasks of China's medium and long-term development strategy. Particularly, in the new journey of building a moderately prosperous society in all respects, it is of great significance to persist in high-quality development, actively explore the road of high-quality urbanization with Chinese characteristics, and comprehensively promote coordinated, regional and high-quality coordinated development. This chapter focuses on the medium and long-term development strategies and policies of China's urbanization and coordinated regional development.

16.1 Strategies and Policies for Medium and Long-Term Urbanization

The new type of urbanization is an important support for China to expand domestic demand and build a strong domestic market. It plays an irreplaceable role in promoting China's high-quality development and socialist modernization, and is also an important way to satisfy the people's desire for a better life. During the 13th Five-Year Plan period, China's urbanization continued to advance rapidly, with the gap between regions continuing to narrow and the urbanization level reaching up to a new level. At present, the core problem facing China's urbanization is no longer the low level and speed, but the low quality. In the future, China will proceed from the basis of reality, adhere to the people-centered principle for high-quality integration of urban and rural development, comprehensively improve the quality of urbanization, and embark on the road of high-quality urbanization with Chinese characteristics.

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16.1.1 Main Achievements of China's Urbanization During the 13th Five-Year Plan Period

The national 13th Five-Year Plan has set the goals of accelerating the urbanization of agricultural transfer population, creating a strategic urbanization pattern composed of “two horizontal axes and three vertical axes” (i.e. constructing a strategic urbanization structure of which land bridge channels and the Yangtze River transportation channels serve as two horizontal axes while the transportation channels along coastal areas, as well as Beijing to Harbin, Beijing to Guangzhou, and Baotou to Kunming transportation channels serve as three vertical axes) based on urban agglomeration, vigorously building a harmonious and livable city, and promoting the integration of urban and rural development. Through unremitting efforts, China's urbanization construction has been solidly promoted during the 13th Five-Year Plan period and achieved remarkable results. In particular, the conditions for the agricultural population to settle in cities have been further relaxed, the reform of the household registration system has achieved remarkable results, and the goal of “three tasks concerning 100 million people (i.e. granting urban residency to around 100 million rural people who have moved to cities, rebuilding rundown city areas and villages inside cities where around 100 million people live, and guiding the urbanization of around 100 million rural residents of the central and western regions in cities there)” has been basically achieved. The “19 + 2” urban agglomeration (i.e. 19 city clusters such as Beijing-Tianjin-Hebei, the Yangtze River Delta, the Pear River Delta, Shandong Peninsula, Urban Agglomeration on the West Side of the Straits, Harbin-Changchun megalopolis, Central-Southern Liaoning, Central Plains Urban Agglomeration, the Middle Reaches of the Yangtze River, Cheng-Yu District, Guanzhong Plains, Beibu Gulf Urban Agglomeration, Jinzhong, Hohhot-Baotou-Erdos-Yulin, Central Guizhou, Central Yunnan, Lanzhou-Xining, Urban Agglomeration along the Yellow River in Ningxia, and North Slope of Tianshan Mountain, as well as 2 urban circles around Lhasa and Kashgar) has basically taken shape and developed steadily, and become the core area of the national urbanization strategy. The layout of national central cities has been further improved, the construction of small towns with distinct features has been promoted in an orderly manner, and the livability of cities has been significantly improved. Deepening reform of the rural property rights system, urbanization investment and financing mechanism, integrated urban-rural development system and mechanism has produced a series of experiences that can be popularized and used for reference, which has laid a solid foundation for promoting high-quality urbanization.

(1) Urbanization continues to advance rapidly, but the growth rate slows down.

In the 13th Five-Year Plan period, China's urbanization level has been continuously improved. By the end of 2019, the urbanization rate of permanent residents in China reached 60.60%, and the urbanization rate of registered population reached 44.38%, increasing by 4.50 and 4.48% points respectively as against the end of 2015. The

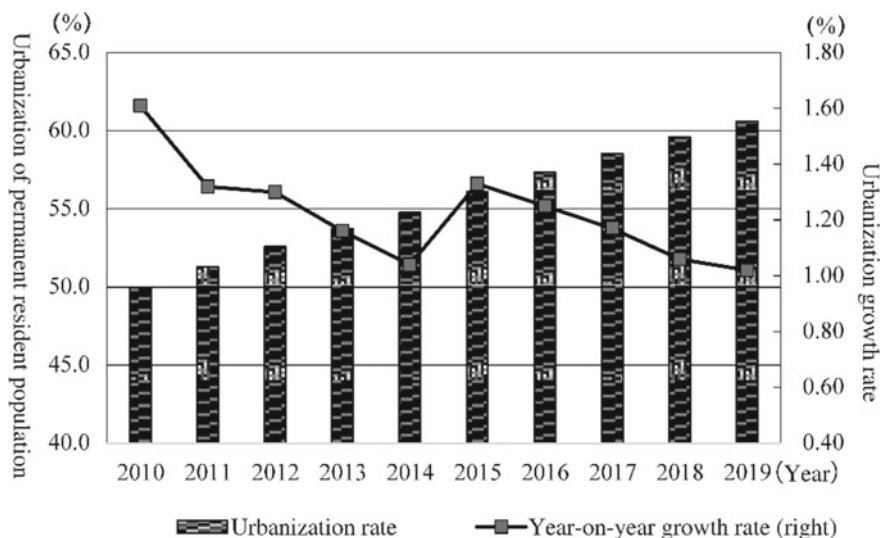


Fig. 16.1 China's urbanization level and growth rates from 2010 to 2019. *Source* Data from 2010 to 2018 are sourced from *China Statistical Yearbook 2019*, and data for 2019 from the website of National Bureau of Statistics

size of urban permanent residents increased from 771 million at the end of 2015 to 848 million at the end of 2019, with an average annual increase of about 19.32 million urban residents. This shows that China's urbanization has been advancing steadily. From 2015 to 2019, the urbanization rate in the central and western regions increased from 49.98 to 55.42%, with an average annual increase of 1.36% points, 0.42% points higher than that in the eastern region.¹ During this period, 64.9% of the newly added urban population in China was contributed by the mid-western region. By the end of 2019, China has achieved in advance the goal of about 60% urbanization rate of permanent residents by 2020 as prescribed in the *National New Urbanization Plan (2014–2020)*, but China still needs to make more efforts to reach about 45% urbanization rate of registered population. From 2015 to 2019, the urbanization rate of China's resident population increased by 1.33, 1.25, 1.17, 1.06 and 1.02% points respectively over the previous year. The growth rate showed a downward trend year by year, with an average annual decrease of about 0.08% points (see Fig. 16.1).

¹ The division method of the National Bureau of Statistics was adopted in the eastern, central, western and northeastern regions. The eastern region consists of 10 provinces (municipalities) such as Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan. The central region covers six provinces such as Shanxi, Anhui, Jiangxi, Henan, Hubei and Hunan. The western region includes 12 provinces (autonomous regions and municipalities) such as Inner Mongolia, Guangxi, Sichuan, Chongqing, Guizhou, Yunnan, Xizang, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang. The northeast region involves 3 provinces such as Liaoning, Jilin and Heilongjiang. The central and western regions are collectively called the mid-western region.

(2) Relaxing requirements for household registration in cities, and advancing in an orderly manner the “three tasks concerning 100 million people” initiative

In 2014, the State Council issued the *National New Urbanization Plan (2014–2020)*, raising the requirement of “three tasks concerning 100 million people”. In July 2014, the State Council issued the *Decisions on Furthering the Household Registration (Hukou) Reform*, which clearly stated that the restrictions on hukou registration in townships and small cities will be removed, while registration in medium-sized cities with an urban population of 500,000–1 million still requires legal and stable employment, residence and years of participating in urban social security. Since the 13th Five-Year Plan period, China has accelerated the reform of household registration system and helped the eligible population to move away from agriculture and become urban residents. In 2016, the General Office of the State Council issued the *Plan for Granting Urban Residency to 100 million Non-resident Population*, which put forward “rigid targets” clarifying that “megacities and megalopolises with low proportion of registered population should further relax the control of migrants’ settlement indicators”, that cities with a resident population of less than 3 million in urban areas should not adopt the method of points-based application system for household registration, that large and medium-sized cities are not be allowed to set conditions for household registration through buying houses or investing, and that social security period for registration in big cities is “no more than 5 years”, while that in medium-sized cities is “no more than 3 years”. Since 2017, more and more cities have realized the importance of demographic dividend, so they further lowered the threshold for household registration in order to compete for “talents”. In April 2019, the National Development and Reform Commission issued the *Key Tasks of New Urbanization Construction in 2019*, requiring cities with a resident population of less than 3 million to remove restrictions on household registration, while cities with a resident population of 3–5 million should fully liberalize the conditions for registration and completely cancel the restrictions on application of key groups of people. At present, 31 provinces have issued relevant opinions on the reform of household registration system, and further relaxed the conditions for household registration. With relaxation of the conditions for household registration in cities, the reform of the household registration system has achieved remarkable results. China’s urban registered population has increased from 491 million at the end of 2014 to 621 million at the end of 2019, with an average annual increase of about 26.06 million and a cumulative increase of about 131 million. After deduction of the natural growth of urban registered population, the cumulative rural population registered in cities in five years has reached 119 million, achieving the expected goal ahead of schedule.

(3) Optimization of the layout and form of urbanization leads to the formation of city clusters

Since entering the 13th Five-Year Plan period, China has successively formulated and implemented the development plans for 19 city clusters, including Beijing-Tianjin-Hebei, Yangtze River Delta, Pearl River Delta, Harbin-Changchun megalopolis, central and southern Liaoning, central Shanxi, Shandong Peninsula, Central Plains,

the middle reaches of the Yangtze River, Economic Zone on the West Side of the Strait, Beibu Gulf, Hohhot-Baotou-Erdos-Yulin, Economic Zone along the Yellow River in Ningxia, Lanzhou-Xining city cluster, Central Shaanxi Plains, Chengdu-Chongqing city cluster, Central Guizhou, Central Yunnan and the northern slope of Tianshan Mountains, contributing a lot to the formation of “19 + 2” urban agglomeration pattern. From the contribution of city clusters to national urbanization and economic and social development, by the end of 2018, the land area of 227 counties and cities included in 19 city clusters accounted for about 19.2% of the whole country’s national territory area; the total population accounted for 71.47% of China’s population, the urban population accounted for 74.5%, the current GDP accounted for 82.51%, and the total retail sales of social consumer goods accounted for 84.86% of national average. The economic and demographic indicators of urban agglomeration have occupied a large proportion of the whole country, and the agglomeration effect is getting stronger and stronger, which has become the strategic core area of promoting urbanization and economic development in China. Moreover, China has further improved the layout of national principal cities, steadily promoted the construction of sustainable small towns, accelerated the transformation of urban shanty towns, and steadily improved the livability of cities. The gap of urbanization rates between the central and western regions and the eastern regions has gradually narrowed. From 2016 to 2019, the urbanization rate gap between the central and eastern regions decreased by 1.81% points, and the gap between the western and eastern regions dropped by 1.59% points (see Table 16.1).

(4) Pilot urbanization reform forging ahead steadily

According to the *National Plan for Pilot New Urbanization*, the National Development and Reform Commission and other departments listed 2 provinces and 246 cities (towns) as experimental units for national new urbanization, which were initiated and implemented in three batches. The first two batches of pilot projects had

Table 16.1 Urbanization rate and growth rate of China’s permanent population during the 13th Five-Year Plan period (unit:%)

Region	Urbanization rate of resident population					Average annual growth rate				
	2015	2016	2017	2018	2019	2016	2017	2018	2019	2016–2019
Nationwide	56.10	57.35	58.52	59.58	60.60	1.25	1.17	1.06	1.02	1.13
Eastern region	64.75	65.94	66.95	67.70	68.50	1.19	1.01	0.75	0.80	0.94
Central region	51.24	52.77	54.29	55.57	56.80	1.53	1.52	1.28	1.23	1.39
Western region	48.74	50.19	51.65	52.93	54.08	1.45	1.46	1.28	1.15	1.34
Northeastern region	61.34	61.67	61.96	62.73	63.15	0.33	0.29	0.77	0.42	0.45
Eastern-Central	13.51	13.17	12.66	12.13	11.70	–	–	–	–	–
Eastern-Western	16.01	15.75	15.3	14.77	14.42	–	–	–	–	–

Source Calculated according to *China Statistical Yearbook* and *China Statistical Abstract 2020*

been basically completed by the end of 2017 and 2018 respectively. Core issues about “where people go, where land comes from, and where money comes from” in the process of urbanization have successively triggered a series of reforms in six aspects: (1) making agricultural migrants become urban residents, (2) deepening the reform of rural property rights system, (3) improving the investment and financing mechanism of urbanization, (4) establishing and perfecting the system and mechanism of integrated urban–rural development, (5) promoting the high-quality development mechanism of cities, and (6) reforming and innovating the administrative management system. At the same time, relevant departments of the State Council have also carried out reforms such as rural land expropriation, collective construction land entering the market, pilot reform of homestead system, linking newly added crop-land quotas with the amount of land used for urban and rural construction, and giving some county-level management authority to mega-towns with a population of over 100,000. Important progress has been made in the innovation of new urbanization system and mechanism.

16.1.2 Main Problems in the Current Urbanization Process of China

China’s urbanization has encountered some problems in the process of rapid advancement. For example, the lack of exit mechanism of the ownership rights, contract rights, and management rights for contracted rural land and the non-alignment of urban and rural basic public services have delayed the urbanization process of agricultural transfer population, leading to a big gap between the urbanization rate of registered population and the urbanization rate of permanent population in various places. The key links such as land market system and social security system in the system and mechanism of integrated urban–rural have not yet been opened, and the dual division of urban and rural areas has not been completely reversed. There was large consumption of land, water resources and energy in the rapid advancement of urbanization. How to achieve the urbanization goals of low consumption, low emission, high efficiency and carrying capability remains a severe challenge facing China’s urbanization. There still exist some phenomena in urban development, such as lack of characteristics and individuality, lack of historical and cultural protection and inheritance, and so on. These problems are pertaining to development, which need to be treated rationally and further explored and solved during future development and reform.

- (1) Laggard process of granting permanent urban residency to people who move from rural to urban areas

Since 2015, the urbanization rate of China’s registered population has been lower than that of permanent residents by about 16.2% points, but both are advancing at a constant speed (see Fig. 16.2). At present, there exists a universal phenomenon that “some rural migrant population who are allowed to register household in cities are

unwilling to do so” and “some cities to which rural migrant population are willing to move have not relaxed the restrictions on household registration”. The serious lag between rural land system and urban and rural basic public service reform is the fundamental reason for the mismatch between rural migrants’ willingness to settle in cities and household registration policy. At present, the market-oriented mechanism for farmers to withdraw from “ownership rights, contract rights, and management rights for contracted rural land” has not yet been established, so rural migrants are unwilling to give up contracted land, homestead and other related rights and interests without any market income. At the same time, the lack of effective mutual circulation mechanism and channels between urban and rural basic public service systems has also restricted the citizenization process of granting permanent urban residency to people who move from rural to urban areas. As some policies are not in place, such as linking rural migrant to specific land and funds are not in place, and the diversified cost-sharing mechanism is not yet well-established, the enthusiasm of local governments at the municipal and district levels for granting permanent urban residency to people who move from rural to urban areas needs to be motivated.

(2) Urban–rural dual division and imbalance of urban-size structure

Up to now, the long-standing urban–rural dual division in China has not been completely changed. In 2019, the ratio of per capita disposable income of urban and rural residents in China was 2.64:1, and the income gap between urban and rural residents remained larger than that in 1980s. The actual growth rate of rural residents’ income has been higher than that of urban residents for many years since

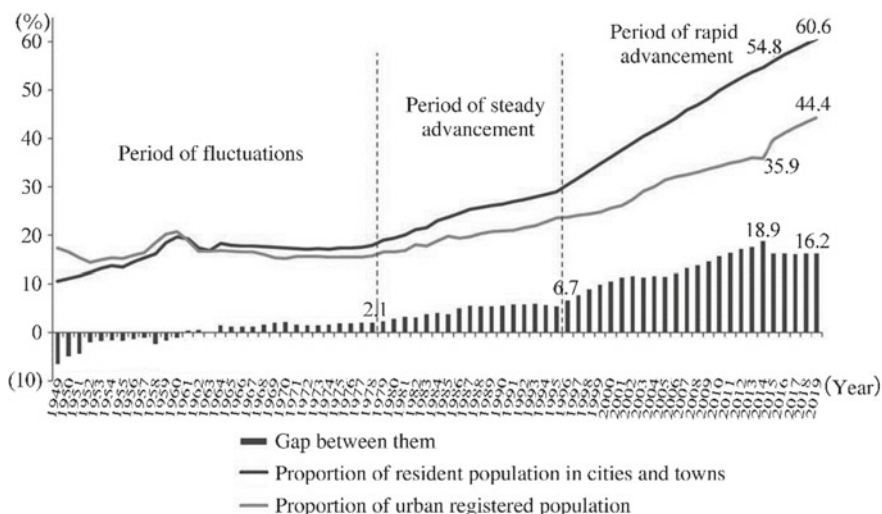


Fig. 16.2 Proportions change of permanent urban residents and registered population in total population. *Source* According to Su Hongjian and Wei (2019a, b)

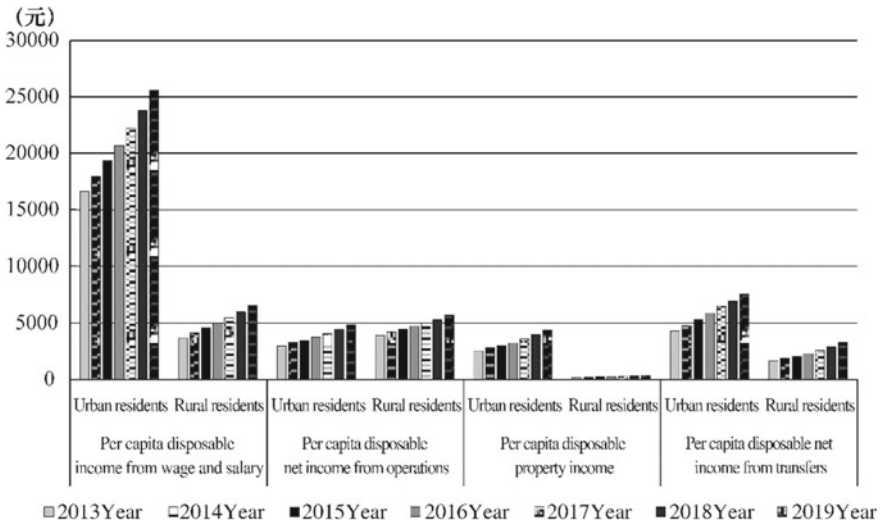


Fig. 16.3 Comparison of income gap between urban and rural residents from different sources from 2013 to 2019. *Source* Graphed according to *China Statistical Yearbooks* over the years and data released by the National Bureau of Statistics in 2019

2010.² The ratio of urban and rural residents’ income level has narrowed year by year, but there is big difference in absolute income. In 2013, the gap of per capita disposable income between urban and rural residents was 17,037.4 yuan, which expanded to 22,963.8 yuan in 2017 and further expanded to 26,338 yuan in 2019. From the perspective of income sources (see Fig. 16.3), the largest gap was found between urban and rural residents’ per capita net income of disposable property, up to 11.65:1 in 2019, because the land market integrating urban and rural areas has not yet been in place and the channels for changing rural resources into capital and wealth were not smooth. Meanwhile, the urban and rural social security systems have not been completely integrated, making it an arduous task to realize the equalization of urban and rural basic public services. In addition, the lack of the exit mechanism of “ownership rights, contract rights, and management rights for contracted rural land” and the shortage of institutional arrangement for voluntary exit are currently not conducive to orderly transfer of agricultural population.

The urban size structure is out of balance, and the coordinated development pattern of large, medium and small cities has not yet been established. A few megacities have too many functions and highly concentrated industries, which led to rapid expansion of urban size, high housing prices, traffic congestion, environmental pollution and

² Income of rural residents in and before 2013 is per capita net income, and income of urban residents and rural residents after 2013 is per capita disposable income, where are sourced from the *Statistical Communiqués of the People’s Republic of China on the National Economic and Social Development* issued by the National Bureau of Statistics over the years.

other “urban diseases”. For small-medium cities and small towns, however, due to the laggard development of infrastructure and public services, they have received insufficient industrial support, provided fewer jobs, and obtained poor stamina for economic and social development. From 2015 to 2018, the urban population (including temporary residents) of 27 big cities with more than 3 million people grew by 12.7%, and the urban built-up area increased by 18.6%, far higher than the national average urban growth rate. In this period, the number of towns in China increased by 3.8%, the population in built-up areas increased by only 8.1%, and the urban built-up area increased by only 6.2%. In 2018, the resident population of 18,300 towns in China (except county towns) accounted for only 20.8% of the national urban population, compared with 24.8% in 2010 and 28.1% in 2006.³

(3) High resource-environmental cost for advancing urbanization

China is short of per capita resources and its environment is relatively fragile. The rapid advancement of urbanization has brought great environmental pressure. Due to the lack of scientific view of political achievements and the influence of land finance, many local governments expanded urban size by carrying out new town construction and large-scale land development to promote urbanization regardless of the resource-environmental bearing capacity. According to incomplete statistics, there are more than 3500 new districts at or above the county level in China, among which the planned area (land) of only 19 national new districts covers 26,200 square kilometers, close to 1/2 of the total built-up area of all cities. According to the network survey of China urban and small town reform and development center, 737 new towns and districts have been proposed in 654 cities across the country, with a total planned area exceeding 83,500 square kilometers, almost twice the total built-up area of cities.⁴ Most cities in China are faced with the problem of shortage of resources, especially of water resources. Two-thirds of cities in China are short of water to varying degrees, among which 114 are seriously short of water. Of 52 coastal cities, 34.6% are suffering from drastic water shortage, 19.2% from severe water shortage and 17.3% from moderate water shortage.⁵ With the increase of urban population, the demand for water grows constantly. Along with environmental pollution, inefficient utilization and spatial misallocation of resources, the shortage of water resources is getting more and more serious, which has become a difficult problem restricting urbanization. However, only a small part of solid wastes such as domestic garbage are recycled, and most of them are landfilled and incinerated, which may have an impact on the surrounding environment.

³ In 2006, the resident population of towns included population in the built-up area and its temporary population, while in 2010 it was the registered population and temporary population in the built-up area, and in 2018 it was the resident population in the built-up area.

⁴ Li Tie, “Some New Urban Districts in China have Become Isolated Islands”, April 3, 2019, Tencent. <https://new.qq.com/cmsn/20190403/20190403007827.html>.

⁵ Qiu and Zhang (2019).

(4) Lack of uniqueness and individuality in construction of cities and towns in various regions

There are some phenomena in China's urban development, such as lack of uniqueness and individuality, and lack of historical and cultural protection and inheritance. In some regions, urbanization is simply equated with urban construction at a high speed in unrealistic pursuit of quick results. Local governments are disregarding the fine management of cities and the needs of residents, overlooking the inheritance and innovation of local culture and the shaping of urban personality, resulting in monotonous design of buildings and cities. One-sided view of political achievements, excessive commercial development, and placing more emphasis on material protection than on cultural inheritance are important reasons for destruction of architectural cultural relics and rupture of intangible cultural inheritance in the process of urbanization in China. In the construction of sustainable small towns, there has been a tendency to blindly follow the trend and take the opportunity to engage in real estate development in some regions. Strengthening cultural protection and inheritance is the key to highlighting urban uniqueness. To promote the process of new urbanization with Chinese characteristics, we must increase efforts to improve institutions and mechanism for protection and inheritance of excellent history and culture, and enhance cultural self-confidence.

16.1.3 Forecasts of China's Urbanization Level in 2025

At present, although the urbanization rate of China's resident population has exceeded the world average, there is still a big gap from the urbanization level of high-income countries classified by the World Bank. According to the World Bank's World Development Indicators database, the urbanization rate of high-income economies in 2016 was 81%, while that of upper-middle-income economies was 65%. In the future, China will still be in a period of rapid urbanization. Based on data of the Population Division of the United Nations Department of Economic and Social Affairs, we simulated the urbanization levels of 64 developed countries from 1950 to 2018 respectively. The results showed that the urbanization rate of most developed countries began to slow down obviously in the range of 60–65%. Therefore, China's urbanization will continue to advance rapidly in the future, but the speed of advancement will slow down.

(1) Forecast of China's urbanization level

With regard to the prediction of China's urbanization rate in the future, various research institutions and scholars have adopted different methods to estimate, and the results are quite different (see Table 16.2). For China's urbanization rate in 2025, most scholars predict that the result will be 64–66.5%. Among them, in the 2011 and 2014 of *World Urbanization Prospects* released by the United Nations Department of Economic and Social Affairs, the forecast of China's urbanization rate in 2035

Table 16.2 Forecasts on China's Urbanization Rate by Research Institutions and Scholars (Unit: %)

	2020	2025	2030
United Nations Population Division ¹	61.43	66.48	70.63
Qiao et al. ²	60.88–61.25	64.95–65.75	68.37–69.66
Gao Chunliang, Wei Houkai ³	60.34	64.30	68.38
Gu Chaolin et al. ⁴	60.13–61.48	64.74–66.19	68.34–70.30
McKinsey ⁵	–	64	–
Zhang Yan, Huang Zhilong ⁶	54.59–56.23	58.19–60.13	61.31–63.58

¹ The Department of Economic and Social Affairs of United Nations (2018)

² Qiao et al. (2018b)

³ Gao and Wei (2013b)

⁴ Gu et al. (2017b)

⁵ McKinsey Global Institute (2008b)

⁶ Zhang and Huang (2010a)

is about 71%, but in the 2018, the forecast value will be increased to 73.9%. Based on this, it is estimated that the average annual increase will be 0.98% points from 2021 to 2025. This estimate is on the high side.⁶ This chapter addresses the complex interaction among population, economy and social services, and builds a system dynamics model of China's urbanization to forecast the urbanization level of China in 2025 under a certain GDP growth trend and the family planning population policy. The forecast results show that China's urbanization level will increase by 0.80–0.85% points annually from 2020 to 2025, and will reach about 65.5% by 2025.

The GDP growth rate is set based on the fact that the change of labor productivity is closely related to economic growth. Since the reform and opening-up in 1978, the “structural acceleration” incurred by China's industrialization has achieved a miracle of high economic growth for 30 years. With the progress from industrialization to urbanization, the productivity growth rate has declined due to the service-oriented industrial structure, which makes China's economy enter the stage of “structural deceleration”.⁷ Relevant research shows that the potential growth rate of China's average GDP will be reduced to below 6% from 2020 to 2025, ranging from 5.2 to 5.63%.⁸ At the same time, after 2013, China's industrial structure has changed from “industry-service-agriculture” to “service-industry-agriculture”, so this study has set the growth rates of added value of primary, secondary and tertiary industries as 3.0%, 5.5% and 6.5% respectively. The population development in the model is mainly determined by the influence coefficient of family planning policy on China's urbanization. In 2016, China implemented the “universal two-child” policy. Therefore, based on the data of the number of children born by urban and rural women of childbearing age since 1998, this study calculated the impact coefficient of the

⁶ Wei et al. (2019).

⁷ Yuan (2012).

⁸ Lu (2019a).

“universal two-child” policy on urbanization, which was 1.81 in urban areas and 1.44 in rural areas.

(2) Forecast of urbanization levels in four major regions

Based on the urbanization levels of China’s four major regions from 1987 to 2018, we predicted the urbanization trend of the four major regions from 2020 to 2025 using three methods: curve fitting, economic model and growth rate of urban–rural population ratio. Each of three methods has its own advantages and disadvantages, so the average value was taken as predicted value. According to forecast outcomes, the eastern region will be the first region where the urbanization level exceeds 70% and its urbanization rate will increase to 73.04% by 2025. The central and western regions will maintain a high growth rate, and by 2025, their urbanization rate will increase to 63.07% and 61.17% respectively. The urbanization level in the northeastern region will maintain a relatively gentle growth rate, with an average annual increase of only 0.59% points, and by 2025, its urbanization level will reach 66.74%. By then, the urbanization rate gap between eastern region and central regions will fall to 9.97% points, and the gap between the eastern and western regions will be reduced to 11.87% points.

(3) Forecast of urbanization levels of provinces, autonomous regions and municipalities

Generally speaking, the urbanization rate ranging between 30 and 70% indicates a period of rapid urbanization, of which the range of 30–50% is an accelerated period of urbanization, 50–70% is a decelerated period of urbanization, and when the urbanization rate reaches more than 70%, it enters a stable period..⁹ The curve fitting method, economic model method and urban–rural population ratio growth rate method are adopted to predict the urbanization levels of all provinces, autonomous regions and municipalities in China in 2025, with their average taken as the prediction result and for dividing stages (see Fig. 16.4). At the end of 2025, there will be 11 provinces and municipalities in the stable period of urbanization, including Shanghai, Beijing, Tianjin, Zhejiang, Chongqing, Fujian, Shandong, Jiangsu, Guangdong, Liaoning and Inner Mongolia, 19 provinces in the decelerating period of urbanization by 50–70%, including Shaanxi, Hunan, Ningxia, Shanxi, Hainan and Hebei, and only the urbanization level of Tibet Autonomous Region in 2025 has not reached 50%, only 36.8%, and it is still in the period of accelerating urbanization.

16.1.4 Medium and Long-Term Strategies for Advancing Urbanization

For some time to come, we will work hard to achieve the goal of comprehensively improving the urbanization quality, grant permanent urban residency to people who move from rural to urban areas, build high-quality city clusters and metropolitan

⁹ Wei (2014).

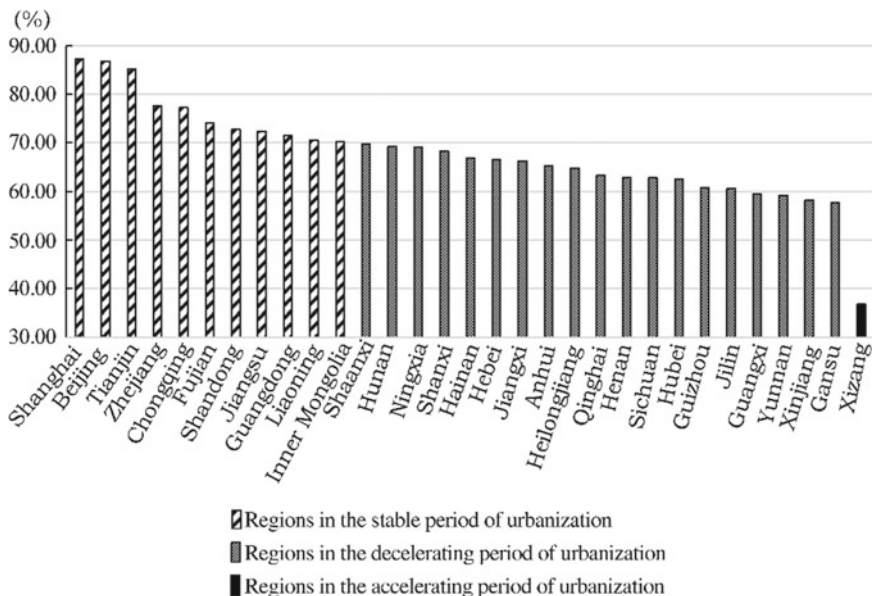


Fig. 16.4 Levels and stages of urbanization in provinces, autonomous regions and municipalities in 2025. *Source* Graphed by the authors

area, improve the system and mechanism of integrated urban–rural development, and embark on a road of high-quality urbanization with Chinese characteristics at an appropriate speed, so as to improve citizenization quality, achieve a balanced and orderly urbanization structure, deepen integration of urban and rural development, and achieve the goal of green, healthy and sustainable development. In terms of urbanization pattern, we will give full play to the leading role of central cities, accelerate high-quality development of city clusters and metropolitan area, and promote the formation of an urban system with clear division of labor, complementary functions and orderly hierarchy, and an urbanization spatial pattern with reasonable layout, intensive efficiency and moderate balance. In terms of institutional mechanism, our focus will shift from urban–rural dual institutional mechanism to integrated urban–rural development so as to promote the formation of a new type of urban–rural relationship with free flow of factors, equal exchange and balanced allocation of public resources adaptable to high-quality development. At the same time, we will expand diversified sources of urbanization funds to build a sustainable urbanization fund support mechanism, and further enhance the sustainability of urbanization.

- (1) Accelerating the process of granting permanent urban residency to people who move from rural to urban areas

At present, this process lags behind seriously in China. In the future, restrictions on urban settlement will be completely abolished, the cost-sharing and benefit coordination mechanism of citizenization will be further improved, and the urbanization rate

of permanent residents and registered population will be accelerated to narrow the gap and finally realize merger, except in a few cities. First, continuing to intensify reform of the household registration system. We will further expand the scope of basic public services as prescribed in residence permits, and classify and promote the reform of the points-based household registration system. Except for Beijing and Shanghai, we will gradually relax conditions for implementation of the points-based system in megacities and cancel this system within a time limit. This system will be cancelled in megacities as soon as possible, so as to highlight the importance of “stable life and employment”. We will carry out the “two five-year” policy for household registration, i.e. a successful registration requires obtaining a residence permit for 5 years and contributing to social security for 5 years. We will increase efforts to implement the system of mutual recognition of residence permits and household registration in city clusters and metropolitan area, and allow two-way flow of agricultural population. Second, improving reform of the household registration system. We will take scientific measures to implement the “system to connect land and people”(which is aimed at increasing the availability of urban construction land and guaranteeing the change from a rural to urban household registration for people that move to cities from rural areas), and on the basis of deepening trans-regional adjustment within metropolitan area and inter-provincial transactions in areas with extreme poverty, carry out inter-provincial transactions of quotas produced by linking newly-added cropland quotas with the amount of land used for construction. We will work to promote the system that “funds will be invested where rural people are relocated in urban areas”, and continue to increase support for areas with more agricultural transfer population in terms of financial transfer payments, infrastructure investment, and increase in the scale of urban construction land. We will establish and improve the cost-sharing mechanism between higher and lower governments, and between inflow and outflow places, so as to realize the sharing of public costs by governments at all levels.

(2) Further optimizing the scale pattern of urbanization

From the perspective of the carrying capacity of resources and environment and population absorption capacity, China’s urbanization will focus on building city clusters and metropolitan area in the future, where small and medium-sized cities and county towns will absorb new urban population. We will give full play to the role of multi-level central cities so as to continuously improve the international competitiveness, comprehensive control and carrying capacity of resources and environment of city clusters and metropolitan area. We will increase efforts to enhance the public service supply capacity and industrial support capacity of small and medium-sized cities and towns, and promote the formation of a new pattern of urbanization scale led by city clusters, metropolitan area and central cities, so as to create a new structure of urbanization where large, medium and small cities will develop side by side. First of all, on the basis of continuing to improve the planning and construction of city clusters, we will focus on promoting the planning and construction of metropolitan area to achieve high-quality development of city clusters and metropolitan area. Secondly, we will strengthen the leading, exemplary and leading role of central cities, and

promote the formation of a four-level central city system, i.e. global central cities, national central cities, regional central cities and local central cities. Hong Kong, Shanghai and Beijing will be supported to build global central cities and enhance their comprehensive competitiveness in the international urban system. The layout of national central cities will be further optimized so as to make it a national center for scientific and technological innovation, circulation network, social service and cultural exchange. We will build a number of regional central cities with their own characteristics, especially in areas with special status (such as the northeastern region, Northwest China and Frontier China), improve and enhance urban functions, consolidate their driving force in surrounding areas, and strengthen their role in regional development and cross-border development. We will also spare no efforts to improve the public service capacity and level of local central cities to serve local urbanization. Finally, further optimizing the scale and structure of cities and towns. The hierarchical size structure of Chinese cities and towns in 2025 is predicted using the rank-scale rule model. The results show that (see Table 16.3), there are a large number of small cities (towns) with a population of 50,000–300,000 people and with a large carrying capacity, and they are one of the main carriers to absorb new urban population in the future. Based on their carrying capacity of resources and environment, we will take effective measures to control megacities (each with over 10 million permanent residents in urban areas) and large cities (each with 5–10 million permanent residents in urban areas), effectively activate the development of small cities and towns with distinct features, focus on creation of city clusters and metropolitan area) and ensure their rational and balanced development. In particular, we will make more efforts to improve the industrial support capacity and public service quality of small cities (towns), and promote the construction of counties and established towns in accordance with the standards of modern small cities.

(3) Building a number of high-quality metropolitan area

In terms of spatial layout and form, we will adopt the long-and-short strategy with focus on promoting the planning and construction of classified metropolitan area. According to the level of economic development, the degree of openness, the population size and density and the spatial connection strength between the central city and its surrounding areas, the metropolitan area can be divided into: leading type, developing type and cultivating type. According to the scale level, different types of metropolitan area can be divided into two levels: national and regional. In the near and medium term, we should focus on the construction of national metropolitan area, and plan to build 34 national high-quality metropolitan area with optimized infrastructure layout, clear and reasonable industrial division of labor, balanced flow of resource elements, perfect inter-regional coordination mechanism and beautiful and comfortable ecological environment at the national level, so as to make them core areas for promoting new urbanization in the new era (see Table 16.4). The first type of leading metropolitan area mainly include 11 areas such as Beijing, Tianjin, Chongqing, Chengdu, Wuhan, Shanghai, Hangzhou-Ningbo, Nanjing, Suzhou-Wuxi-Changzhou, Guangzhou-Foshan-Zhaoqing and Shenzhen-Guanhui in the Yangtze River Delta and Pearl River Delta. With close internal ties,

Table 16.3 Forecast of the hierarchical size structure of China's cities (2025)

	Number of towns	Urban population ('0000 people)
More than 10 million people	5	7822.28
9–10 million people	1	958.61
8–9 million people	1	862.33
7–8 million people	2	1504.44
6–7 million people	2	1285.52
5–6 million people	5	2524.29
4–5 million people	5	2213.44
3–4 million people	8	2724.60
2–3 million people	16	3877.00
1–2 million people	53	7346.98
900,000–1 million people	13	1233.73
800,000–900,000 people	15	1272.14
700,000–800,000 people	21	1570.08
600,000–700,000	27 5	1746.65
500,000–600,000 people	39	2135.59
400,000–500,000	61	2722.53
300,000–400,000	103	3552.81
200,000–300,000 people	216	5246.48
100,000–200,000 people	689	9507.04
50,000–100,000 people	1491	10,289.51
40,000–50,000 people	782	3488.42
30,000–40,000 people	1341	4625.91
20,000–30,000 people	2792	6782.21
10,000–20,000 people	8939	8335.83
Total	16,627	90,745.99

Source Author's calculation

clear division of labor and balanced flow of factors, these areas are core areas leading China's economic and social development and an important innovation area, representing the global competitiveness and influence of China's metropolitan area. The second type of development-oriented metropolitan area consist of 11 areas including Shenyang, Zhengzhou, Xi'an, Qingdao, Xiamen, Changsha, Fuzhou, Jinan, Hefei,

Dalian and Kunming. At present, these areas have basically formed an urban system with central cities at its core, which has a certain urbanization foundation and is an important support for national economic and social development. The population and resources of the third type of cultivated metropolitan area are mainly concentrated in central cities, whose leading role of radiation needs to be strengthened. However, some metropolitan area play a unique role in accelerating the open development of border areas and radiating cross-border development in Northeast Asia and South-east Asia, and are important components of the metropolitan area system, including Changchun, Shijiazhuang, Harbin, Taiyuan, Nanning, Nanchang, Guiyang, Hohhot, Lanzhou, Urumqi, Xining and Yinchuan. We will actively promote reform of relevant systems and innovation of governance models, and improve the development quality of metropolitan area. Special efforts will made to promote mutual recognition of residence permits and household registration permit in metropolitan area, and accelerate the elimination of urban and rural household registration barriers. We will create a cross-regional adjustment mechanism of quotas produced by linking newly-added cropland quotas with the amount of land used for construction in metropolitan area. We will spare no effort to improve the commercial housing supply system in metropolitan area, and strengthen the coordination of real estate market regulation policies among cities. We will build an open and inclusive consultation and cooperation mechanism to promote the construction of a unified market in metropolitan area, the integration of infrastructure, the rational division of labor and cooperation among industries, the co-protection and governance of ecological environment and the integration of urban and rural areas.

(4) Developing new urban–rural relationship that adapts to high-quality development

In 2019, the Central Committee of the Communist Party of China and the State Council issued the *Opinions on Establishing and Improving Sound Systems, Mechanisms and Policies for Integrated Urban–rural Development*, and then local governments at all levels successively issued relevant implementation plans to promote integrated urban–rural development. However, there are some obstacles in key areas

Table 16.4 List of planned state-level metropolitan area in the near and medium term

	Quantity	Metropolitan area
Leading metropolitan area	11	Beijing, Shanghai, Guangzhou-Foshan-Zhaoqing, Shenzhen-Dongguan-Huizhou, Tianjin, Chongqing, Chengdu, Wuhan, Suzhou-Wuxi-Changzhou, Hangzhou-Ningbo and Nanjing
Developing metropolitan area	11	Shenyang, Zhengzhou, Xi'an, Qingdao, Xiamen, Changsha, Fuzhou, Jinan, Hefei, Dalian and Kunming
Cultivating metropolitan area	12	Changchun, Shijiazhuang, Harbin, Taiyuan, Nanning, Nanchang, Guiyang, Hohhot, Lanzhou, Urumqi, Xining and Yinchuan

where the urban–rural dual system has been deep-seated in terms of household registration, land, labor and employment, public services and social security. For some time to come, therefore, according to the concept of integrated urban–rural development, we will further promote the integration of urban and rural elements, industry, society and ecology, build a new type of urban–rural relationship that adapts to high-quality development, promote the two-way flow of urban and rural elements, and realize urban–rural co-construction, sharing and common prosperity. First, except for some megacities, we will completely remove restrictions on household registration in urban areas, and establish a wage growth and payment guarantee mechanism for migrant workers to ensure their rights and interests. Second, we will establish the withdrawal mechanism of migrant farmers' ownership rights, contract rights, and management rights for contracted rural land, so as to eliminate their worries when dwelling in urban areas. Third, we will increase policy support, create a good environment, encourage and support urban capital, talents and technology to go to the countryside, and guide social capital to fully participate in rural vitalization. We will optimize the environment for innovation and entrepreneurship in rural areas, support migrant workers to return home for entrepreneurship and employment, and increase support for flexible employment and new employment forms in rural areas. Fourth, we will promote the integration of urban and rural basic public service systems on a tiered and per-category basis, and gradually make basic public services cover all urban and rural permanent residents, thus laying a foundation for creating the basic public service system with universal coverage, universal benefit sharing and urban and rural integration.

(5) Creating a sustainable financial support mechanism for urbanization

At present, urban construction highly dependent on land finance has brought about a series of drawbacks. To achieve high-quality urbanization, we must get rid of the current situation that urban construction investment and financing rely too much on one-time land transfer. Instead, we will adopt gradual reform strategy, optimize and improve relevant institutional arrangements of land finance, and promote the transformation of land finance to sustainable mode. First, we will optimize and adjust the inter-governmental distribution pattern of land transfer fees. The central government will centrally coordinate a part of land transfer fees and establish a regional land expropriation compensation fund. Local governments will invest land transfer fees collected every year into the fund in proportion to increase farmers' compensation and resettlement fees. Second, we will increase efforts to implement pilot housing property tax and actively promote the preparatory work for real estate tax reform. Finally, we will establish a negative list management system in the field of urban construction, relax the access conditions of private capital, and encourage all kinds of social funds to participate in urban construction through sole proprietorship, joint venture, public–private partnership and other means, so as to minimize pressure on the government that has borrowed money to build cities and towns.

16.1.5 Several Policy Suggestions on Advancing Urbanization

- (1) Accelerating the process of establishing cities, and exercising strict control on upgrading a county to a district

With the continuous growth of urban population, the administrative management system of a large number of small towns has been difficult to adapt to the rapid development of their town scale and economy and society. In order to better meet the needs of high-quality urbanization, we will accelerate the process of setting up cities, and actively cultivate a number of new small and medium-sized cities by upgrading a county or a town to a city. Some qualified counties or towns where non-county government resides within the scope of city clusters, metropolitan area and national new urbanization comprehensive pilot areas will be first upgraded to cities. A town that meets conditions and has a population of more than 50,000 residents will be granted the administrative authority of a county-level city to enhance its development vitality, but its administrative level remains unchanged. The examination and approval of upgrading a county to a district will be under rigid control so as to prevent a large city from excessively expanding. We will explore and adjust the calculation caliber of urbanization rate of registered population, and separate the changes of registered population caused by the adjustment of administrative divisions from newly-added urban population, so as to more scientifically reflect the settlement of floating population.

- (2) Implementing differentiated policies for expanding, stable and downsizing towns

We will face up to current problems of population loss and economic growth slow-down in some cities, establish the concept of urban physical area, and standardize the statistical system of urbanization areas. For expanding, stable and downsizing towns, we should implement differentiated policies and encourage healthy and smart development.¹⁰ For large cities that keep expanding, the principle of “smart growth” must be followed to make urban growth more scientific and reasonable, and meet the requirements of national ecological civilization construction. For cities whose population size has entered a relatively stable stage, we will carry out “smart adjustment” to improve urban functions and quality. For small and medium-sized cities with downsizing population, we will carry out “smart downsizing” by changing our inertial thinking of incremental planning, so as to strictly control increment, revitalize stock, and guide population and public resources to concentrate in urban areas.

- (3) Implementing redevelopment projects of inefficient urban land

¹⁰ In 2000, the American Planning Association and 60 public organizations established the “Smart Growth America”, which is an intensive development strategy based on the phenomenon of urban sprawl. In 1988, German Hußermann put forward “shrinking cities” and “smart shrinking”, calling for development strategy to reshape the vitality of cities in view of the population shrinking phenomenon of post-industrial cities.

At present, the current situation of extensive use of land resources in China has not changed fundamentally. As an effective means to revitalize the existing land, the redevelopment of inefficient land has been piloted in 10 provinces (cities) including Shanghai, Jiangsu, Zhejiang, Inner Mongolia, Liaoning, Jiangxi, Fujian, Hubei, Sichuan and Shaanxi. Next, we will summarize the pilot experience, and promote the implementation of a new round of national urban inefficient land redevelopment as designated by the third national land survey. The existing stock of land featuring scattered layout, extensive utilization and unreasonable use in urban construction land will be renovated, improved, rebuilt, activated and upgraded by means of government purchasing and storage transformation, self-transformation of former state-owned land and collective land use rights holders, and acquisition and transformation of market entities. The main measures include: establishing and strictly implementing an exit mechanism for inefficient and extensive industrial land, strengthening the clean-up of inefficient industries; formulating classified and graded policies of inefficient industrial land redevelopment, and encouraging continued development by means of additional investment and increasing floor area ratio; establishing industrial land admittance standards according to industrial categories, industrial chain level, investment intensity, production tax, environmental requirements and other control indicators; implementing project permit review mechanism, and encouraging the development of new industries and new business types such as strategic emerging industries and producer services without changing the land use.

- (4) From “linking newly added cropland quotas with the amount of land used for urban and rural construction” to the “market integration of urban and rural construction land”

Creating a unified market for urban and rural construction land is the focus of deepening the reform of land system. First, under the premise of conforming to the planning and use control, rural collective construction land is allowed to be sold, leased or invested in shares coequal with the state-owned land when listed and priced on the market. Second, on the basis of perfecting the method of identifying collective membership and strictly enforcing conditions for obtaining homesteads, and in accordance with the “separation of ownership rights, contractors’ rights and land management rights”, we will enliven the rights to use homesteads and farmers’ houses, increase the openness of market and enlarge the trading radius, and deepen reform of real estate integration, so as to eventually rent out or transfer farmers’ homesteads and houses. Third, we will establish and improve supporting measures for unified urban and rural construction land market, and speed up the promulgation of management rules, such as the *Regulations on the Transfer of Rural Collectively-owned Construction Land* and the *Regulations on Compensation and Resettlement of Rural Collectively-owned Land Expropriation*. Finally, we will create a unified platform for urban–rural land transactions to enable trading of rural collective construction land, homestead and forest land use rights.

- (5) Establishing a diversified exit mechanism of farmers’ ownership rights, contract rights, and management rights for contracted rural land when relocated in urban areas

We will work to confirm and register farmers' rights to rural land and houses, and gradually bring farmers' contracted land into the scope of real estate registration, so as to create conditions for farmers to settle in cities. On the basis of confirmation and registration of farmers' rights, we will establish a diversified exit mechanism for farmers' ownership rights, contract rights, and management rights in accordance with the law and on a voluntary and compensatory basis. For voluntary and compensatory exit from ownership rights, contract rights, and management rights of rural land, rural migrant workers who have settled in cities can either withdraw from one or all three rights at prices determined by voluntary negotiation between the withdrawing party and the eligible transferee, or through market transactions on the basis of pilot projects. China's reform in the future will focus on establishing a market-oriented mechanism for rural migrant workers who have settled in cities to withdraw from their ownership rights, contract rights, and management rights for contracted rural land. In addition, for compliant homesteads voluntarily withdrawn by farmers, we will open up the connecting channels for homestead and collective construction land to enter the market through relevant institutional arrangements and policy measures. After establishment of the system of compensated transfer of rural collective land designated for business-related construction, eligible and voluntary homesteads can be conditionally converted into collective land designated for business-related construction, and incorporated into collective land designated for business-related construction for management after entering the market.

16.2 Strategies and Policies for Medium and Long-Term Regional Development

Since the 13th Five-Year Plan period, China's coordinated regional development strategy has achieved remarkable results, and all regions have witnessed rapid economic development, narrowing the development gap between the central and western regions and the eastern region. Initial progress has been made in the coordinated development of the Beijing-Tianjin-Hebei region, in the construction of the Yangtze River Economic Belt, and in the regional integration of the Yangtze River Delta. Rapid economic growth has also been found in the former revolutionary bases, ethnic group-inhabited areas, border areas and poverty-stricken areas, and the coordination of regional development has been further enhanced. Despite remarkable achievements, China's coordinated regional development also faces new problems in the 13th Five-Year Plan period, such as difference between the north and the south rather than the disparity between the east and the west of China, and great gap in regional innovation capability. Therefore, for some time to come, we will intensify efforts to implement the coordinated regional development strategy, improve the "4 + X" master strategy for regional development and the land space governance system, and adopt various policies and measures to accelerate the formation of a new pattern of regional high-quality coordinated development.

16.2.1 Achievements Made by China's Regional Development in the 13th Five-Year Plan Period

In the 13th Five-Year Plan (2016–2020), how to promote coordinated regional development was designed as a specific task. In addition to above-mentioned master strategy for regional development in four major aspects, we will advance coordinated development of the Beijing-Tianjin-Hebei region, bolster the development of the Yangtze River Economic Belt, support the development of special types of regions, and expand the blue economic space. In 2017, the central government decided to set up the Xiong'an New Area and upgrade the Guangdong-Hong Kong-Macao Greater Bay Area to a national strategy. The 19th CPC National Congress clearly proposed to implement the coordinated regional development strategy. Since 2018, China has successively upgraded major regional strategies, such as comprehensively deepening reform and opening-up in Hainan Province, regional integration development of the Yangtze River Delta, the ecological protection and high-quality development of the Yellow River Basin, and the Chengdu-Chongqing economic zone to national strategies, thus forming a national regional development strategy system. Driven by national regional development strategies and policies, we have carried out economic transformation and upgrading in the eastern region, achieved rapid economic growth in the central and western regions, made remarkable results in the coordinated regional development, and enhanced the coordination of regional development.

(1) Remarkable results of the master strategy for regional development

During the 13th Five-Year Plan period, China continued to implement the master strategy for regional development and achieved good results.

First, faster transformation and upgrading in the eastern region. In recent years, the eastern region has continuously increased investment in scientific and technological innovation to speed up industrial transformation and upgrading and the shift to new growth drivers. It has also vigorously supported the development of strategic emerging industries, and established a number of global advanced manufacturing bases and an all-round open economic system, accelerating regional economic transformation, and enhancing its global competitiveness and influence. The eastern region now plays a leading role in the national economy. From 2016 to 2019, the average annual growth rate of gross regional production (GRP) in the eastern region reached 6.9%, close to the average of all regions in China (see Table 16.5). During this period, the eastern region contributed 52.6% to the nominal growth of nationwide GRP in China, so it remained the leading region supporting the national growth.

Second, the continuously rising trend in the central region. Since the 13th Five-Year Plan, the central region has seen an average annual economic growth rate significantly higher than that of the other three regions by virtue of its location and policies under the background of China's economic slowdown, narrowing the gap with the eastern region. From 2016 to 2019, the average annual growth rate of GRP in the central region reached 7.8%, and the region's economic growth rate was the highest

Table 16.5 GRP growth rate in four major regions of China (unit: %)

	Average	Eastern region	Northeastern region	Central region	Western region	Southwestern region	Northwestern region
2011–2015	9.6	9.0	8.3	10.1	11.0	11.2	10.6
2016–2019	7.0	6.9	4.3	7.8	7.5	8.1	6.6
2016	7.4	7.5	2.5	8.0	8.2	8.7	7.5
2017	7.3	7.2	5.1	8.0	7.8	8.6	6.3
2018	6.9	6.7	5.1	7.8	7.4	7.7	6.8
2019	6.5	6.2	4.5	7.3	6.7	7.3	5.9

Note GRP growth rate is calculated according to local GRPs and their actual growth rates. The southwestern region includes Guangxi, Sichuan, Chongqing, Guizhou, Yunnan and Tibet. The northwestern region consists of Inner Mongolia, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang. The southwestern region and northwestern region are included in the western region

Source Calculated by the author according to annual *China Statistical Yearbook* and *China Statistical Abstract 2020*

among four major regions except in 2016, showing a trend of continuous rise. From 2015 to 2019, the central region saw a relative per capita GRP ascending from 76.4 to 83.7%. The region's proportion of GRP in the total of each region increased from 20.3 to 22.2%, narrowing its development gap with the eastern region.

Third, the southwestern region has become a new pole for China's economic growth. Driven by Chengdu-Chongqing and Guizhou economic circles, the southwestern region presented a good economic growth momentum and has become an important region for rapid economic growth under the new normal. From 2016 to 2019, the southwestern region's GRP grew at an average annual rate of 8.1%, 1.1% points higher than the average growth rate of all regions in China. The southwestern region's proportion of GRP ascended from 10.8% in 2010 to 12.1% in 2015 and 13.5% in 2019, which significantly narrowed the gap with the eastern region.

Fourth, the northeastern region saw a period of economic recovery. Since 2013, due to combined actions of cyclical, structural and institutional factors, the northeastern region's economy has fallen into new difficulties, such as a sharp drop in investment, a sharp decline in GRP growth rate and obvious signs of industrial recession.¹¹ In the 13th Five-Year Plan period, with strong support of national policies, the northeastern region's economy has witnessed a period of recovery, with its GRP rising from 2.5% in 2016 to 5.1% in 2018, and then dropped back to 4.5% in 2019. Obviously, the northeastern region economy has rebounded after a decline, but there is still a long way to go to achieve the goal of full revitalization.

(2) Significant effects of major regional development strategies

In recent years, China has implemented a series of major regional development strategies in addition to four major strategies. In terms of coordinated development

¹¹ Wei (2019, p. 81).

of the Beijing-Tianjin-Hebei region, breakthroughs have been made in three key areas: industrial upgrading and transfer, transportation integration, and ecological environment protection. With the planning and construction of Xiong'an New Area and Beijing sub-center progressing in an orderly manner and the Beijing Daxing International Airport completed and opened to traffic, we have made progress in the construction of non-capital core functions. Since 2017, the permanent resident population in Beijing has declined for three consecutive years, with a decline of 193,000 persons in 2019 as compared with 2016. With regard to the construction of the Yangtze River Economic Belt, China has formulated and implemented the *Outline of the Development Plan for the Yangtze River Economic Belt*. There has reached a consensus that we should "step up conservation of the Yangtze River and stop its over-exploitation". Solid progress has been made in building green ecological corridors and comprehensive three-dimensional traffic corridors. We have sped up industrial transformation and upgrading and the shift to new growth drivers. The regional economy presented a good development trend. From 2016 to 2019, the Yangtze River Economic Belt's GRP grew at an average annual rate of 7.6%, 1.0 and 0.6% points higher than the average growth rates of other regions and all regions in China respectively. The proportion of the Yangtze River Economic Belt's GRP in all regions of China has ascended from 42.2% in 2015 to 46.5% in 2019, an increase of 4.3% points. In the first four years of the 13th Five-Year Plan, the Yangtze River Economic Belt contributed 58.1% to nominal GRP growth, exceeding that of the eastern region. In addition, the planning and construction of the integrated Guangdong-Hong Kong-Macao Greater Bay Area and Yangtze River Delta have been unveiled in an orderly manner.

(3) Rapid development in special areas (e.g. poverty-stricken area)

During the 13th Five-Year Plan period, China took various measures to support the development of old revolutionary base areas, ethnic minority areas, poverty-stricken areas and border areas. With the support of national policies, these special areas have presented a trend of rapid development, and are expected to achieve the goal of a well-off society in an all-round way and poverty alleviation by the end of 2020 as scheduled. From 2015 to 2018, the incidence of rural poverty in poverty-stricken areas declined from 13.3 to 4.2%, 5.1% points higher than the national average. From 2016 to 2019, the per capita disposable income of rural residents in poverty-stricken areas increased by 10.9% annually, 2.1% points higher than the average annual nominal growth rate of rural residents in China. The relative level of per capita disposable income of rural residents in poverty-stricken areas (take the whole country as 100) increased from 67.0% in 2015 to 72.2% in 2019, an increase of 5.2% points. With strong support of the central government and local governments at all levels, the economy in ethnic minority areas has also achieved rapid development. From 2016 to 2019, the average annual growth rate of GRP in eight ethnic provinces (regions) reached 7.4%, 0.4% points faster than the average growth rate of all regions in China. The gap between ethnic minority areas and other areas is also narrowing, and the relative level of per capita GRP in ethnic autonomous regions (take the national per capita GDP as 100) has increased from 70.0% in 2015 to 71.1% in 2018.

(4) Well-improved mechanism of coordinated regional development

In order to promote coordinated regional development, China has made beneficial explorations in institutional innovation for a long time. In the 13th Five-Year Plan period, China has carried out in-depth cooperation in poverty alleviation and paired-up assistance between the east and the west by coordinating the development of urban and rural areas, so as to active international and domestic regional cooperation, facilitate equalization of basic public services and regional market integration, improve horizontal ecological compensation and inter-regional benefit compensation, and gradually form a multi-field, multi-level and multi-channel mechanism for coordinated regional development. In November 2018, the CPC Central Committee and the State Council issued the *Guidelines on Establishing More Effective New Mechanisms for Coordinated Regional Development*. These Guidelines summarized eight mechanisms to promote coordinated regional development as follows: (1) the mechanism for coordinating regional strategies, (2) the mechanism for market integration, (3) the mechanism for regional cooperation, (4) the mechanism for regional mutual assistance, (5) the mechanism for inter-regional benefit compensation, (6) the mechanism for equalizing basic public services, (7) the mechanism for regional policy regulation, and (8) the mechanism for safeguarding regional development. The Guidelines also clarified the phased development goals and specific tasks, and put forward some targeted and operational policies and measures, pointing out the direction for building new mechanisms of coordinated regional development in the new period.

16.2.2 Major Problems Currently Facing China's Regional Development

During the 13th Five-Year Plan period, China's coordinated regional development has achieved remarkable results. In recent years, however, many provinces in northern China, especially in northeast and northwest China, were faced with problems such as sluggish economic growth and serious investment decline. As a result, the disparity between the north and south has widened and become a new concern (in the place of the east–west disparity). China also faces problems such as large gap in regional innovation capability, slow development of blue ocean economy, and difficulty in equalization of basic public services, which need high attention.

(1) A new focus of concern: the north–south gap replaces the east–west gap

In recent years, the north–south gap has become increasingly prominent due to sluggish economic growth in many northern provinces. The north–south division is generally bounded by the NL 35° line of the national geographical median line.¹² The northern region consists of 15 provinces and municipalities, such

¹² Li and Qin (2000).

as Beijing, Gansu, Hebei, Henan, Heilongjiang, Jilin, Liaoning, Inner Mongolia, Ningxia, Qinghai, Shandong, Shanxi, Shaanxi, Tianjin and Xinjiang, while the southern region comprises 16 provinces and municipalities, such as Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangsu, Jiangxi, Shanghai, Sichuan, Tibet, Yunnan, Zhejiang and Chongqing. In 2009, the northern region's GRP accounted for 42.9% of the whole country, and decreased to 35.4% in 2019, down by 7.5% points in ten years, while the southern region's GRP increased from 57.1 to 64.6% in the same period. The GRP ratio between the southern region and the northern region increased from 1.33 times in 2009 to 1.82 times in 2019. In the same period, the per capita GRP ratio between two regions increased from 0.96 times to 1.30 times, while the ratio of per capita disposable income grew slightly from 1.11 times in 2013 to 1.15 times in 2019. This trend showed no significant signs of narrowing during the 13th Five-Year Plan period (see Fig. 16.5).

Specifically, during the 13th Five-Year Plan period, the widening differences between the northern region and the southern region were mainly reflected in the “collapse” of the old industrial bases in the northeastern region and the weak growth in northwest China. On the one hand, the northeastern region has not completely got out of the predicament. Although the growth rate of GRP in the northeastern region increased from 2.5% in 2016 to 5.1% in 2018, it began to decline again in 2019, and the growth rate of GRP in Jilin was only 3.0%. The proportion of GRP in the northeastern region increased slightly from 8.5 to 8.8% from 2009 to 2012. Since

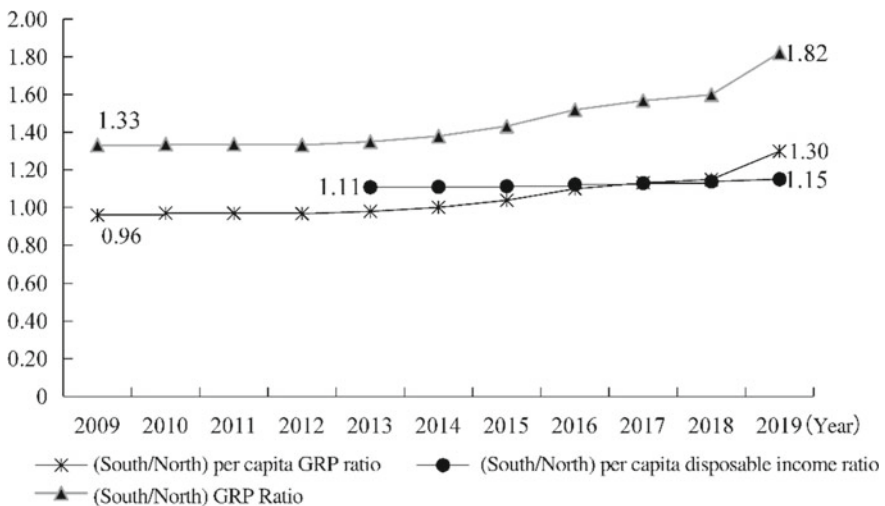


Fig. 16.5 Economic differences between north and south China from 2009 to 2019. *Note* (1) From 2013, the National Bureau of Statistics has carried out a survey on the income and expenditure and living conditions of urban and rural integrated households. The data in 2013 and beyond came from this survey, different from the survey scope, survey methods and index caliber of urban and rural households before 2013. In order to ensure the unification of data caliber, the data after 2013 were selected in the per capita disposable income index of residents; (2) the ratio of per capita GRP to per capita disposable income is calculated after being weighted according to the population of each province. *Source* Official website of the National Bureau of Statistics. <http://www.stats.gov.cn/tjsj/>

2013, however, the proportion of GRP in the northeastern region began to decline, down to 8.0% in 2015 and 5.1% in 2019.¹³ The relative level of per capita GRP in the northeastern region decreased from 104.5% in 2010 to 100.6% in 2015, and further down to 66.3% in 2019, the lowest of four regions. On the other hand, the growth in the northwestern region lacks momentum. In recent years, the economy of the southwestern region presented a different trend from the northern region. From 2016 to 2019, the average annual growth rate of GRP in the southwestern region was 8.1%, while it was only 6.6% in the northwestern region, including 5.4% in Inner Mongolia and 5.9% in Gansu. After 2014, the proportion of the northern regions' GRP in national average began to decline, from 8.3% in 2014 to 7.3% in 2019.

(2) Differences in regional innovation capabilities

Differences in regional innovation capabilities have impeded the realization of the overall economic transformation of the whole country. From the regional level, it is of great significance to promote the coordinated development of innovation in various regions to enhance the overall innovation strength of the whole country. The imbalances of regional innovation capabilities in China are currently manifested in three aspects: imbalance of innovation output, imbalance of innovation input and imbalance of innovation resources.

First of all, from the perspective of innovation output, the gap between the central region and the western region is narrowing, but there remains huge absolute gap. The western region is internally differentiated, and the northeastern region is not optimistic. From the perspective of the proportion of domestic invention patent applications and licensing in various regions in China, from 2009 to 2018, the eastern region presented a slight downward trend, but it accounted for 70% of national average, an absolute advantage over other regions; the central and western regions saw a slight increase from 10.5 to 14.0% and from 9.4 to 11.8% respectively in the same period. It is worth noting that the western region differentiated itself from the southwestern and northwestern regions. The proportion of domestic invention patent applications and licensing in the southwestern region kept increasing during this period, but the northwestern region presented a downward trend since 2014. For innovation, the northeastern region was not optimistic as the proportion of its domestic invention patent applications and licensing in the whole country descended from 6.6% in 2009 to 4.2% in 2018, with the largest decline among all regions (see Table 16.6). In addition, there is a big difference between the north and the south. The southern region accounted for nearly two-thirds of the domestic invention patent applications and licensing in China, and during the 13th Five-Year Plan period, its proportion of domestic invention patent applications increased slightly in contrast to the slight decline in the northern region.

Secondly, from the perspective of innovation investment, only the overall R&D investment intensity in the eastern and southern regions exceeded the national

¹³ In 2015, the GRP in the northeastern region was 5781.6 billion yuan, but due to fabricated statistical data, the figure decreased to 5241 billion yuan in 2016, a nominal decrease of 9.4%, and its proportion of the whole country declined from 8.0 to 6.7%.

Table 16.6 Proportion of domestic invention patent application and licensing in China by regions (Unit: %)

	Northeastern region	Eastern region	Western region		Central region	Southern region	Northern region
			Southwestern region	Northwestern region			
2009	6.6	73.5	6.1	3.3	10.5	62.2	37.8
2010	6.3	72.9	6.6	3.8	10.4	62.2	37.8
2011	6.0	71.4	7.0	4.3	11.4	62.1	37.9
2012	5.8	71.1	7.1	4.4	11.5	62.6	37.4
2013	5.5	70.0	7.5	4.5	12.5	61.6	38.4
2014	5.0	69.8	7.9	4.5	12.9	62.4	37.6
2015	5.0	69.1	8.1	4.1	13.7	64.2	35.8
2016	4.6	68.9	8.4	3.9	14.2	64.9	35.1
2017	4.9	69.2	8.2	4.0	13.7	64.2	35.8
2018	4.2	70.0	8.0	3.8	14.0	65.8	34.2

Source Calculated by the author according to provincial data published on the official website of National Bureau of Statistics

average. In 2018, the national R&D investment intensity reached 2.19%, including 2.74% in the eastern region (outperforming the national average), 1.71% in the central region, 1.35% in the western region, and only 1.25% in the northeastern region (see Fig. 16.6). Similarly, in terms of innovation investment, the western region saw a differentiation between southwest and northwest, with the former surpassing the latter in terms of R&D investment and intensity. Affected by the northwest and northeast, the northern region fell far behind the southern region in terms of R&D investment and intensity.

From the perspective of R&D investment and intensity in various provinces, top five provinces and municipalities in 2018 were Guangdong, Jiangsu, Beijing, Shandong and Zhejiang in the eastern region. From the perspective of R&D investment intensity, top five provinces and municipalities included Beijing, Shanghai, Guangdong, Jiangsu and Tianjin also located in the eastern region. In comparison with national average, there are six provinces and municipalities that exceeded the national average, such as Beijing, Shanghai, Guangdong, Jiangsu, Tianjin and Zhejiang, all of which are located in the eastern region. Anhui in the central region and Shaanxi in the northwestern region were close to the national average. (Fig. 16.7).

Finally, from the perspective of innovation resources, there was unbalanced distribution of innovation basic resources in universities and research institutes. Innovation cannot do without the supply of basic knowledge-based resources in universities and research institutes. From a national perspective, China's top 100 universities, first-class universities and some influential research institutes are mainly located in cities with higher innovation output, such as Beijing, Shanghai, Nanjing, Wuhan, Guangzhou, Xi'an, Chengdu, Changsha, Tianjin and Chongqing.

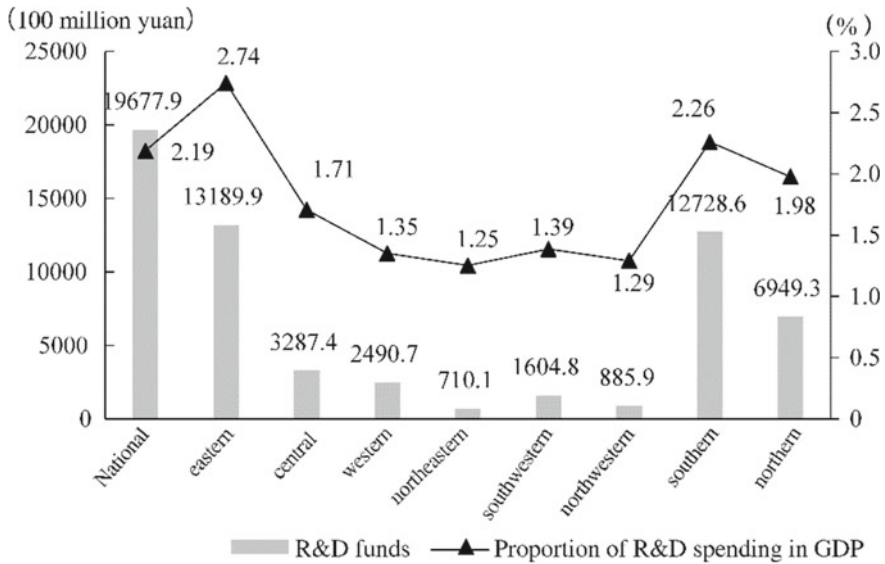


Fig. 16.6 Investment and intensity of R&D funds in various regions of China in 2018. *Source* Calculated by the author according to the *Communiqué on National Expenditures on Science and Technology in 2018*

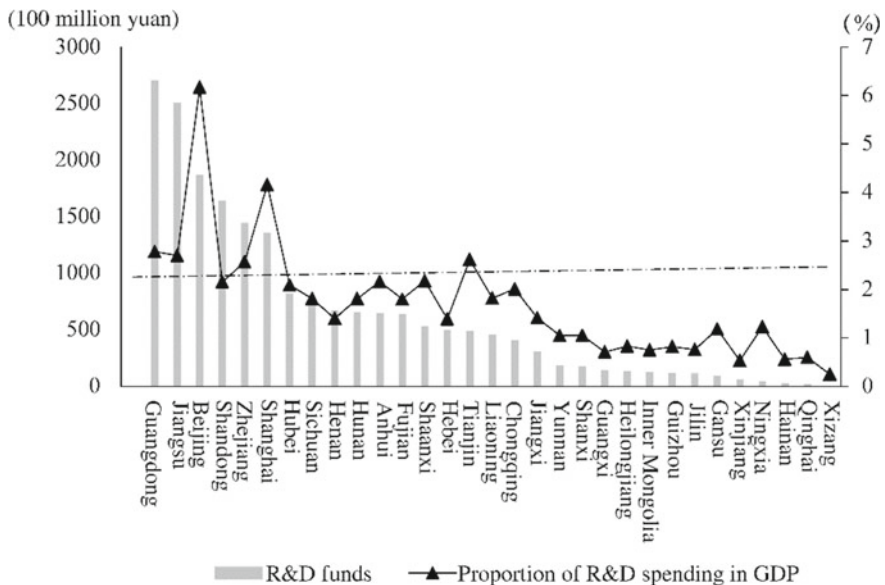


Fig. 16.7 Provincial R&D investment and intensity in China in 2018. *Source* Communiqué on National Expenditures on Science and Technology in 2018

(3) Unbalanced development of basic public services

After years of financial investment and construction, China has initially established a modern basic public service system for the whole country, which has enhanced its support capacity. However, due to the unbalanced development of urban and rural areas, it was hard to achieve regional equalization due to prominent differences in the dual system of urban–rural division and the degree of local government’s recognition, and to the unbalanced development of basic public services in different regions and between urban and rural areas. At present, this imbalance is not only reflected in the inequality between urban and rural areas, but also in the inequality between regions and in the inharmony between hardware and software. In recent years, although the equalization of regional, urban and rural basic public services has been rapidly promoted, it is still difficult to achieve equalization of quality. Take education and medical care as an example. From the perspective of investment and quantity of infrastructure construction, there is little difference between regions and between urban and rural areas; however, it is difficult for backward areas and villages to attract excellent teachers, doctors and other talents, resulting in great differences in service quality in these areas. It is therefore more difficult to achieve the goal of quality equalization than to achieve hardware equalization or quantity equalization of basic public services.

(4) Slow development of blue ocean economy

The 13th Five-Year Plan regards “expanding the blue economic space” as an important measure to promote coordinated regional development, and hopes to strengthen the marine economy and build a maritime power by promoting the construction of national marine economic development pilot areas and national marine economic development demonstration zones. However, from the actual development, its expected results have not been achieved. From 2011 to 2018, though the gross ocean production and the number of the marine industry’s employees presented a rising trend year after year; however, from the perspective of the growth rate of gross ocean production and its proportion in GDP, the marine industry failed to see the trend of explosive growth (see Table 16.7). With the gradual slowdown of China’s economic growth, the growth rate of gross ocean production has been declining year after year, from 10.4% in 2011 to 6.7% in 2018. Although the growth rate of marine economy was slightly higher than that of national GDP, the proportion of gross ocean production in national GDP did not rise but declined slightly in 2018. Under the background of slowing national economic growth, the blue ocean economy has not yet become the new growth pole of China’s economy.

16.2.3 Overarching Approach for Promoting Coordinated Regional Development

At present, China’s economy is shifting from high-speed growth to high-quality development. It is the core task of China’s regional development to comprehensively promote regional high-quality development and build a new pattern of coordinated

Table 16.7 Main Indicators of China's marine economy from 2011 to 2018

	Gross ocean production ('00 million yuan)	Growth rate (%)	Relative growth rate	Proportion in national GDP (%)	Employed persons ('0000 persons)
2011	45,570	10.4	1.08	9.3	3420
2014	59,936	7.7	1.05	9.3	3554
2015	64,669	7.0	1.01	9.4	3589
2016	70,507	6.8	1.01	9.5	3624
2017	77,611	6.9	1.01	9.5	3657
2018	83,415	6.7	1.02	9.3	3684

Note Excluding data on Hong Kong Special Administrative Region, Macao Special Administrative Region and Taiwan region. The relative growth rate is the ratio of the growth rate of national gross ocean production to the growth rate of GDP

Source Statistical Communiqués on China's Marine Economy from 2011 to 2018 and China Statistical Yearbook 2019

regional development that meets the needs of high-quality development. Under the new situation, we will step up efforts to deepen and improve the “4 + X” master strategy for regional development, further improve the land and space governance system, implement a new strategy of all-round and two-way opening, fully cultivate three major marine economic zones, and gradually create a new, open, green and efficient structure of regional high-quality coordinated development with reasonable division of labor and complementary advantages.

(1) Deepening and improving the “4 + X” master strategy for regional development

To meet the needs of national development strategy, we will coordinate the development of all major zones and belts, implement the “4 + X” master strategy for regional development, and promote the formation of a national regional development strategy system based on four regions (east, west, north and south). In the “4 + X” strategy, “4” means continuing to support the development of the western region, the revitalization of northeast China, the rise of the central region, and the spearhead development of the eastern region, and giving new connotations according to the changes in the situation; “X” means implementing and expanding the development strategy of key belts in depth according to the new situation and national needs, including the coordinated development of the Beijing-Tianjin-Hebei region, the construction of the Yangtze River Economic Belt, the construction of the Guangdong-Hong Kong-Macao Greater Bay Area, the comprehensive deepening of reform and opening-up in Hainan, the regional integration development of the Yangtze River Delta, the ecological protection and high-quality development of the Yellow River Basin, and the construction of the Economic Circle in Chengdu and Chongqing. In this strategic system, the four-region strategy is a regional strategy with full coverage, and is the foundation of the strategic system. The X-belt (zone) strategy is a point-axis strategy focusing on key areas, which is the skeleton of the strategic system and plays a leading, supporting and

bridging role. The four-region strategy and the “X-zone/belt” strategy are the relationship between area and point axis, as well as the relationship between foundation and skeleton. The organic combination of the two will produce superposed effect, synergistic effect and merging effect to stimulate the endogenous vitality of regional development, and promote the formation of a number of new growth points, growth poles and growth axes, thus expanding new space for economic development.¹⁴

First of all, we need to redefine the four-region strategy in the new period. In the new period, the plan for four-region strategic development will aim to achieve high-quality development. The eastern region should make full use of its advantages of solid foundation, strong ability and rapid transformation, and play a leading, demonstrating and leading role in high-quality development. It should focus on enhancing global influence, innovation driving force and sustainable development ability, and strive to build itself into a pioneering area for high-quality development, a leading area for scientific and technological innovation and a demonstration area for modernization. The central region should play the pivotal role of connecting the east with the west and the south with the north. It should focus on high-quality development of manufacturing industry and agricultural modernization, and accelerate the industrial transformation and upgrading and the construction of a high-quality modern economic system, so as to become a center for inland opening, and promote sustained and comprehensive rise of the central region. The western region should make use of its frontier and late-mover advantages, and give full play to the leading role of building the “Belt and Road” Initiative. In this region, we will speed up the construction of inland open economy and open economic belt along the border, implement the strategy of deep industrialization, and build an ecological modern industrial system, so as to promote west development and create a new pattern for ecological and green development. The northeastern region should combine economic poverty reduction with transformation and upgrading and system reengineering to accelerate the strategic reorganization of state-owned enterprises, develop private economy and strategic emerging industries, promote the overall transformation and upgrading of industries, and realize the economic revitalization of the region.

Secondly, thoroughly implementing and expanding the X-belt (zone) development strategy. On the basis of further implementing the coordinated development of the Beijing-Tianjin-Hebei region, the construction of the Yangtze River Economic Belt, the construction of the Guangdong-Hong Kong-Macao Greater Bay Area, comprehensive deepening of reform and opening-up in Hainan, and regional integration in Yangtze River Delta, we will accelerate the formulation and implementation of plans for ecological protection and high-quality development of the Yellow River Basin and the construction of Chengdu-Chongqing Economic Circle. We will also increase efforts to establish and improve the national regional development strategy system and the spatial economic system and rational division of labor between vertical and horizontal economic axes and different types of characteristic regions, and lead China’s economy towards high-quality coordinated development. Of belts and zones, the Beijing-Tianjin-Hebei region and the Yangtze River Delta should aim

¹⁴ Wei (2019, p. 19).

to build regional integrated development demonstration zones, while the Yangtze River Economic Belt and the Yellow River Economic Belt will be built into national pilot zones for coordinated development of ecological environment and economy, so as to accumulate experience for China's future sustainable development. The Guangdong-Hong Kong-Macao Greater Bay Area will be built into a center for global scientific and technological innovation and become a world-class advanced manufacturing base. Hainan Island will be built into a global free trade and open base. The Chengdu-Chongqing Economic Circle will be built into a core growth pole in the western region to bolster rapid development of the western region.

(2) Further improving the governance system of national territory space

Perfecting the governance system of national territory space is an important part of modernization of the national governance system and governance capacity,¹⁵ and it is also a new idea and new requirement put forward by President Xi Jinping for promoting coordinated regional development under the new situation. In the medium and long term, the spatial governance system of national territory can be improved from the following aspects.

First, we will create the main framework of “three horizontal and three vertical” territory space development that spans the east, west and north and connects the south and north. In the *National Plan for Developing Priority Zones* in 2010, the state proposed “building a strategic urbanization pattern” composed of two horizontal axes and three vertical axes, and made it clear that this pattern will basically take shape by 2020. After nearly ten years' development and construction, the regional economic development is facing a new situation, especially when the strategic planning for ecological protection and high-quality development in the Yellow River Basin is put on the agenda, so it is necessary to re-examine and optimize the pattern of “two horizontal axes and three vertical axes”. With currently widening differences between north and south and large gap between east and west, China will build a new pattern for development of national territory space, featuring “three horizontal axes and three vertical axes” in the future, so as to promote regional overall coordination with moderate and balanced development. In this framework, “three horizontal axes” refer to the land bridge passage along the Yellow River, the passage along the Yangtze River and the passage along Shanghai-Kunming route, while “three vertical axes” refer to the areas along the coastal line, Beijing-Harbin and Beijing-Guangzhou, and Baotou-Kunming passages. In other words, the Shanghai-Kunming passage is added as a horizontal axis to the original pattern of “two horizontal axes and three vertical axes”, and the original land bridge passage is expanded into the land bridge passage along the Yellow River so as to meet the needs of ecological protection and high-quality development planning and construction of the Yellow River Basin.

Secondly, establish a network of growth pole with city clusters and metropolitan areas. By making full use of the comparative advantages in various regions, we will accelerate the construction of world-class, national and regional three-level city

¹⁵ Huang and Zhang (2018).

clusters and three-level metropolitan areas, so as to create a network with hierarchical and multi-center growth pole in support of the high-quality development of China's economy. The world-class city clusters will be built into economic, scientific, educational, cultural and international exchange centers with global influence, and will serve as main platforms for China to show its comprehensive strength to the world, including 4 city clusters such as the Yangtze River Delta, Pearl River Delta, Beijing-Tianjin-Hebei region and the middle reaches of the Yangtze River. The state-level city clusters will perform functions as core growth poles of the national economy, which include 10 city clusters such as Shandong Peninsula, the west coast of the Taiwan Straits, central and southern Liaoning, Harbin-Changchun, Central Plains, Hefei, Chengdu-Chongqing, Guanzhong-Tianshui, Beibu Gulf and Lanzhou-Xining. Regional city clusters will be positioned as regional comprehensive centers and growth poles, including 9 city clusters or city-town concentrated areas such as central and southern Hebei, east of Lianyungang-Lanzhou area, Taiyuan, Hohhot-Baotou-Erdos-Yulin, central Guizhou, central Yunnan, areas along the Yellow River in Ningxia, the northern slope of Tianshan Mountains and central and southern Tibet.¹⁶ At the same time, we will actively promote the planning and construction of three types of metropolitan areas: optimization, development and cultivation.

Finally, we will take a differentiated approach to governance. First, based on compilation of national territory space planning, we will formulate and implement a negative list system for national land development to improve the autonomy of local governments in development. Second, we will establish and improve the land space development and protection system, and strictly control the boundaries, total quantity and intensity of development. Third, based on the current needs of subdivision and differentiation for land space governance, we will formulate differentiated policies for different types of land space, so as to create a differentiated governance strategy of classified regulation and precise policy.

(3) Carrying out a new strategy of all-round and two-way opening

Since the reform and opening-up, China's coastal areas have continuously attracted economic activities with their advantages of location and opening up first, thus maintaining a sustained and rapid development trend. In view of the new changes in the global trade pattern, we will further intensify inland opening and implement a new strategy of two-way opening.

First of all, guided by the "Belt and Road" Initiative, we will build a "C"-shaped border open economic belt from Dandong, Liaoning to Chongzuo, Guangxi, and promote the economic and social development of border areas through the construction of the border open economic belt. We will set about compiling the *Development Plan of Open Economic Belt in Border Areas* as soon as possible, continue to implement the action to vitalize border areas and enriching the people living there, and promote the overall prosperity and stability of the border areas through open development. We will fully leverage the geographical advantages of all border or frontier areas. The northeastern frontier area (extending from Dandong to Daxing'anling)

¹⁶ Wei (2014a, p. 38).

adjoins the northeast Asia and the far east of Russia. The northern frontier area (from Hulunbeir to Altay) adjoins Mongolia and Russia. The northwest frontier area (from Tacheng to Hotan) adjoins central Asia and west Asia. The southwest frontier area (from Ali to Chongzuo) adjoins south Asia and Southeast Asia. These geographical advantages can be leveraged to build centers for border opening and foreign cooperation with different characteristics, clear functions and reasonable division of labor in each area.

Secondly, we will take the construction of the Yangtze River Economic Belt, the ecological protection and high-quality development of the Yellow River Basin, and the construction of a new land-sea channel in the west as an opportunity to further intensify the opening up of inland areas in the central and western regions. On the one hand, we will set up a number of inland open pioneer areas in the inland areas of the central and western regions, such as Chengdu-Chongqing, Xixian and Lanzhou-Baiyin in the west, and Hefei, Zhengzhou, Taiyuan, Wuhan, Changsha-Zhuzhou-Xiangtan and Nanchang-Jiujiang in the central region. With reference to FTZ policies, we will formulate new inland open support policies, so as to, on the other hand, strengthen open cooperation, and create a new pattern of coordination and opening among coastal areas, border areas and inland areas.

(4) Sparing no efforts to cultivate three major marine economic zones

China is well-known for a long coastline, numerous islands and abundant marine resources, so there is greater potential and space for development of marine economy. Therefore, we will strive to develop the blue ocean economy, and fully cultivate three major marine economic zones. We will change the traditional concept of “the geological survey of land and sea areas is independent of each other”, and make overall plans for the interaction of land and sea resources, complementary interests and coordinated development, and implement the unified planning of land and sea. At the same time, according to the improvement of people’s living standards and the demand for high-quality seafood and the development of modern marine equipment manufacturing industry in building a maritime power, we will work to optimize the structure of marine industry, speed up green transformation of offshore aquaculture, provide potent support for offshore fishing industry, and actively cultivate marine strategic emerging industries such as marine equipment manufacturing, marine biomedicine, as well as desalination and integrated utilization of seawater.

First, bolstering high-quality development of the marine economic zones in north China. The northern marine economic zone is composed of Liaodong Peninsula, Bohai Bay, Shandong Peninsula and its sea areas, which is an important platform and industrial base for opening to the outside world in northern China. This marine economic zone should make full use of the coordinated development of Beijing-Tianjin-Hebei region, the construction of Tianjin, Liaoning, Shandong and Hebei free trade zones and the advantages of marine science and technology education resources to develop marine industries such as shipbuilding, marine engineering, oil and gas exploitation, seawater desalination, marine biomedicine, etc. It will achieve coordination between fishery development and ecological management, and build an advanced manufacturing base with global influence, a national marine science and

technology innovation center and an international shipping center facing northeast Asia.

Second, supporting priority development of the eastern coastal economic zones. The eastern coastal economic zone consists of coastal areas and marine areas along Jiangsu, Shanghai and Zhejiang provinces. This zone is equipped with developed export-oriented economy, solid foundation of modern manufacturing industry, obvious advantages of modern service industry, perfect port shipping system and high degree of regional economic integration. Therefore, the eastern coastal economic zone will be based on integration of FTZs in Shanghai and Zhejiang and the Yangtze River Delta for the development of marine industries such as marine engineering equipment, ship design and manufacturing, ecological petrochemical, and ship financial leasing. It should leverage its functions as an international economic, financial, trade and shipping center to build itself into an important region for China's participation in economic globalization and the most influential international gateway in the Asia-Pacific region.

Third, intensifying efforts in development of the southern marine economic zone. The southern marine economic zone is composed of Fujian, Pearl River Estuary and its two banks, Beibu Gulf, Hainan Island and its sea areas. The southern marine economic zone is endowed with a vast sea area, rich oil and gas resources and prominent strategic position. Influenced by geopolitics for a long time, the marine economy developed late and fell behind other zones, excluding the Pearl River Estuary. This marine economic zone should be based on the construction of the Guangdong-Hong Kong-Macao Greater Bay Area, Hainan Free Trade Port, FTZs in Fujian and Guangxi. Industries suitable for this zone include modern manufacturing industries (e.g. marine ships, marine engineering equipment and marine biomedicine). With exploration of marine resources such as oil and gas, offshore fishing and marine tourism, this zone will be built into an advanced manufacturing base with global influence in the Bay Area, a priority investment place for foreign investors and a global tourism destination.

16.2.4 Major Measures to Promote Coordinated Regional Development

To create a new pattern of high-quality coordinated regional development, China will implement differentiated space control policies, and continue to support the development of old revolutionary base areas, ethnic minority areas and border areas. Meanwhile, China will work to revitalize the northeastern region, vigorously cultivate advanced manufacturing bases in the central and western regions, formulate and implement support policies for relatively poor areas, and accelerate the integration of modern infrastructure.

(1) Helping the northeast region to achieve poverty alleviation and revitalization

First of all, we will set up a comprehensive cooperation mechanism between the northeastern region and eastern developed areas. We will seize the new opportunity of the “Belt and Road” Initiative to achieve integrated development of the strategy of revitalizing the northeast China, the coordinated development of the Beijing-Tianjin-Hebei region, the Yangtze River Delta regional integration development and the construction of the Guangdong-Hong Kong-Macau Greater Bay Area, so as to create a new situation of comprehensive cooperation between the northeast and eastern developed regions. Our key efforts will be made to deepen and improve the paired-up cooperation mechanism between the northeastern region and three provinces and four cities in the eastern developed areas, comprehensively broaden cooperation areas, strengthen cadre exchanges, and promote the transformation of cadres’ concepts and the improvement of their quality. We will encourage and support the transfer and diffusion of Beijing’s non-capital core functions to the northeastern region, and make use of the advantages of capital brand, talents, technology and management experiences to establish a scientific research achievement transformation and industrialization base in the northeastern region. The northeastern region will be motivated to strengthen cooperation in industrial parks, introduce advanced management concepts, experiences and talents from eastern developed areas, and introduce and transfer industries by means of tax sharing to realize benefit sharing.

Secondly, establishing a special investment and development fund. In view of declining investment in the northeastern region, and based on the needs of steady growth, employment protection and coordinated regional development, we recommend that the central government should set up special investment and development fund to increase investment in the northeastern region that meets difficulty in development. On the one hand, the fund should invest in industries with local development characteristics and emerging industries suitable for local development according to regional comparative advantages, and create a characteristic industrial system with sustainable development. On the other hand, the fund should also increase investment in transportation infrastructure, education, medical care and other basic public services in backward areas of the northeastern region, so as to enhance the attractiveness of these areas to foreign enterprises and outstanding migrants.

Finally, accelerating institutional reforms to release market vitality. For a long time, there has been no clear boundary between the government and the market in the northeastern region. The market mechanism cannot fully and effectively play its leading role. It is therefore necessary to strengthen the guidance and supervision of the government departments in these regions to promote the reform of relevant systems and mechanisms from the central level. On the one hand, we will work to accelerate the transformation of functions and departments of governments in old industrial bases and resource-based areas to service-oriented governments. For this end, we will fully leverage the role of market mechanism to enhance market vitality, eliminate unreasonable government control over the market, and accelerate the construction of a good investment and business environment. On the other hand, we will work to promote the comprehensive deepening of the reform of state-owned enterprises in the northeastern region, so as to meet the requirements of China’s market-oriented reform and state-owned assets management system.

(2) Cultivating advanced manufacturing bases in the central and western regions

First, a number of national advanced manufacturing demonstration bases with high quality will be built in the central and western regions. The central and western regions have great potential to develop advanced manufacturing industries. In order to realize high-quality industrialization in the central and western regions and speed up the construction of a competitive advanced manufacturing system, we can consider building a number of comprehensive national advanced manufacturing demonstration bases in some areas with good manufacturing development foundation in the central and western regions, so as to promote the development of advanced manufacturing in the central and western regions. The central and western regions have the first-tier candidate areas for building a national advanced manufacturing demonstration base, e.g. city clusters in the middle reaches of the Yangtze River and the Chengdu-Chongqing economic circle. Candidate areas for the second-tier can be selected from some provincial capitals with good industrial base, such as Xi'an, Hefei, Zhengzhou, Guiyang, Nanning, Kunming and Lanzhou.

Secondly, building a number of specialized advanced manufacturing bases in small and medium-sized cities in the central and western regions. At present, the advanced manufacturing industries in the central and western regions are mainly concentrated in big cities such as provincial capitals, while small and medium-sized cities are basically put aside. This layout is not conducive to the coordinated development of regional economy, nor can it make full use of the advantages of low cost of land, labor and other factors in small and medium-sized cities. Therefore, some small and medium-sized cities with good transportation location, certain industrial base and high carrying capacity of resources and environment should be selected in the central and western regions, so as to build a number of specialized advanced manufacturing bases with characteristics in response to the comprehensive national advanced manufacturing demonstration bases in big cities, and jointly promote the formation of a multi-level advanced manufacturing system in the central and western regions.

(3) Formulating and implementing support policies for relatively poor areas

First, working out a reasonable line for relative poverty areas. According to the current poverty line, by 2020, China's rural residents are lifted out of poverty, all poor counties leave poverty behind, and absolute poverty is eliminated. However, due to unbalanced development among regions, relative poverty will replace absolute poverty as a new concern after 2020. To support the accelerated development of relatively poor areas, we will work out a line for relative poverty and accurately identify relatively poor areas. It is suggested that the county administrative region should be taken as the basic unit when considering residents' per capita income, per capita fiscal income, relative poverty incidence, basic public service level and other indicators, and that a certain proportion of the lower ranked areas in China should be included in the category of relative poverty areas, and dynamically adjusted for a period of five years.

Second, a multi-pronged approach will be taken to support the development of relatively poor areas. (1) Aligning new policies with the old ones. We will sort out

current policies for poverty-stricken counties, and integrate them into policies for relatively poor areas according to the principles of retention, extension, adjustment and cancellation. (2) Continuing to implement paired-up assistance. To strengthen top-level design of paired-up assistance, we suggest establishing a work leading group led by the central government with the participation of the assistance's recipient and provider, so as to further improve and standardize the preparation, implementation, evaluation and adjustment mechanism of pair-up assistance planning, strengthen the management of funds and projects, scientifically carry out comprehensive performance assessment and evaluation, coordinate the interests of all parties, and make unified arrangements.¹⁷ (3) By means of tax incentives and government subsidies, enterprises are attracted to invest in relatively poor areas, so as to drive employment and get rid of poverty through industry, and form a new poverty alleviation cooperation mechanism focusing on industrial poverty alleviation with full participation of various social forces.

(4) Accelerating the integration of modern infrastructure

First of all, the national integrative transportation network will be optimized and improved to meet the needs of the Belt and Road construction and high-quality coordinated regional development. We will increase support for the construction of transportation facilities in the central and western regions and the northeastern region. We will speed up planning and construction of Xining-Chengdu, Sichuan-Tibet, Xinjiang-Tibet and Yunnan-Tibet railways, continue to improve the Belt and Road land international transportation corridor, the transportation corridor connecting major coastal ports in the central and western regions and the transportation corridor between city clusters, and strengthen the construction of border ports and their connecting lines and highways along the border. At the same time, neighboring regions will be encouraged to establish major facilities such as ports, airports and high-speed railway stations, and make overall plans for construction of comprehensive transportation hubs in the central and western regions, so as to avoid redundant construction, vicious competition and low utilization rate of infrastructure due to unreasonable site selection and inaccurate functional positioning.

Then, in the allocation of information resources and information construction, we will increase support for the central and western regions. With the advent of the information age, the traditional geographical space distance is no longer the main obstacle to economic exchanges. The central and western regions can make full use of modern information technology to make up for the existing location disadvantages and achieve leap-forward development. It is suggested that the state should give preferential policies for capital, talents, taxation and finance in order to support the development of information network infrastructure construction, enterprise informatization transformation, and government informatization construction and information service industry cultivation in the central and western regions.

¹⁷ Nian (2017).

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Chapter 17

Research on Strategies and Major Policies of Ecological Environment Protection and Climate Change Response



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In China's "Five in One" overall layout and "Four Comprehensive" strategic layout during the "13th Five-Year Plan" period, the construction of ecological civilization is an important content. With unprecedented courage and strength, we have promoted the reform of ecological civilization system and mechanism, and made breakthroughs in ecological environment protection and response to climate change. China is expected to enter the ranks of high-income countries in the future, and it needs to realize the ecological environment matching with high-income countries and undertake corresponding international obligations. This period is also a critical period after China has achieved a well-off society in an all-round way, an important strategic period for China to strengthen the foundation of modernization, and a key stage for China to basically achieve the strategic goal of socialist modernization in 2035. The protection of ecological environment and the response to climate change in this period are of key and overall significance to China's social and economic development. The key point of ecological civilization construction is to make great efforts to protect the environment, and the core is high-quality development. By further deepening institutional reform and strengthening institutional construction, we can achieve a comprehensive breakthrough in ecological environment protection and climate change response, build an ecological barrier, and enhance green productivity.

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17.1 Achievements and Challenges of Ecological Civilization Construction

Since the 19th National Congress of the Communist Party of China, under the strong leadership of the CPC Central Committee with Comrade Xi Jinping as the core, China has given full play to the superiority of the socialist system and accumulated a solid material foundation for reform and opening-up. On this basis, we have intensified efforts to promote the construction of ecological civilization, solve ecological and environmental problems, resolutely fight a tough battle against pollution, and actively respond to climate change. We have carried out a series of fundamental, pioneering and long-term work and made outstanding achievements. In the future, China's ecological environment protection and response to climate change will be in a new historical period, and facing a new development situation and four outstanding challenges.

17.1.1 *Significant Achievements Made in the Construction of Ecological Civilization*

In recent years, the external environmental factors affecting China have increased obviously, the domestic economic development mode has changed, the economic structure has been optimized, and China has entered a critical stage of high-quality development. Under the guidance of Xi Jinping's new idea of socialism with Chinese characteristics in the new era, China has accelerated the construction of top-level design and institutional system of ecological civilization, vigorously promoted pollution control, and continuously improved the quality of ecological environment. China's ecological civilization construction has made remarkable achievements in various aspects.

First, the establishment of Xi Jinping's Thought on Ecological Civilization. Xi's ecological civilization thought is an important part of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, which pointing out the direction for promoting the construction of beautiful China and realizing the modernization of harmonious coexistence between man and nature. "Lucid waters and lush mountains are invaluable assets" has become the consensus of the whole society, and it promotes the comprehensive implement of environmental protection and high-quality development; The ecological civilization concept of respecting nature, adapting to nature and protecting nature is written into the party constitution; Green development, circular development and low-carbon development are integrated into economic, political, cultural and social construction.¹

Second, the construction of ecological civilization system has been basically completed. On November 12th, 2013, the Third Plenary Session of the 18th CPC

¹ Peng (2019).

Central Committee adopted *the Decision of the Central Committee of the Communist Party of China on Comprehensively Deepening the Reform of Some Major Issues*, proposing to deepen the reform of ecological civilization system and speed up the establishment of ecological civilization system around building a beautiful China. In the past seven years, China has formulated and implemented dozens of reform programs involving ecological civilization construction and ecological environment protection, which have basically formed a comprehensive institutional system. The institutional system of ecological civilization construction has been built in an all-round way by implementing the strictest ecological environment protection system, comprehensively establishing the system of efficient utilization of resources, improving the system of ecological protection and restoration, and strictly observing the responsibility system of ecological environment protection.

Third, the tough battle against pollution has won a staged victory. We thoroughly implement the new development concept and resolutely win the three major defense wars of blue sky and clear water. We delineate the environmental protection red line, the ecological bottom line and the upper limit of resource utilization to promote ecological restoration and natural restoration. We have comprehensively promoted the construction of ecological civilization in the key areas of environmental protection and ecological construction such as atmosphere, water, soil, ocean, drinking water safety, disaster reduction and prevention, soil and water conservation, sand control, etc. The overall quality of ecological environment has improved, and key progress has been made in the battle against pollution.

Fourth, significant progress has been made in tackling climate change and low-carbon transformation. In recent years, China has been actively implementing the Paris Agreement to promote low-carbon transformation. In 2017, China's carbon dioxide emissions (carbon intensity) per unit of GDP decreased by about 46% compared with 2005, and the goal of reducing carbon intensity by 40%-45% in 2020 was achieved three years ahead of schedule.² The proportion of coal in China's primary energy dropped sharply from 64% in 2015 to 57.7% in 2019, with an average annual decline of 1.6% points; the installed capacity and power generation of renewable energy lead the world.

17.1.2 China's Ecological Environment Protection and Response to Climate Change Are Facing a New Situation

Looking forward to the future, as General Secretary Xi Jinping pointed out at the National Eco-environmental Protection Conference, the construction of ecological civilization is in a critical period. More high-quality ecological products are needed to meet the people's growing needs for beautiful ecological environment, and it is time to be able to solve outstanding problems of ecological environment.

² Zhao (2018).

In the future, the historical trend of “three-phase superposition” (the shift period of economic growth, the painful period of structural adjustment and the digestive period of early stimulus policies) will continue. In 2019, China’s per capita GDP has reached 10,000 USD, and it is expected that the per capita GDP will surpass the threshold of 12,300 USD in the next five years. Judging from the development stages of various countries, most developed countries have basically completed the crucial task of ecological environment protection and pollution control, and the focus has shifted to the challenge of global climate change, while developing countries will face more ecological environment pressure, and have not yet formed a strict goal of dealing with climate change.

China will face the double challenges of ecological environment protection and climate change in the future. To truly enter the ranks of high-income countries, in addition to the per capita GDP reaching the threshold, it is necessary to achieve the ecological environment protection and pollution control objectives that match those of high-income countries, and at the same time have the international competitiveness of low-carbon transformation and coping with climate change. In this sense, the protection of ecological environment and the response to climate change in the next 5–10 years will have a turning point and overall significance for China’s social and economic development.

17.1.3 Outstanding Challenges Faced by Ecological Environment Protection and Coping with Climate Change

During the “13th Five-Year Plan” period, the quality of ecological environment has generally improved, and the economy has been developing in a green and high-quality way. However, the implementation results of ecological control and pollution prevention objectives are still not stable, and four outstanding challenges will be faced in the future.

First, the slowdown in economic growth affects China’s strategic determination to protect the ecological environment and deal with climate change. At present, both domestic and international countries are facing the pressure of slowing economic growth. Internationally, the world economy slowed down sharply in the last three quarters of 2018, and then remained weak. Especially, the manufacturing industry had fallen to the lowest level since the international financial crisis in 2008. Domestically, China’s economic growth rate dropped from 10.6% in 2010 to 6.1% in 2019.³ In 2020, the epidemic situation of COVID-19 caused a serious impact on the economy, with a year-on-year decline of 6.8% in the first quarter. In the second quarter, the economic growth turned from negative to positive, increasing by 3.2%, and the economic operation showed a steady recovery trend. In January, 2020, China and the United States reached the first stage of trade agreement, but recently Sino-US relations have

³ Wang (2020).

been deteriorating. The rapid changes in the external environment have adversely affected China's economic development. Some provinces in China have taken the initiative to reduce, and some even lowered the target of regional GDP by a large range. Under the background of the superposition of internal and external economic pressures, the phenomenon of relaxing environmental governance and low-carbon transformation may occur in some parts of China in order to maintain growth.

Although the battle against pollution has achieved remarkable results, among the 1,940 surface water sections examined nationwide in 2019, the proportion of IV and below water sources that cannot be used as drinking water sources still exceeds 1/4, and the proportion of inferior V sections reaches 3.4%. Among the 337 cities at the prefecture level and above, 180 cities do not meet the air quality standards.⁴ Some places oppose ecological environmental protection with economic and social development, and they have no courage to formulate zero-carbon oriented development strategies and dare not do anything. To varying degrees, there are phenomena of disorderly development, extensive development and scattered development. Problems such as irrational energy structure and low utilization efficiency are still outstanding, and some even exceed the carrying capacity of local environmental resources. This shows that although China's ecological environment is stable and improving, some fundamental problems have not been completely solved. When the GDP of some provinces decreases and the external environment is unfavorable, there is insufficient confidence in adhering to the goal of ecological environment protection and realizing the peak of carbon emissions ahead of time. Therefore, the current results are not stable. If we can't change our thinking in time, the future ecological environment governance and low-carbon transformation process will face the risk of stagnation and retrogression.

Second, the low green productivity is a prominent problem that restricts China's high-quality development. In the process of long-term industrialization and urbanization in China, the constraints of resources and environment have been neglected, and the green productivity level has been slowly improved. In 2019, China's carbon dioxide emissions from fossil energy combustion accounted for about 28% of the total global emissions, ranking first. Although China's GDP ranks second in the world, it accounts for only about 16%. With the increase of labor, energy, resources and environmental costs, processing and manufacturing industries with traditional advantages are facing transformation pressure in international competition. Sino-US trade friction has profoundly changed the global industrial chain, value chain and supply chain order, and put forward new requirements for "environmentally conscious manufacturing".

There is a big difference in ecological environmental protection between urban and rural areas. At present, the investment in urban ecological environment protection is far greater than that in rural areas, and the development of green industries

⁴ Ministry of Ecology and Environment, The Ministry of Ecology and Environment Announces the Quality Status of Surface Water and Ambient Air in China in 2019, January 23, 2020, the website of the Ministry of Ecology and Environment of the People's Republic of China, http://www.mee.gov.cn/xxgk2018/xxgk15/202001/t20200123_760936.

and production methods in cities is more adequate. On the one hand, the urban population density is higher, the production and living intensity is higher, and the technical level is more advanced; on the other hand, the rural pollution control is not paid enough attention, and the development of green production lags behind. In the construction of environmental infrastructure, the harmless treatment rate of municipal solid waste has reached 94.1%, and it has reached 100% in Shanghai, Jiangsu and Shandong. The national sewage treatment rate is 91.9%, of which the centralized treatment rate of sewage treatment plants is 88.0%. However, only 65.6% of administrative villages in China provide centralized water supply, and only 11.4% of administrative villages treat domestic sewage. Administrative villages with the treatment of domestic garbage are relatively popular, but the proportion is only 62.2%. The lack of green productivity in rural areas not only leads to the ecological environment problems, but also threatens farmers' health and affects rural sustainable development.

There is a gap in ecological environment protection in different river basins. The "Great Protection of the Yangtze River" launched in 2016 has achieved remarkable results, but the ecological environment protection strategy of the Yellow River Basin is still in the top-level design stage. Since the founding of the People's Republic of China, especially since the reform and opening-up, the overall water flow of the Yellow River has been stable, and the water of the Yellow River has become relatively clear. However, the overall situation of ecological fragility in the Yellow River basin is still grim, and some areas in the upper reaches of the Yellow River have degraded ecosystems and low water conservation functions. There is a serious shortage of water resources in the whole basin, the downstream flow is low, and some estuaries are shrinking. Among the 137 water quality sections of the Yellow River tested by the state in 2018, the inferior V-type water accounted for 12.4%, which was significantly higher than the national average of 6.7%. Although the total amount of water resources in the Yellow River is less than 7% of the Yangtze River, and the per capita share of water is only 27% of the national average, but the utilization of water resources is not economical, and the efficiency of agricultural water use is not high. The utilization rate of water resources in Yellow River is as high as 80%, far exceeding the international ecological warning line 40% for the utilization rate of water resources in river basins.⁵ The destruction of the environment and the extensive utilization of water resources restrict the sustainable development of the Yellow River Basin, and there is an urgent need to change as soon as possible and vigorously improve green productivity.

Third, China's international environmental governance is facing the challenge of global ecological security pressure. First is the greening of the "the "Belt and Road" Initiative". Although the "the "Belt and Road" Initiative" has won the support of many countries and international organizations, some foreign governments and media have questioned and blamed China on the ecological environment protection and climate change, believing that the low environmental standards adopted by the host country in the "the "Belt and Road" Initiative" have caused pollution transfer; Accusing the

⁵ Xi (2019).

“the “Belt and Road” Initiative” to destroy habitats and endanger the safety of local ecosystems, to result in an increase in carbon emissions from infrastructure construction in countries along the “the “Belt and Road” Initiative”, to damage environment leading to immigration and other problems. Faced with the doubts, misunderstandings and even distortions of the international community, President Xi Jinping has repeatedly stressed that we should vigorously promote the construction of a green “the “Belt and Road” Initiative” and join hands with other countries to implement *the United Nations 2030 Agenda for Sustainable Development*. However, China still lacks the channels, means and effects of implementation.

Second, global environmental risks are increasing. In January 2020, the World Economic Forum released *the Global Risk Report 2020*, pointing out that the five major global risks in the future are all related to ecological environment and climate change: extreme weather events (such as floods and storms); Failure of mitigation and adaptation measures to climate change; Major natural disasters (such as earthquakes, tsunamis, volcanic eruptions, geomagnetic storms, etc.); Significant biodiversity loss and ecosystem collapse; Man-made environmental damage and disasters.⁶ The global ecological security pressure is prominent, and there is a long way to go to repair the earth’s ecosystem. The 15th Conference of the Parties to the United Nations Convention on Biological Diversity originally scheduled to be held in October 2020, but due to the epidemic situation, it was postponed to May 17–30, 2021 in Yunnan, China, to set the development goals for the next ten years. As the host country, China should not only contribute to the positive results of the conference, but also set an example and take actions to implement the goals.

The continuous improvement of international environmental standards and the pressure of reducing carbon emissions have brought double pressure to China. The Paris Agreement set the goal of controlling global warming not to exceed 2 C and striving to achieve 1.5 C. According to the Paris Agreement and relevant conference decisions, all parties will inform or update their own contributions in 2020. In mid-December, 2019, the European Commission issued *the European Green Agreement*, which aims to curb climate change, improve resource utilization, restore biodiversity through clean energy and circular economy transformation, and finally realize the promise of “making Europe the first carbon-neutral continent in the world”.⁷ Although the Conference of the Parties to the Climate Convention, originally scheduled to be held in Glasgow, England at the end of 2020, has been postponed to the end of 2021, all parties’ attention to improving emission reduction has not changed. Due to the increasing international requirements for emission reduction, China’s carbon emissions accounted for about 28% of the total global emissions in 2019. In addition, some countries adjust or improve the environmental standards of international trade, which has put objective pressure on China’s trade. The United States, Japan and other countries restrict China’s agricultural products export through environmental standards such as green technical standards, product certification system, health inspection and quarantine system, and weaken China’s international market

⁶ World Economic Forum (2020).

⁷ Zheng (2020).

competitiveness. In February, 2018, the European Commission adopted the *Product Environmental Footprint Law* to uniformly evaluate green products, which is likely to create new green barriers for all our export products.⁸

Fourthly, biological safety puts forward new requirements for ecological environment protection. With the rapid advancement of urbanization and industrialization, the massive consumption of resources, the continuous popularization of biotechnology and the global climate change, the natural ecological space has been squeezed out, and the ecological environment and biodiversity have been seriously damaged because of the unprecedented speed and degree of human exploitation and utilization of natural resources. The epidemic situation of COVID-19 reminds people that biological safety not only affects the protection and restoration of endangered species and their habitats, but also relates to the strategic security of the country. After the ecological system is destroyed by human activities, viruses and germs carried by wild animals can spread to human beings across species. The indiscreet and nonstandard research and development and application of new technologies such as gene editing in biotechnology also have a serious impact on social economy, human health and national security. How to deal with biological safety scientifically and properly is an important content of ecological civilization construction in the future. SARS in China in 2002 and the major epidemic situation of COVID-19 have fully exposed the problems that need to be addressed and solved urgently, such as weak biosafety defense line, lack of awareness, absence of legal system, ineffective control and emergency anomie, which have sounded the alarm for us to ensure national biosafety and improve modern social governance system.

17.2 Major Strategies for Ecological Environment Protection and Climate Change Response

Facing the new situation and new challenges, China's ecological environment protection and climate change response need to balance the domestic green development and international climate governance. In the coming period, the overall strategy of China's ecological environment protection and climate change response is to take Xi Jinping's ecological civilization thought as the guide, and make overall plans to promote the improvement of environmental quality and strengthen climate control from the strategic positioning of "ecological prosperity and civilized prosperity"; Grasp the great protection, build an ecological barrier, enhance green productivity and achieve high-quality development. Therefore, it is necessary to systematically plan a series of strategic layouts of ecological civilization construction and ecological environment protection in the new era.

⁸ Xu et al. (2019).

17.2.1 Further Understand the Theory of “Gold and Silver Mountain” in the New Era and Focus on Improving Green Productivity

Under the new situation of slowing economic growth and uncertain international environment, we should keep the strategy of green development unshakable and strive to turn the concept of green development into practical actions. We must fully realize that ecological environment protection is not to restrict development, but to expand development opportunities and improve development quality. According to Xi Jinping’s thought of ecological civilization, “protecting the environment means protecting productive forces, and improving the environment means developing productive forces”. To improve the green competitiveness and green productivity, we need to make greater efforts to promote the green transformation, improve the construction of ecological civilization system, speed up the establishment of a green technology innovation system with enterprises as the main body, market-oriented and deep integration of production and research, speed up the construction of a green production system, develop green finance, and straighten out the relationship between the government and the market in ecological environment protection and low-carbon transformation and development.

17.2.2 Thoroughly Implement the Concept of Harmonious Coexistence Between Man and Nature, Enhance the Awareness and Ability of Preventing Ecological Environmental Risks, and Ensure Ecological Security

In 2020, Australian fire, locust plague in East Africa, COVID-19 epidemic and other natural disasters and biological “black swan” incidents occurred frequently, which constantly sounded the alarm for mankind. Man and nature are the community of life, and modernization is to realize the harmonious coexistence of man and nature, so man must respect, conform to and protect nature. Under the development paradigm of industrial civilization, the solution to environmental problems often depends on the end treatment project. However, due to the diversity and complexity of the natural ecological environment, it is difficult to fundamentally solve the problems only by means of engineering technology, which may also lead to many new problems. We should take the initiative to change the single environmental governance mode dominated by engineering technology, conform to nature, attach importance to “nature-based solutions”, systematically consider and make overall arrangements for the protection, utilization and restoration of ecosystems, especially in the fields related to biodiversity protection, mitigation and adaptation to climate change and sustainable development, and realize the harmonious coexistence between man and nature in the development.

In the long run, the natural ecosystem and human activity system constitute a complex giant system, and the ecological environment is the natural foundation for human survival and sustainable economic and social development. It is particularly important to ensure ecological security and maintain the integrity, stability and functionality of the ecosystem itself. In the world, climate emergency and biodiversity crisis have become a strategic problem,⁹ which attracted great attention from the international community. To protect China's ecological security, first of all, we should strengthen the awareness of preventing ecological environmental risks; Secondly, it is necessary to seriously study the development trend of ecological and environmental risks such as glacier melting, snow line retreat, sea level rise, habitat degradation of endangered species and extreme weather events on the Qinghai-Tibet Plateau, and improve the ability to prevent and resolve risks; Finally, ecological security should ensure biological security and protect human health and life. The international biosecurity situation is changing from a moderate and controllable state to a relatively severe state. Biological threats have changed from occasional risks to persistent threats, the source of threats has changed from single to diversified, the boundary of threats has changed from being limited to a few regions to multi-regions or even globalization, and the scope of sudden biological events has expanded from public health to national security and strategic interests. Biological safety is not only the protection of endangered species, but also the protection and respect of human beings.

17.2.3 Achieve High-Quality Economic Development, Improve the Quality of Air and Soil Environment, and Achieve the Peak of Carbon Emissions

Economic development needs energy to provide power, and fossil energy combustion is the main source of air pollutants and carbon dioxide emissions. The zero-carbon strategy, such as renewable energy, new zero-carbon technologies and pure electric vehicles, is not only the new kinetic energy to promote high-quality economic development, but also the driving force to comprehensively improve environmental quality and achieve zero-carbon transformation. China's commitment to achieve the peak of carbon emissions by 2030 and the requirements of domestic pollution control and high-quality development mean that we should strive to achieve the peak of carbon emissions around 2025. We should take the Paris Agreement's net zero emission after 2050 as a long-term goal, realize low-carbon transformation, promote development and control pollution.

⁹ "Climate emergency" refers to the situation that requires urgent action to reduce or stop climate change and avoid potential environmental damage. In November, 2019, the European Parliament passed a resolution by an overwhelming vote, declaring the European Union to enter a "climate emergency". Europe was the first continent in the world to declare a climate emergency.

In practice, we should also consider the characteristics of different regions, and study and formulate differentiated targets for improving environmental quality and energy conservation and emission reduction. Because water, soil and air pollution are interrelated, after tackling pollution prevention and improving overall energy efficiency, we have turned to comprehensively improving environmental quality and carbon emissions.

17.2.4 The Advantages of Ecological Civilization System and Improvement of the Ability and Level of Ecological Environment Management

The harmonious coexistence between man and nature is the core of ecological civilization system, and the basic socialist economic system is the foundation of ecological civilization system. Harmony between man and nature requires coexistence, sharing and common prosperity between man and other members of the life community. The investment, management and operation of environmental protection and low-carbon development should fully implement the new development concept, give full play to the decisive role of the market in resource allocation, and better play the role of the government.

Socialist democracy and the rule of law are the fundamental guarantee of the ecological civilization governance system. In the process of protecting the ecological environment and coping with climate change, it is necessary to protect the legitimate rights and interests of enterprises, safeguard the environmental rights and interests of citizens, and strengthen the concept of the rule of law. Laws must be observed, violators must be prosecuted, and law enforcement must be strict. It is necessary to build an ecological barrier with the thinking and mode of rule of law to ensure high-quality development. The governance of modern ecological civilization requires multi-party co-governance and clarification of the rights and responsibilities of all subjects. Party leaders, government-led, enterprise subjects, social organizations and the public should participate together, face the problems directly, standardize their behaviors and work together to govern. In the modern ecological civilization governance system, the public is both the service object and the main body of responsibility, which raises interest appeal of the public and assumes the responsibility of environmental governance, improves the channels of participation, and shows the vitality and level of modern governance.

17.2.5 Focus on the Implementation of the “Green Mountain Defense War” in Rural Areas, and Realize the Overall Improvement of Urban and Rural Ecological Environment Quality

For a long time, the focus of China’s environmental protection has been on the prevention and control of industrial point source pollution and urban domestic sewage and garbage pollution, with relatively little attention paid to rural eco-environmental protection and insufficient investment. At present, some places in rural areas are surrounded by garbage and sewage, the ecological environment is worrying, the pollution of agricultural products is frequent, and the food safety problem is serious. Rural residents’ weak awareness of ecological environmental protection, serious shortage of rural environmental protection infrastructure, backward technical level, lack of environmental governance mechanism, and non-point source pollution of agricultural production and domestic pollution are all serious challenges faced by rural environmental governance.¹⁰ While realizing the overall improvement of ecological environment governance and continuing to improve urban environment governance, we must strengthen the rural ecological environment governance from a strategic height, and do a good job in the rural “green hills and blue waters defense war”. Wide rural areas, large-scale agriculture, large number of farmers, energy conservation and low carbon to prevent climate risks are the strategic support and key points to win the “Green Mountain Defense War” in rural areas. Under the background of the integration of urban and rural development, we should strengthen the protection and management of rural ecological environment, comprehensively upgrade the green hills and blue waters ecosystem in rural areas, and improve the ecological function and quality of green products and services.

17.2.6 Sixth, Comprehensively Promote Lifestyle Changes, Advocate and Upgrade Green Consumption

In order to realize the transformation of green development, we must not only transform the mode of production, but also change the lifestyle, advocate and upgrade green consumption. Over the past 40 years of reform and opening-up, the scale of China’s consumer market has continued to expand, and the consumption structure has been continuously transformed and upgraded, from seeking only survival and food and clothing to housing, transportation, education, environmental protection and comfort.¹¹ With the continuous growth of consumer demand, consumption habits such as excessive consumption, extravagance and waste, and even hunting and eating wild animals are very common. Green consumption requires consumer

¹⁰ Dong (2019a).

¹¹ Yang et al. 2019.

products and services to meet the conditions of resource conservation, environmental friendliness, ecological and climate safety, etc. It not only requires green and low-carbon recycling of agricultural products, industrial products and service products in the traditional sense, but also requires more high-quality ecological products such as fresh air, clean water and comfortable environment. With the increasing awareness of green consumption in China, the future development space and potential of green consumption are huge. The COVID-19 epidemic crisis is a profound lesson, which can promote the green consumption lifestyle and guide the quality, efficiency and power changes of economic development.

17.2.7 Promote the Construction of Ecological Civilization in the River Basins, Regional Cooperative Protection, and Realize High-Quality Development and Green Prosperity

River basin is the cradle and center of human civilization. Only the Yangtze River and Yellow River basins in China carry about 70% of the population and more than 70% of the GDP. River basin is the most important strategic water source, treasure house of biodiversity and ecological security barrier area in China. The high-quality development of economic and social environment in river basin will determine the process and sustainability of high-quality development in China. Emphasizing the harmonious coexistence between man and nature and attaching importance to the solution based on nature objectively requires upgrading, integrating and strengthening the ecological civilization construction strategy of the river basin.

The upper, middle and lower reaches of the great river have great differences in topography, resource endowment and economic and social development level, resulting in prominent structural contradictions in some regions.¹² For example, China's Yangtze River and Yellow River Basin, where the upstream ecology is fragile and the development level is relatively backward, is also the ecological security barrier of the whole basin and even the whole country. The development of the middle and lower reaches needs the upstream high-quality ecological products and services. Therefore, it needs the unified management of the whole basin for the great protection. High-quality development must also be coordinated by the whole basin. Only through multi-party co-construction and win-win can we achieve green prosperity.

¹² Ma (2018b).

17.2.8 Hold High the Banner of Global Sustainable Development, and Enhance Our Ability and Level to Participate in and Lead Global Environmental Governance

The COVID-19 epidemic is not only a great test for the public health systems of various countries, but also promotes the reform of the global governance system and mechanism and strengthens the Community of Shared Future for Mankind concept. China has more space on the big stage of global environmental governance, and it must also undertake more international obligations.

First, improve the relevant mechanisms for implementing the United Nations 2030 Agenda for Sustainable Development. China will build a well-off society in an all-round way in 2020, and take the lead in achieving the United Nations goal of eradicating absolute poverty ten years ahead of schedule among developing countries. The vision of people-oriented, prosperity, environment, and peaceful and win-win cooperation in the *2030 Agenda for Sustainable Development* is highly consistent with Xi Jinping's ecological civilization thought, and it is necessary to improve the relevant mechanisms for implementing the *2030 Agenda* at the strategic level. Internally, we should establish a mechanism conducive to the participation of industry, local governments and non-governmental organizations, and create new economic growth points and employment opportunities in realizing the agenda. Externally, actively carry out international cooperation and assistance under the principle of "doing what we can and mutual benefit", and make China's contribution to the realization of this agenda for other developing countries,¹³ and enhance the international discourse power of ecological civilization.

Secondly, promote the overall docking between the green development of "the Belt and Road" Initiative" and the United Nations 2030 Agenda for Sustainable Development. In the overall docking, the green development of "the Belt and Road" Initiative" is the link, and the green "the Belt and Road" Initiative" focuses on sustainable development and the future¹⁴; the goal of sustainable development in 2030 is a global political consensus with the connotation of ecological civilization construction. All-round connection between the two is conducive to gather the forces of all parties and realizing the mutual promotion of the green development and sustainable development goals of "the Belt and Road" Initiative". This comprehensive docking is embodied in three aspects: conceptual docking and political consensus; Domain docking and comprehensively evaluate the impact of the construction of "the Belt and Road" Initiative" on the target, and promote synergy; Policy docking should strengthen communication and exchange with countries along the "the Belt and Road" Initiative" on green development, including cooperative research and exchange training in the fields of ecological environment protection

¹³ Sun (2016).

¹⁴ Lan et al. (2020).

and climate change response, and promote the coordination of relevant policies in all aspects of project construction and operation.

Thirdly, to actively fulfill the obligations of the Paris Agreement, we should play a leading role in international climate governance. Climate change is the most serious challenge facing mankind. Because of the emission of greenhouse gases, the mitigation of climate change must be achieved through international cooperation.¹⁵ In the Paris Agreement, China's independent contribution goal is to reach the peak of carbon emissions by 2030. Although China's total energy consumption increased during the 13th Five-Year Plan period, it did not break through the peak of coal consumption in 2013. At present, China's installed capacity and power generation of wind power generation, photovoltaic power generation and hydropower generation are leading the world, and forest carbon sinks (carbon reserves in forests) are constantly increasing. Compared with many countries' goal of achieving zero carbon emissions in 2050, China's goal of achieving the peak of carbon emissions around 2025 is active and not radical. China should take international climate governance as the focus of international environmental governance, strengthen international cooperation, enhance China's ability and level to participate in international governance, and actively promote the construction of a more fair and reasonable international governance system.

Finally, actively promote the process of global biodiversity conservation and fulfill relevant obligations. China was originally scheduled to host the 15th Conference of the Parties to the United Nations Convention on Biological Diversity in Kunming, Yunnan Province in September 2020, because the epidemic was postponed to May 2021, which demonstrated China's determination to promote the global biodiversity protection process, completely ban illegal wildlife trade, get rid of the bad habit of eating wild animals excessively, and effectively protect people's lives, health and safety. China should lead countries to formulate biodiversity conservation goals and action plans for 2030 under the framework of the United Nations, and put forward medium-and long-term goals and actions for biodiversity conservation.

17.3 Policy Suggestions for Promoting Ecological Environment Protection and Responding to Climate Change

The report of the 19th National Congress of the Communist Party of China established the goal of ecological civilization construction in the new era and the overall goal of the medium-and long-term ecological environment protection and climate change strategy, which is to lay a solid foundation for the basic realization of socialist modernization in 2035, realize the overall and fundamental improvement of China's ecological environment, fully reach the advanced level of global ecological protection environment quality, and effectively prevent climate risks. China strives to achieve the

¹⁵ Gao (2016).

peak of carbon emissions in 2025, and make contributions to leading global climate governance. In order to implement the overall strategy and achieve the overall goal, it is necessary to build and fully start the necessary policy support system and promote the concrete implementation of the pillar strategy.

17.3.1 An Economic Policy System to Strengthen Ecological Environmental Protection

In order to adapt to the construction of ecological civilization in the new era, it is necessary to perfect the financial system reform of ecological environment, deepen the innovation of environmental and economic policies, explore and establish the policy mechanism to realize the transformation of “Golden and Silver Mountain”, and establish a diversified and market-oriented ecological compensation system.

First, improve the financial policy of ecological environment and give full play to the incentive and guiding role of financial resources. Further promote the reform of the financial system and mechanism of ecological environment that matches the central and local financial rights and administrative rights; Establish a mechanism for the allocation of financial funds according to the performance of ecological environment quality improvement, and increase financial payments to areas where the improvement of ecological environment quality in water, atmosphere, soil, ecological functional areas and the restoration and protection of ecosystems have achieved remarkable results¹⁶; Guide financial funds to promote the structural adjustment of green development; We will gradually adjust the subsidy policy from focusing on production to focusing on consumption, and guide green consumption.

Second, explore the mechanism, conditions and paths to realize the value of ecological products. Green hills and blue waters are the necessary material basis for the survival and development of human society, the source of economic value and the fundamental material guarantee. To realize the transformation from “Green hills and blue waters” to “golden mountains and silver mountains”, we need not only a good ecological environment foundation, but also the mutual cooperation among material capital, human capital and social capital. We should respect the laws of economy, ecology and social development. We should not only give play to the decisive role of the market mechanism in the process of resource allocation, but also give better play to the role of the government to ensure the supply of high-quality ecological products so that the people can enjoy a good environment.

Third, establish a diversified and market-oriented ecological compensation mechanism. For national nature reserves, financial resources should be invested to protect the ecology, and a comprehensive ecological compensation policy system of ecological protection cost, development opportunity cost and ecological service value should be established to implement ecological protection. For the construction of ecological compensation mechanism of upstream and downstream river basins

¹⁶ Dong et al. (2020b).

across administrative regions, it is necessary to explore the withdrawal mechanism of central financial funds and encourage the ecological compensation mechanism between upstream and downstream river basins and between different main functional areas; Construct the ecological compensation fund of the Yangtze River Economic Belt, and form a sustainable investment and financing mechanism of ecological compensation led by the government, with the participation of enterprises and all sectors of society, market-oriented operation; Promote market-oriented and diversified ecological compensation; Promote ecological property rights transactions such as emission rights, energy use rights, carbon emission rights, water rights and forest rights; Improve the ecological environment accounting and ecological compensation technology, and establish the price formation mechanism of ecological products.

17.3.2 Upgrade the Policy of Stimulating Green Consumption and Guide the Green Transformation of Economy and Society

Consumption has always been the “ballast stone” of China’s economy, and stimulating consumption is one of the key points to restore the post-epidemic economy. Both at home and abroad we should regard stimulating green consumption as the core of economic recovery. China needs to strengthen the standardization system of green products and services, focus on the classification and disposal of household garbage, and gradually establish a citizen ecological credit system.

First, strengthen the construction of green product and service standard system. Establish a unified catalogue, classification, field evaluation, standard setting and unified identification of green products. Determine the green attributes of green products, such as environmental protection, energy saving, water saving, recycling, low carbon, regeneration and organic. Regularly update the national catalogue of green products and services, the leading indicators of green products and services and related technical standards. Strict market access, strengthen the implementation, acceptance and support of the identification and certification system of green product, so that consumers can use green products and services with confidence.

Second, comprehensively consider garbage classification and disposal. The construction of a “waste-free city” will be an important way for the sustainable development of cities in the future. In the policy design and implementation, it is necessary not only to reduce garbage at the source, but also to realize garbage recycling and reuse at the end. The source of domestic garbage is residents’ consumption, so residents are also the responsible subject and source of building a waste-free society. Deepen the classified disposal of garbage, try to turn it into reusable resources, build a “waste-free city” and a “waste-free village” in an all-round way, and realize a “waste-free society”. Through legislation, community guidance and improving social cognition, we can create a good “waste-free” social atmosphere.

For the disposal of garbage in different places, it is necessary to pay the garbage disposal fee according to the regulations, and also pay the ecological compensation fee to the garbage disposal place according to certain standards.

Third, gradually establish a national ecological credit system. Citizens' green, ecological and environment-friendly behavior patterns and responsibility are the basic contents of citizens' literacy and national social credit. With the help of intelligent technology, garbage sorting, water-saving and low-carbon life will be incorporated into the Internet residents' personal credit information system, and residents will be encouraged to form a green, ecological and environment-friendly lifestyle. By establishing and improving the ecological credit level of individual citizens, the harmonious coexistence between man and nature in the whole society will be realized.

17.3.3 Clarify the Zero Carbon-Oriented Policy and Lead the Global Climate Governance

After the United States withdrew from the Paris Agreement, China and the European Union became the backbone of global emission reduction targets. The EU has clearly put forward the goal of zero carbon emission of greenhouse gases by 2050, which brings pressure and motivation for China to lead global climate governance.

First, define the long-term low-emission development strategy of greenhouse gases as soon as possible. China's industrialization and urbanization will still increase its carbon emissions, but it is expected to reach the peak of carbon emissions around 2025. We should make clear to face the development strategy of low emission by 2050 and the goal of zero carbon emission. Focusing on land, energy, industry, construction, transportation and other fields and cities, we will establish a total carbon emission management system from "intensity target-led" to "peak target-led", implement deep emission reduction, and achieve the peak target as soon as possible. Vigorously promote the utilization of renewable energy, give full play to the carbon fixation function of forests and ecosystems, and support and encourage the construction of zero-carbon villages and towns and carbon-neutral cities in a batch of zero-carbon energy-rich areas.

Second, increase investment in climate risk prevention and improve the response level. China is one of the sensitive areas of climate change and is significantly affected by climate. The overall impact of climate change on China will do more harm than good, which may trigger serious energy security, economic security and biological security problems. In the medium and long-term planning, we should set up demonstration projects for disaster prevention and mitigation, popularize climate risk prevention technology, establish risk early warning mechanism for extreme climate change, bring climate change factors into the agenda of social and economic policy decision-making, and improve the climate change risk management system.

Third, actively establish a new pattern for managing international climate change. China's ecological civilization construction and low-carbon transformation are not

only positive contributions to the governance of global climate change, but it also has guiding significance in concept and technology. Give full play to existing advantages and actively participate in the construction of global climate governance system; Implement the independent contribution target of the Paris Agreement, demonstrate low-carbon development achievements, and consolidate international influence through climate cooperation among developing countries. Actively interact with the international community and explore a new leadership pattern with Chinese characteristics that is open, inclusive, equal and mutually beneficial.¹⁷ We should show China's positive actions and responsibilities in dealing with climate change, form practical plans, extensively participate in governance, and achieve mutually beneficial and win-win results in climate governance, so as to jointly safeguard global ecological security.

Forth, implement the “nature-based solution” to protect ecology. Implement the “nature-based solution” for the protection, development and restoration of the land, and prepare the *Special Plan for Biodiversity Protection* for important nature reserves such as Sanjiangyuan National Park, Giant Panda National Park and Northeast Tiger and Leopard National Park; In view of the important ecological wet areas such as Dongtan Wetland in Chongming, Zoige Wetland in Sichuan and Yellow River Delta, the *Special Plan for Wetland Protection and Restoration* and the *Special Plan for Biodiversity Protection* are compiled to strengthen the restoration of wetland ecosystem; Strengthen the application of “nature-based solutions” in the construction of human settlements, promote the construction of sponge cities and green infrastructure, strengthen the integration of artificial environment and natural environment, explore the natural ecological endowments of cities such as climate, topography, water and soil vegetation, and build landscape garden cities and park cities to make cities more natural.

17.3.4 Strengthen the Policy Support of “Green Mountain Defense War” in Rural Areas

To implement the strategy of rural revitalization, we must do a good job in protecting rural ecological environment. The protection of rural ecological environment is arduous and complicated task, which requires the joint efforts of the government, enterprises, individuals and social organizations. It is necessary to speed up the construction of the rural ecological environment protection system and strengthen the policy support for the “green hills and blue waters defending war” in rural areas.

First, integration of urban and rural management system. Under the background of the integration of urban and rural development, we should formulate policies related to the integration strategy of urban and rural ecological environment protection and governance. The policy design of integration of urban and rural areas does not require urban and rural areas to adopt the same governance mechanism and means, but to

¹⁷ Zhuang et al. (2018b).

promote urban and rural ecological environment protection and governance under the background of urban–rural integration and development.

Second, integration of urban and rural public services. Equalization of urban and rural public services is an important development goal and policy guidance direction in China. The outstanding problem faced by rural ecological environment protection and governance is the lack of funds. The policy focus of ecological protection and climate change response should be tilted to rural areas, so as to realize the balance of resource input and improve the level of rural ecological environment services.

Third, differentiation of prevention and control measures. Because of the wide area of rural ecological environment protection, scattered pollution and difficult supervision in China, it is impossible to completely replicate the centralized industrialization scheme of cities, and differentiated prevention and control measures should be adopted. In areas with concentrated population and high density, especially in rural areas on the outskirts of the city, it is appropriate to adopt urban centralized governance mode, while in areas with small population and low density, it is appropriate to adopt distributed and decentralized prevention and control mode.

Forth, zero-carbon villages and towns construction pilot. Compared with cities, rural areas have low population density, vast space and abundant wind energy, solar energy and biomass energy resources. Under the condition that the cost of wind power and photovoltaic power generation is equal to the coal electricity price, zero-carbon energy will be developed by using residential roofs or water areas and barren slopes, and pure electric vehicles will be popularized. Zero-carbon villages and towns will be built in different natural conditions on a pilot basis, which will explore and accumulate experience for reaching peak value of carbon emissions in the recent year and the future development of net zero-carbon in China.

Fifth, popularization of supervision work. Most villages lack full-time environmental supervisors, so it is difficult to protect rural ecological environment and realize low carbon emission. Strengthen rural residents' awareness of ecological environment, provide institutional guarantee for rural residents' extensive participation in ecological environment protection and governance, and ensure that rural residents become participants, contributors, supervisors and managers of the "Green Hills and Blue Waters Defending War" in rural areas.

17.3.5 Regional Policies for Ecological Environment Protection in the Key Functional Areas

Regional environmental governance should aim at maintaining environmental functions, ensuring public health, and improving the quality of ecological environment, build an environmental policy support system in the main functional areas, give full play to the guiding role of ecological environmental policies, coordinate the integrated governance of mountains, rivers, forests, paddy fields, lakes, and grasslands, fight the battle against blue sky, clear water, pure land, and green hills, and strive to

promote high-quality economic development and high-level protection of ecological environment.

First, highlight and deepen the linkage mechanism of pollution prevention and control in key areas. The prevention and control of pollution in key areas requires strict control of the total coal consumption, establishment of a long-term mechanism for ecological compensation of water resources across river basins, formulation and implementation of unified environmental protection standards, sewage charging policies and energy consumption policies, and formulation of medium-and long-term plans for joint prevention and control of pollution, so as to ensure that the ecological environment of key areas will be fundamentally improved by 2025; we should promote the reform of the ecological environment management system, and build a forecast and early warning platform for atmospheric environment quality, a water quality monitoring and early warning platform, an ecological protection monitoring platform, and an ecological environment big data platform in key areas.

Second, strengthen the modern ecological environment management system in key areas. The ecological environment control work in the key areas should shift from total pollutant control to emission reduction for the improvement of ecological environment quality; determine the main responsibility of environmental governance, and shift from focusing on supervising enterprises to supervising party committees, governments and relevant departments, with equal emphasis on “supervising government” and “supervising enterprises”; shift from the system of environmental impact assessment to the system of environmental impact assessment and pollutant discharge permit.

Third, the nature reserves are mainly constructed as national parks. National parks and other nature reserves, important wetlands, important drinking water source protection areas, natural heritage sites and other protected areas should clarify the relationship between ownership of natural resources and administrative management authority, and carry out functional reorganization, optimization and combination, and coordinated and unified management according to the requirements of unified management of landscape, forest, field, lake and grass systems; grasp the relationship between farmers and herdsmen getting rid of poverty and getting rich and the ecological construction of national parks, establish the public welfare post mechanism for ecological management and protection, and promote the harmonious development between man and nature.

Fourth, systematically promote the ecological protection and green development of the Yangtze River Economic Belt and the Yellow River Basin. According to the strategic requirements of ecological civilization construction in the river basin, it is necessary to break the traditional concept of delimiting the scope and sticking to one side and implement overall planning and systematic management of water resources protection, water pollution prevention and control, and water ecological restoration in whole river basin. Through innovation and reform and opening-up, relying on key areas such as the Yangtze River Delta urban agglomeration, the middle reaches of the Yangtze River urban agglomeration, Chengdu-Chongqing Shuangcheng Economic Circle, etc., we will improve the productivity of ecological products in the basin and solve the relationship between development and protection. Make overall plans for

land development, water resources utilization, environmental improvement, industrial layout, urban development and new rural construction in the Yellow River Basin, strengthen coordination, and comprehensively plan the blueprint for the green development of the Yellow River Basin to promote the high-quality development of the Yellow River Basin.

Fifth, deepen the overall planning of land and sea and international cooperation on ecological environment of river basins in international rivers. Relying on the great rivers, we should strengthen the overall planning of land and sea, and strengthen the synergistic effect of ecological environment protection and climate change response policies. We should deepen the opening to the east, accelerate the opening to the west, and expand the opening along the border. Strengthen cooperation with international parties in ecological environment protection, water resources development and utilization, biodiversity protection of international rivers such as Nujiang River, Lancang River, Yarlung Zangbo River, Irtysh River and Heilongjiang River, and better promote the construction of green “the “Belt and Road” Initiative”.

17.3.6 Improve the Rule of Law Policy System and Improve the Efficiency of Ecological Civilization Governance

Dealing with climate change and protecting ecological environment concerns every member of the whole society. Actively promote the implementation of environmental information disclosure, public participation and other systems, actively guide the public to participate in decision-making, and actively play the role of social supervision. Improve the prevention and control policy system and improve the governance efficiency.

First, strictly abide by the three red lines of ecological protection, the bottom line of environmental quality and the upper limit of resource utilization, establish an evaluation, monitoring and early warning mechanism for regional ecological environment, and implement a strict system of compensation for ecological environmental damage and lifelong accountability for ecological environmental damage. Promote the construction of regulatory system and capacity guarantee system, and promote the implementation of regulatory reform.

Second, the implementation of ecological environment protection and actions to deal with climate change, giving full play to the functions and roles of the government, enterprises, social organizations and the public, and strictly regulating the rule of law in information sharing, action coordination and rights protection. Improve the “storm-style” law enforcement, better legalize and normalize, and strengthen the authority of the rule of law in ecological environment.

Third, the indicators of resource consumption, environmental damage, ecological benefits, energy conservation and emission reduction, zero carbon emissions and other indicators that reflect the status of ecological civilization construction should be incorporated into the evaluation system of economic and social development, and

economic, market and legal means should be comprehensively applied to comprehensively improve the governance capacity and level of protecting the ecological environment and coping with climate change.

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Chapter 18

Research on the Medium and Long-Term Population Development and Aging



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Population is the most basic condition that restricts medium and long-term development, and it is also the most basic factor that affects social and economic development. The accelerated development of population aging is the most important basic national condition of China in the future, which needs to be dealt with from the height of national strategy.

18.1 Evaluation of the Present Situation of Population Development

The one-child policy, which has been implemented for 35 years, came to an end after the full implementation of the “two-child” birth policy. The population development policy has undergone a major change, and the population situation has entered a turning point. The 13th Five-Year Plan is a major turning point for China’s population. The practice of the overall “two-child policy” is due to the increasingly prominent problem of low fertility in China during the low fertility period, resulting in increasingly prominent contradictions in the age structure of the population.

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18.1.1 It is Difficult to Reach the Planned Target of the Total Population

The Outline of the 13th Five-Year Plan for National Economic and Social Development of the People's Republic of China (hereinafter referred to as the “13th Five-Year Plan”) puts forward that the total population should reach 1.42 billion by the end of 2020. According to the latest data released by the National Bureau of Statistics, the total population in 2019 was 1.4 billion. According to the national census and 1% population sample survey, we estimate that it will be difficult to reach the target of China's total population in the 13th Five-Year Plan by the end of 2020.

According to the data of the annual population sample survey, the annual net increase of the total population in China during the 13th Five-Year Plan period showed a decreasing trend, and the total population decreased by 4.67 million in 2019. Therefore, based on the simple calculation of the average annual population growth rate, it is almost impossible to increase the population by 20 million in the last year of the 13th Five-Year Plan. According to the analysis of data such as age structure and total fertility rate obtained from the 2010 census and the 2017 sample survey, this conclusion is also verified.

18.1.2 The Declining Birthrate and the Aging Population Are Developing Rapidly

Despite the implementation of the “overall two-child” policy, the size of the birth population continues to decline. According to the theory of stable population, for the total population size of 1.375 billion and the average life expectancy of 76.3 years, the benchmark birth population size is 18 million. Even under the “overall two-child” policy, the birth population during the “13th Five-Year Plan” period is only 91.9% of the benchmark birth population. Although the size of the birth population has rebounded in 2017, for the total population of 1.395 billion and the average life expectancy of 77.0 years, the benchmark birth population size is 18.12 million. The size of the birth population in 2018 dropped to less than 84% of the benchmark birth population, and it will continue to decline in 2020, which means that the trend of declining birthrate will be further intensified.

Due to the extension of average life expectancy and the increasing trend of declining birthrate, although the population of children aged 0–14 has remained at about 232 million, but the total number and proportion of the elderly population have continued to rise rapidly. By the end of the 13th Five-Year Plan, the population aged 60 and above will reach 257 million, of which 181 million will be aged 65 and above, an increase of 34.61 million and 36.82 million respectively over 2015, with an average annual increase of 6.92 million and 7.36 million. The population aged 60 and above will account for 18.3% of the total population, of which the population aged 65 and above will account for 12.9%, an increase of 2.20 and 2.38% points

respectively over 2015, with an average annual increase of 0.44 and 0.48% points. Among them, the proportion of the population aged 65 and above is obviously faster than that in the 12th Five-Year Plan period (average annual growth of 0.33% points).

18.1.3 The Size of the Working-Age Population is Declining

The total number of working-age people aged 16–59 is decreasing. In 2011, the working-age population aged 16–59 reached the peak of 920 million. Since 2012, the size of the working-age population aged 16–59 has started to decline. In 2012, the size of the working-age population aged 16–59 in China dropped to 918 million, down 1.873 million from 2011. In 2015, the working-age population aged 16–59 in China continued to drop to 909 million, down 11.3599 million from the peak in 2011. It is estimated that by 2020, the working-age population aged 16–59 will drop to 897 million, a decrease of 11.432 million from 2015. During the period of “Thirteenth Five-Year Plan”, the working-age population aged 16–59 in China decreased by about 2,286,400 per year on average.

18.1.4 The Scale of Women of Childbearing Age in Vigorous Growth Period is Rapidly Decreasing

In 2015, there were 160 million women of childbearing age aged 20–34 in China, which is expected to further decrease to about 151 million by 2020, with a decrease of 9.225 million in the five years from 2015 to 2020, with an average annual decrease of about 1.845 million.

18.1.5 The Planning Goal of Average Life Expectancy Can Be Achieved

The Outline of the 13th Five-Year Plan puts forward the goal of increasing the average life expectancy by one year in five years, that is, the average life expectancy of Chinese residents will reach 77.3 years by 2020. According to the data of 1% national sample survey in 2015, the average life expectancy of Chinese residents in 2015 was 76.3 years. According to *the Statistical Bulletin of China's Health Care Development in 2018* published by the National Health and Health Commission, the average life expectancy of Chinese residents reached 77 years in 2018. According to the average annual growth rate of 0.2–0.3 years in the past, the planning goal of the average life expectancy of Chinese residents of 77.3 years at the end of the 13th Five-Year Plan can be achieved.

18.1.6 The Sex Ratio at Birth Has Changed Significantly

In 2015, the sex ratio at birth in China was 113.5, which was significantly lower than the level of 118.1 in the 2010 census. In 2017, the sex ratio of 0-year-old population dropped to 113.33. Although the trend of rising sex ratio at birth has been fundamentally reversed, it is still very difficult to achieve the goal of below 112 by 2020 from the perspective of the process and characteristics of the change of sex ratio at birth.

18.1.7 The Planned Goal of Urbanization Rate Has Been Achieved

At the end of 2019, the national urban population was 848 million, and the proportion of urban population reached 60.4%. During the 13th Five-Year Plan period, the national urbanization level continued to improve. Even if the growth rate of urban population is lower than 1% point in 2020, it will exceed the planning target of 60% urbanization rate in the 13th Five-Year Plan.

18.2 Medium and Long-Term Trends of Population Development

The important parameters to predict the population size and structure are the average life expectancy and fertility level. In this study, the progressive fertility prediction model is adopted, and the specific parameters used are shown in Table 18.1.

Table 18.1 Estimation of population prediction parameters

Parameter type		2015	2017	2020	2025	2030
Child progression fertility rate	1 Child	0.98	0.98	0.98	0.98	0.98
	2 Children	0.27	0.68	0.40	0.40	0.40
	3 Children+	0.07	0.09	0.09	0.09	0.09
Average expectation life span (years)	Male	75.90	76.08	76.34	76.79	77.23
	Female	80.67	80.86	81.14	81.62	82.10

18.2.1 China's Population Will Reach Peak Value

The forecast shows that the probability of China's total population reaching or exceeding 1.43 billion is very small. If the current population policy remains unchanged, the possible peak of China's population will be about 1.412 billion, which will occur in 2025–2027. This peak value is about 10 million more than the predicted total population at the end of 2020. The premise of this forecast is that the two-child progressive fertility rate will remain stable at 0.40. If the two-child progressive rate is lower than 0.40 before 2025, then the time of the total population negative growth will be earlier than the above estimated time, and the possibility of population peak value within 1.412 billion people is greater. Thus, 2021–2025 will be the last five years of China's sustained and steady population growth.

In 2020, there were 151 million women of childbearing age aged 20–34 in China, and it is expected that the number will drop to 129 million by 2025, with a decrease of 22.19 million in five years, with an average annual decrease of 4.438 million. From 2021 to 2025, the average annual reduction of women of childbearing age aged 20 to 34 is more than twice that of the 13th Five-Year Plan period, which is also an important reason for the expected rapid decline in birth size. The initial year of negative population growth is roughly from 2026 to 2027.

After reaching the peak value of population, the decreasing speed of the total population will gradually accelerate. In 2030, 2040 and 2050, the total population will drop to 1.409 billion, 1.368 billion and 1.291 billion respectively, which will be about 3 million, 44 million and 121 million less than the peak population respectively; In terms of the average annual population decline, the average annual decline rates of the total population in China from 2026 to 2030, 2040 and 2050 were -0.53% , -2.30% and -3.57% respectively.

18.2.2 China Will Enter a Moderately Aging Society

China's aging population will continue to increase. It is predicted that the number of elderly people aged 60 and above will rise from 257 million in 2020 to 304 million in 2025, with an increase of 147 million in five years, with an average annual increase of 9.54 million. The elderly people proportion of the total population in five years will increase by 3.26% points, which is significantly higher than the growth rate during the 13th Five-Year Plan period (2016–2020). The size of the population aged 65 and above has increased from 181 million in 2020 to 207 million in 2025, an increase of 26.1 million in five years, with an average annual increase of 5.22 million. Compared with the average annual growth rate of the elderly population during the 13th Five-Year Plan period, due to the elderly people aged over 65 in 2020–2025 was born in 1956–1961 and the number of births in China dropped rapidly in 1959–1961, therefore, if the population aged over 65 is defined as the elderly population, the

population size in this period will increase greatly, but the annual growth rate will slow down compared with that in the 13th Five-Year Plan period.

If aged 65 and above accounting for more than 14% of the population is called a moderately aging society and more than 21% is called a severely aging society, it is predicted that the proportion of the elderly population aged 65 and above in China will exceed 14% in 2023. It will reach 14.7% by the end of 2025, 1.76% points higher than that of 2020, so China will officially enter a moderately aging society around 2023. Moreover, the scale of the elderly population continues to expand. In 2025, the elderly population of aged 80 and above will reach 33.76 million, an increase of 4.46 million over 2020, and the problem of long-term care for the elderly population will become more prominent.

18.2.3 The Size of the Working-Age Population Will Continue to Decline Substantially

According to the forecast, the size of the working-age population aged 15–64 will decrease from 990 million in 2020 to 984 million in 2025, a decrease of 5.848 million, with an average annual decrease of 1.1696 million. From 2025 to 2030, the population of this age group will decrease by 42,952,400, with an average annual decline of 8,590,500, which will be unprecedented in history. It is expected to decrease to 69.7% of the total population by 2025, less than 1% point lower than 70.6% of the total population in 2020, and the decrease rate is lower than 2.2% points from 2015 to 2020. However, in the longer term, it is expected that the proportion of the working-age population aged 15–64 will decrease to about 66.8% of the total population in 2030, with a decrease of nearly 3% points in the five years.

The size of the working-age population aged 6–59 will decrease from 897 million in 2020 to 872 million in 2025, with a cumulative decrease of 25,387,400, with an average annual decrease of 5.08 million. Its decline is greater than that in the 13th Five-Year Plan period.

18.2.4 The Population of Children Continues to Decrease

During the “13th Five-Year Plan” period, the population of children aged 0–14 will be basically stable, and the population of children aged 0–14 will be significantly reduced from 2021 to 2025. It is estimated that the population of children aged 0–14 will decrease from 232 million in 2020 to 221 million in 2025, with a decrease of 10.8 million in five years, with an average annual decrease of 2.16 million.

It is expected that the dependency ratio between the elderly and children will take a major turning point in 2028. In 2028, the size of the elderly population will

exceed that of the children, and then it will continue to grow steadily. This is also an unprecedented change in Chinese history.

18.2.5 The Consequences of the Rising Sex Ratio at Birth Gradually Appear

Men's marriage problems always exist when the sex ratio at birth is normal, but the consequences will become increasingly prominent as the sex ratio at birth in China has been rising for 30 years. In 2015, the unmarried male population aged 35–59 exceeded 14 million, and it is expected that it will be close to 30 million by 2050. Especially with the increasing proportion of unmarried women, the social consequences of higher birth sex ratio will be more obvious.

18.3 Evaluation and Further Reform of Population Policy Adjustment

18.3.1 Adjustment and Evaluation of Birth Policy During the 13th Five-Year Plan Period

According to the decision of the Third Plenary Session of the 18th CPC Central Committee, since 2014, the country's birth policy has been adjusted so that families with one spouse as the only child can have two children. The scope and influence of this policy on the birth of two children are very limited. The results of the national population sample survey in 2014 show that only 43% of families (one spouse is an only child) with only one child want to have a second child, while more than half of the women who want to have two children have no specific birth time plan. From the national birth situation, there was no significant increase in the number of births of two children in 2014 and 2015.

During the "13th Five-Year Plan" period, the birth policy underwent another adjustment. In 2015, the central government decided to fully implement the policy that a couple can have two children. It has been nearly five years since then. The following mainly discusses the impact of the adjustment of the birth policy during the 13th Five-Year Plan period.

(1) The role of compensatory two-child birth

The number of births in China dropped to less than 15 million in the late 1990s, and has been fluctuating at this level ever since. After the implementation of the "overall two-child" birth policy in 2016, the number of births increased significantly compared with 2015, from 16.55 million in 2015 to 17.86 million in 2016. The proportion of two-child births increased significantly, making a major contribution

to the increase in the number of births. The total number of births in 2017 was 17.23 million. Although it was lower than that in 2016, the number of births of two children increased by 1.62 million compared with 2016, and the proportion of births of two children also maintained an increasing trend. These changes show that the birth of two children in 2016 and 2017 was obviously affected by the adjustment of the birth policy, and the potential of the birth of two children was released. However, the number of births in 2018 dropped significantly to 15.23 million, a decrease of 2 million from 2017 and reaching the lowest point since 1949. Among them, the proportion of two-child births has also declined, indicating that the role of overall two-child births cannot last evenly for several years, but is mainly released in two or three years after the adjustment of the birth policy.

The increase in the number of two children is caused by a combination of multiple factors,¹ but so far there is no accurate estimation of effect of the birth policy adjustment. However, the total number of births of two children in the overall two-child policy is less than 30 million in three years, including the births of two children who met the policy before the adjustment of the birth policy. Therefore, the new number of births of two children due to the adjustment of the policy should be much less (Fig. 18.1).

It is worth noting that although the number of births in 2016–2018 has increased compared with previous years, there is a phenomenon that the fertility rate of one child is lower than that of two children, and the decline of the fertility rate of one child is far greater than the increase of the fertility rate of two children. The decline of one-child fertility rate will inevitably lead to the shrinking of two-child fertility rate. In view of the low one-child fertility rate, after the accumulation potential of two-child fertility is fully released, the two-child fertility rate will inevitably fall back below that of one-child, and then the overall fertility level will surely fall sharply.

Although the total fertility rate in 2016 was close to 1.8, it showed a downward trend in 2017 (according to the results of the 2017 national fertility sample survey, the total fertility rate in 2016 was 1.770 and that in 2017 was 1.719), and the total fertility rate in 2018 dropped further, indicating that this fertility level will be unsustainable after the rapid release of fertility potential, and the current fertility situation is unsustainable. The fertility level is likely to fall back to 1.6 or lower, and it is almost impossible to realize the “National Population Development Plan (2016–2030)”, which is expected to reach 1.8 in 2020 and maintain this level. The reluctance of

¹ Apart from the “overall two-child policy”, other factors that affect the number of two children are: (1) the two-child policy in which one spouse is the only child and the two-child policy in which neither spouse is the only child. With the “post-80 s” generation of only children entering the age of marriage and childbearing, more and more only children can have two children, and the birth of two children has been on the rise in recent years. (2) Cancel the policy of spacing between two children. In recent years, all provinces have cancelled the requirement of two-child spacing. Couples who had previously met the two-child birth policy but did not meet the requirement of birth spacing are no longer waiting. (3) The lag effect of the policy that “one spouse is the only child can have two children”. In 2014 and 2015, after the implementation of the policy of “one spouse is the only child can have two children”, the fertility rate of two children has improved, but the effect is not significant. However, the couple, with one spouse is the only child, didn't give birth within two years, the subsequent birth is superimposed with the overall two children.

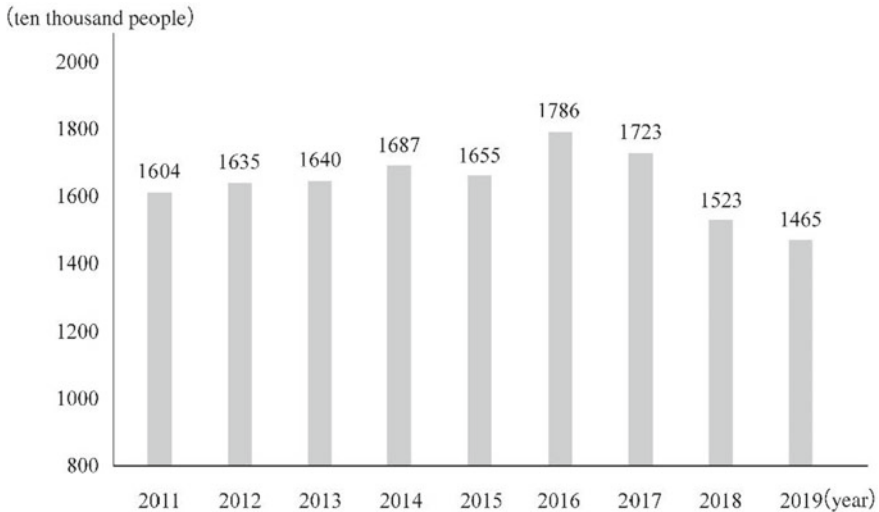


Fig. 18.1 Number of births in China from 2011 to 2019 (10,000 people). *Source* National Bureau of Statistics

people of childbearing age in urban and rural areas to have more children is the direct cause of the low fertility level.

(2) Fertility willingness has not been effectively improved.

The low willingness to give birth is because that many families don't want to have more children. Couples of childbearing age generally think that it is ideal for a couple to have two children. On average, about 10% of couples of childbearing age think that one child is good. China's fertility desire is the lowest in the world, and even South Korea, which has the lowest fertility rate at present, has a higher fertility desire than China. A number of surveys show that the adjustment of birth policy has not significantly changed the fertility wishes of couples of childbearing age, especially the fertility wishes of two children have not been effectively improved by the adjustment of birth policy.

There are obvious regional differences in the fertility willingness of couples of childbearing age in China, which is relatively low in the eastern region and relatively high in the southern and southwestern regions. The main difference lies in the proportion of wanting a child, which is less than 10% in some areas and as high as 40% in some areas. In areas with relatively high fertility desire, the fertility desire of agricultural registered residents is slightly higher than that of non-agricultural registered residents,² which is also higher than that of the floating population in agricultural registered permanent residence. In addition, older couples of childbearing

² The difference in the ideal number of children between women in agricultural registered permanent residence and women in non-agricultural households is only 0.2, with the former being 2.02 and the latter being 1.83.

age are more willing to give birth than younger couples. However, in recent years, the fertility wishes of different regions and people have gradually converged, more concentrated in a couple with two children.

The low fertility intention formed in a long period of time will be maintained for a long time, and merely changing the fertility policy is not enough to affect the already formed fertility intention. To improve the fertility willingness, we need all efforts to effectively reduce the fertility cost. In the survey on the willingness to have two children after the adjustment of the birth policy, about 20 to 30% of couples who already have one child think that “one child is fine” and do not plan to have two children, which shows that the social concept of one child for one couple has been formed in some areas. However, the “post-90s” younger generation even showed the view that “it’s OK to have no children”. Their views on fertility and values of children are significantly different from those of previous generations. In order to avoid the further decline of China’s fertility level, the influence of the new generation’s fertility concept on future fertility should not be underestimated.

(3) The main population and the influence mechanism affected by the adjustment of the birth policy

When the “overall two-child” birth policy is implemented, about 90 million couples of childbearing age that have only one child can have two children after the policy adjustment, but the population actually affected by the adjustment of the birth policy is quite limited. Couples who quickly respond to the adjustment of the birth policy and put it into action, have a strong willingness to have two children and to be willing and able to bear the cost of having two children. The comprehensive liberalization of the two-child birth policy mainly affects the cities with stricter birth policies and the rural areas in the east, but these areas are precisely the areas with low fertility willingness and high fertility costs.

According to the survey in 2017, about 27% of married women of childbearing age with one child plan to have two children, and less than 60% of them have a clear birth schedule (that is, they may have a strong desire to have two children). From this calculation, less than 20% of couples with one child are likely to have two children. Because of the traditional concept of the appropriate childbearing age in the society or personal physical reasons, even if women over 40 have a strong desire to have two children, they will carefully consider it. Among the 90 million couples, more than 40% are women aged 40 and above, and their chances of having two children are extremely low.

From the perspective of birth cost, the birth of two children mainly affects the family’s economic and time investment in child rearing and education. Surveys in different regions after the adjustment of the birth policy show that families with relatively good economic conditions, especially those with relatively high husbands’ incomes, are more likely to have two children. State-owned enterprises or government units have better welfare treatment for women who give birth, and can guarantee the employment position of women who take maternity leave. The fertility rate of women who are employed in these employers is relatively high, and the cost of giving birth to two children is relatively low. Therefore, this group of people is concentrated group

to have two children after the policy adjustment. However, this group accounts for a very limited proportion of women of childbearing age, less than 30%. Therefore, no matter from the perspective of fertility willingness or fertility cost, the group that can respond to the adjustment of fertility policy quickly and have two children is very limited.

After the adjustment of the birth policy, the key factors of society and families, which inhibit the fertility wishes and have negative effects on fertility, have not changed. For example, gender inequality in the society and the workplace, women's longer education years, women's labor participation, social norms and values, urbanization and population mobility, housing and income, etc., will all affect fertility. In particular, the lack of social service posts will aggravate the conflict between parenting and work, which will make young couples, especially women, face great pressure and bring various burdens to their families. These factors have obviously weakened the possible impact of the adjustment of the birth policy.

(4) Other influences of the adjustment of the birth policy.

The adjustment of birth policy has no obvious effect on the sex ratio at birth. As mentioned earlier, in recent years, the sex ratio at birth in China has shown a slow downward trend, but it is not yet clear to what extent this decline is related to the adjustment of the birth policy. The imbalance of sex ratio at birth is the result of the combination of suppressing fertility (generally after the fertility rate drops to about (2) and favoring boys. Various modern fetal sex identification methods make it easier to choose boys. The "overall two-child" policy may reduce the sex selection of the first child, but it will not affect the sex selection of the second child (because there is no chance to have the third child). It can be inferred that the current birth policy is unlikely to further reduce the sex ratio at birth to the normal range.

Clear maternity leave and paternity leave is conducive to the child-rearing and maternal and child health. With the introduction of adjustment of the birth policy, provincial governments and people's congresses have successively adjusted relevant policies and regulations. It mainly revised the corresponding provisions in the population and family planning regulations, such as abolishing the age limit of birth spacing and re-birth, revising the provisions of re-birth in the adoption relationship and re-birth of remarried couples, simplifying the application and approval of re-birth, and revising and adjusting the marriage leave, maternity leave and paternity leave, mainly canceling the late marriage leave, defining the maternity leave days, especially the paternity leave of husbands, and correspondingly revising the issuance and reward measures of the one-child certificate. The revision and adjustment of these policies and regulations are in line with the adjustment of the "overall two-child policy", which reflects the spirit of paying attention to the health and rights of childbearing women, encouraging husbands to participate, and alleviating couples' childbearing concerns.

The demand for maternal and child health care services has increased dramatically. Many women over the age of 35 have concentrated on giving birth to two children after the adjustment of the birth policy. The substantial increase in the number of elderly women and cesarean section and multipart put forward higher requirements

for maternal and child health care services. Since 2016, the maternal and child health care system has made great efforts to strengthen the capacity of maternal and child health care services in urban areas where policy influences are concentrated, and better cope with the risks of maternal and child health care caused by the sudden increase of two-child births in a short period of time.

The contradiction between birth and employment is prominent. The adjustment of fertility policy has enabled more urban professional women to have the opportunity to have two children, and also highlighted the contradiction and conflict between women's fertility and employment. The problems of infant care and child care, gender discrimination in recruitment by employers, and female employees' having to interrupt their employment due to childbirth have aroused heated discussions in the society and gained the attention of the government, women's federations and public opinion. Although these problems have existed for a long time, the more concentrated childbearing of urban women after the adjustment of the birth policy highlights the seriousness and wide influence of these problems. These problems and contradictions actually weaken the effect of the adjustment of the birth policy.

In response to these problems, the report of the 19th National Congress of the Communist Party of China proposed to promote the matching connection between the birth policy and related economic and social policies. In 2019, nine ministries and commissions, such as the Ministry of Human Resources and Social Security, issued the *Notice of Regulating Recruitment Behavior to Promote Women's Employment*, and the General Office of the State Council put forward guidance on promoting the development of infant care services under 3 years old. Relevant departments and some provincial governments have also issued relevant policies one after another, but it will take a long time to effectively solve these problems. If these problems are not solved, it will be difficult to reverse the current low fertility willingness and low fertility level.

18.3.2 The Necessity and Feasibility of Implementing the Independent Birth Policy as Soon as Possible

During the "13th Five-Year Plan" period, the birth policy was adjusted around China's low fertility rate, but the policy changes did not cause a substantial increase in the birth population; after the release of the fertility potential of two children, the fertility rate will fall further. In view of the characteristics of China's low fertility rate and international experience and lessons, it is necessary for China to adjust its fertility policy as soon as possible, so as to realize the independent childbearing of couples of childbearing age and further enhance the family happiness of the masses.

- (1) The characteristics of China's low fertility rate and the corresponding international experience

China's low fertility rate has been stable for nearly 20 years, with the following three characteristics: first, low fertility willingness; second, the proportion of having two

children is low; third, the age of marriage and childbearing is constantly delayed. These three characteristics have caused the fertility level in China to wander at a low level in recent years, while the total fertility rate in some areas has been at a very low level for a long time.

China's low fertility rate leads to a low fertility level, which is obviously lower than the planning expectation of an average of 1.8 children per couple. Judging from the current situation, the fertility potential that can be tapped by the "overall two-child policy" has been basically released, and it takes a long time to establish the corresponding supporting mechanism to support the two-child birth. Therefore, the risk of further decline in China's fertility rate cannot be ignored. Countries and regions in East Asia and Southeast Asia, which are similar to China in family system and culture, have been in a low fertility state for a long time. The governments of these regions have been investing heavily and increasing their efforts for many years, but the actual results are not good enough to effectively improve the fertility level. The experience and lessons of these countries and regions are worthy of China's vigilance and reference.

Because China's fertility rate has been in a "low fertility trap" for a long time, the fertility willingness is significantly lower than the population replacement level, and the aging of China's population structure will have a stronger and stronger negative impact on the fertility rate (that is, the scale of women of childbearing age will gradually shrink), it is necessary to face up to the risk of "low fertility trap" and solve it as soon as possible. The long-term low fertility rate will accumulate huge inertia for the negative growth of China's population in the twenty-first century, thus speeding up the negative growth rate, prolonging the negative growth time and accelerating the process of population aging.

(2) The necessity of implementing the independent birth policy

China's long-term low fertility rate since 1990s can hardly be reversed in a short period of time. Moreover, low fertility willingness is even more difficult to change. There is absolutely no need to continue to adhere to the fertility policy that stipulates the number of births. It is an inevitable trend to realize the independent fertility of the masses.

We should pay full attention to low fertility risk, give up the thinking mode of purely quantitative control and management, and change from a uniform and mandatory fertility mode to respecting couples' diverse fertility wishes. At the same time, pay more attention to gender equality in childbirth, employment and social security, and other livelihood issues. Abandon the practice of directly punishing or encouraging childbearing, formulate targeted preferential policies, and guide couples to have a planned eugenic and superior upbringing. Support couples to realize family planning, and provide quality services to meet the diverse reproductive needs of the masses.

Whether it's the current population situation and the degree of social and economic development in China, or the wishes of the masses and administrative costs, the current restrictive birth policy has been seriously incompatible with the social development. It is urgent to deepen the reform as soon as possible, cancel the birth

restriction regulations and realize the independent birth of couples of childbearing age.

(3) The income from the implementation of the independent birth policy

The implementation of the independent birth policy will enhance the fertility willingness of the masses and alleviate the low fertility dilemma. Fertility wishes are diverse and cannot be uniform. A couple with two children is an average theoretical value. The current birth policy restricts two children, but does not guarantee one child, so it is difficult to affect couples who want only one child or do not want one. It is difficult for the policy of stimulating fertility to promote the fertility desire in a short period of time, while the abolition of administrative restrictions on the number of births can satisfy the wishes of couples who have the desire and conditions to raise more children, and to some extent, curb the further decline of fertility rate.

In the past, the main concern about the abolition of birth policy restrictions was the fear that the birth population would rise out of control. However, from the current situation, the accumulation of two children is basically released, and the birth of one child is declining year after year. Therefore, even if the birth restriction is fully liberalized, the fertility rate in China is still difficult to exceed the average level of two children per family. After allowing independent childbearing, the increase of a small number of three-child births will alleviate the decline in the number of births. The birth situation after the adjustment of the birth policy has proved that the implementation of the independent birth policy will not bring about a significant increase in the birth population. From a macro point of view, although the implementation of independent childbearing cannot affect the age structure of the population in a short period of time, it is expected to continue to release the fertility potential and gradually curb the further decline of the fertility rate. From a micro perspective, it is very important for every family to cancel the regulation on the number of births and realize the independent childbearing of the masses. It can fully meet the needs of different families, enhance people's family happiness and social peace, and also help to get rid of the singleness of family structure.

With the progress of social governance, household registration, enrollment, insurance, etc. have been "decoupled" from the birth policy, so the restrictive birth policy has been difficult to operate at the grassroots level. There is no basis for grass-roots managers to implement policies, and from the perspective of administrative management, policies have lost their seriousness. Abolishing the birth restriction policy as soon as possible can get rid of the dilemma of ineffective or forced collection of social support fees, reduce the administrative cost of government management, and promote modernization and social civilization and progress.

18.3.3 Road Map for Population Policy Adjustment

Because of China's low fertility desire and low fertility rate, the further reform of the fertility policy should first abolish the birth limit, and at the same time, formulate and improve all-round supporting policies to encourage child-rearing, support couples to achieve independent and planned fertility, and strive to fully release their existing fertility potential in a short period of time. Secondly, it is necessary to gradually form a relaxed and friendly parenting environment in the whole society, and through persistent efforts, enhance the fertility willingness of couples, so as to raise China's fertility level to nearly one couple with two children in the foreseeable future. We should seize the opportunity to promote the thorough birth policy reform and implement independent birth as soon as possible. Specific suggestions are as follows:

- (1) Amending relevant laws and regulations and improving the civil legal environment

It is suggested that the National People's Congress initiate the revision of the *Population and Family Planning Law of the People's Republic of China* in 2020, and abolish the specific restrictions on the number of births and related clauses; Amend the provisions of the *Marriage Law of the People's Republic of China*, the *Adoption Law of the People's Republic of China* and other relevant laws on encouraging late marriage and childbearing and limiting the number of children, so as to create a friendly legal environment for people to have their own children.

It is suggested that the provincial people's congresses should revise the family planning regulations according to local conditions in 2021, and formally implement the independent birth policy.

- (2) Grasp the correct direction of public opinion and enhance the positive influence of reform.

The independent birth policy is bound to be supported by the masses, but it may also cause some media misunderstanding. The effective way is to actively publicize and discuss, rather than shy away from it. It is suggested that relevant departments should formulate public opinion guidance and propaganda countermeasures, actively publicize the positive significance of the adjustment of birth policy, clarify the connotation of family planning under the new population situation, and emphasize that independent birth does not mean giving up family planning, but should advocate couples to have a planned and responsible independent birth. It is suggested that relevant departments should popularize or train the main media appropriately, give full play to the positive role of public opinion guidance, and strengthen the positive influence of the birth policy reform.

- (3) Actively improve supporting measures and strengthen family planning services.

In view of the phenomenon of low fertility willingness and low fertility rate in China at present, it is necessary to formulate and implement all-round supporting policies to support couples of childbearing age to achieve independent and planned fertility while abolishing the birth limit and realizing independent fertility of the masses.

It needs the attention of governments at all levels, relevant departments, employers and even the whole society to formulate a child-friendly policy, help couples of childbearing age solve the conflict between work and child care, and reduce the burden of women taking care of both employment and child care. It is suggested that relevant departments, on the basis of the relevant work carried out during the 13th Five-Year Plan period, continue to step up and improve the corresponding supporting measures, and mobilize all social forces to actively solve the conflicts and difficulties between work and childcare for couples of childbearing age.

When people of childbearing age have more choices to give birth independently according to their own needs and plans, it is more important to provide appropriate and timely reproductive health and family planning services in order to ensure that couples can give birth to healthy babies at the right time and ensure the health of mothers and babies. It is suggested that maternal and child health care and family planning service departments should further strengthen grass-roots service forces, provide high-quality contraception and birth control services according to the needs, avoid unwanted pregnancy, reduce induced abortion, and achieve eugenics.

In underdeveloped areas with high fertility rate and dense births, timely post-partum contraceptive services are essential. Taking high-quality and efficient long-term contraceptive measures can effectively avoid unintended pregnancy, reasonably keep the interval between two fetuses, and better protect the health of mothers and children. It is suggested that in these special areas, targeted counseling and guidance for young couples' independent childbearing should be strengthened to ensure the full coverage of high-quality contraceptive services and reduce unwanted pregnancies caused by inadequate services.

(4) Formulating supporting policies and systems to avoid low birth risk.

Abolishing the birth limit and improving the supporting policies for child-rearing are expected to release the existing fertility potential in a short period of time and curb the risk of further decline in fertility rate. However, in order to substantially improve the fertility level, we need to improve the fertility willingness. International experience shows that reducing couples' fertility costs through policy intervention and institutional arrangements will probably affect their fertility and increase their fertility willingness in the long run. A targeted and gender-friendly parenting policy can effectively support women's balancing work and parenting, help couples to carry out their family planning, achieve their family's ideal fertility goals, and affect the fertility level at the macro level, so as to avoid falling into a long-term low fertility rate.

In the case of low fertility rate, the actual number of births is lower than the willingness to give birth, which indicates that the fertility needs of the masses are not met. Many countries' public policies have taken various interventions to solve this problem, helping couples to remove obstacles, reduce their reproductive costs (including opportunity costs and direct costs), and supporting them to achieve their family's reproductive goals.

The relevant policies of Europe and East Asian countries to support childbearing can be summarized into three aspects, namely, balancing work and family, supporting

children's development, and providing financial subsidies to families with children. Policies to support work-family balance include paid maternity leave for mothers, paternity leave for fathers and parental leave for parents, which are beneficial to parents, especially mothers, to balance their families and flexibly arrange their jobs, and most importantly, various measures to ensure women's employment. Relevant policies to support children's development include child care and education services, subsidizing education expenses, etc. Child care service cannot only improve children's growing environment and parents' expectations for their children's development, but also indirectly support parents to take care of work and family. There are various forms of financial assistance to parenting families, mainly cash subsidies and tax reduction and exemption.

Because all kinds of policies always work together with culture, economy and system, it is not yet possible to determine the individual contribution of a certain policy. However, the policy of providing more choices rather than interfering with individual choices, and taking comprehensive measures rather than just making changes in one or two aspects is obviously more effective. Cash and other forms of economic support, except for some special areas, have little effect in most countries and regions. In short, on the premise that couples are willing to give birth, as long as policies and measures can comprehensively and effectively support couples to take care of their work and child-rearing, and solve the conflict between mother's work and child-rearing, the implementation of the birth plan can be promoted.

It is necessary to formulate comprehensive supporting policies and institutional plans for fertility as soon as possible in light of China's social and economic development stage, and formulate countermeasures against factors affecting fertility to curb the further decline of fertility level. Strive to establish a policy orientation to reverse the low fertility rate as soon as possible, systematically establish and improve supporting policies and systems for childbearing, strengthen the family planning service system and service level that adapts to the diverse fertility wishes of the masses, and gradually form a child-friendly social and policy environment. Through persistent efforts, we will raise the fertility willingness of couples, and in the foreseeable future, raise the fertility level of China to nearly one couple with two children, so as to promote a stable population development and a more balanced structure.

18.4 Responding to the Aging of Population as a National Strategy

In 2019, the CPC Central Committee and the State Council issued the *Medium-and Long-Term Plan for the State to Actively Respond to Population Aging*, which defined the strategic objectives and specific measures for actively responding to population aging. In view of the rapid increase of population aging and its increasingly significant impact on social economy, actively responding to population aging should be

promoted to a national strategy to comprehensively and systematically solve the challenges it brings.

18.4.1 A Prominent Feature of China's Current Aging Population

In the long history of human development, the remarkable increase of life expectancy and the continuous decrease of fertility rate are only things that have happened in recent decades. Therefore, the aging of the population is a social phenomenon that appeared not long ago, and there are not many international experiences for reference. Even some developed countries with a high degree of aging do not have complete experience and systems to cope with a series of challenges brought by aging. This requires us to fully base ourselves on China's national conditions when dealing with the aging problem, and find out the coping strategies that are suitable for China's aging characteristics.

The process of population aging is closely related to the process of population transformation. Due to the strict population policy and rapid economic development, China's population transformation process is accelerating, and the aging process will also be accelerating in the future. At present, China's aging population is different from many countries with a high degree of aging, and its outstanding characteristics are reflected in the following two aspects.

First, getting old before getting rich. When China entered an aging society, it was still a developing country, while most countries entered the aging society after becoming developed economies. The biggest challenge brought by getting rich before getting old is the shortage of available per capita endowment resources, and the system for dealing with the aging society is not perfect.

Figure 18.2 shows the proportion of people over 60 years old and over 65 years old in China's total population in 2020, and the difference with the per capita GDP of countries, which reflects that China is getting old before getting rich. For example, in 2020, China's population over 60 years old accounted for 18.3% of the total population, and the population over 65 years old accounted for 12.9%. However, the per capita GDP of 20 countries with high ranking and low ranking adjacent to China was 16.2% and 11.4%, respectively, which were 2.1 and 1.5% points lower than that of China. As shown in Fig. 18.2, if we compare the neighboring 15 countries or 20 countries, we can still see that China's aging degree exceeds the level of economic development.

Second, being rich and the aging is accelerating. China's per capita income level has a high probability of reaching the lower limit of high-income countries soon, but the subsequent rapid aging process will probably have an impact on social and economic development. Figure 18.3 shows the changes of the proportion of people over 65 years old in the total population of the world's top 10 economies from 2015 to 2050. Although all these 10 economies except India have entered an aging society,

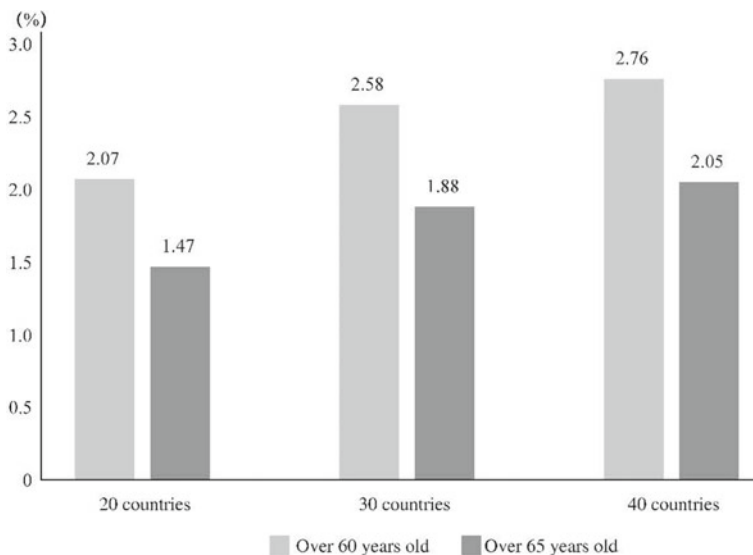


Fig. 18.2 Difference of aging degree between china and countries with similar income. *Source* Based on the United Nations Population Outlook and IMF database

in the following 30 years, the process of further development of aging is different. Among them, China is the country with the fastest aging process among these 10 economies: the proportion of people over 65 will increase by 15.8% points during this period,³ with a larger range of changes; the degree of aging will rise from the eighth place in 2015 to the fifth place in 2050.

Compared with the gradual process of population aging, the rapid aging may have an impact on economic growth, which is manifested in the following aspects: (1) the rapid aging causes the rapid reduction of labor force, which makes the advantages of traditional labor-intensive industries disappear rapidly. If the transition is not successful, the economic growth rate will drop sharply; (2) Although the process of population aging will promote the progress of labor-saving technology, it will take a long time for new technology to become a universal technology. In the meantime, the reduction of labor force can hardly be offset by technology substitution, which will have a negative impact on economic growth; (3) the rapid aging aggravates the social burden and causes the macro-structure imbalance. By 2025, the dependency ratio of the elderly over 65 will reach 21%, which will increase the pressure of pension payment and medical expenses of the whole society, at the same time, bring about a sharp increase in the demand for aged care services. Regardless of other factors, the pension burden in the next five years will be 15% higher than that at the end of the 13th Five-Year Plan only because of the aging of the population.

³ To maintain comparability, the United Nations population data is used here, but this data overestimates the actual fertility rate in China, so it may underestimate the aging degree of China in the future. That is to say, the aging rate in the future may be faster than that shown in Fig. 18.3.

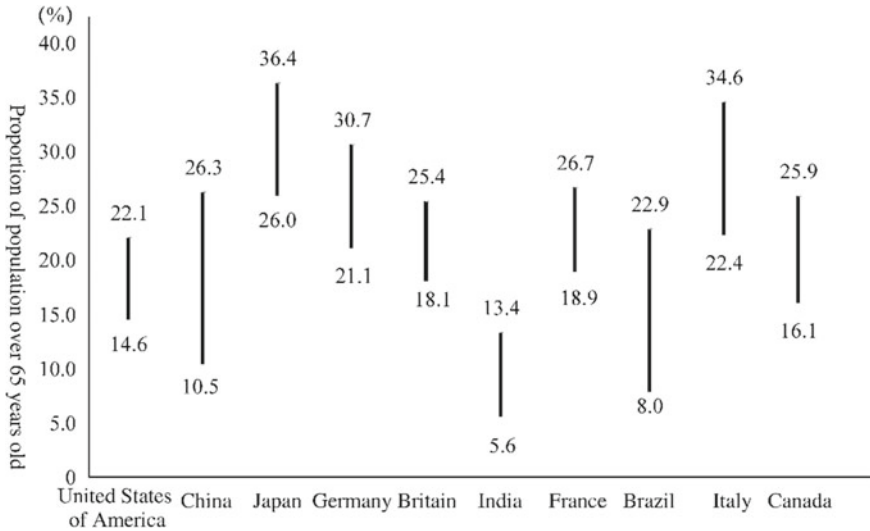


Fig. 18.3 Changes of aging degree in the ten countries with the largest economic aggregate: 2015–2050. *Source* Based on the United Nations Population Outlook database

According to our calculation, with other conditions unchanged, from 2021 to 2025, the economic growth may slow down by about 1.04% points per year just because of the rapid aging of the population.⁴

18.4.2 *There is Still a Short Opportunity to Cope with the Aging of the Population*

Although the rapid aging process is inevitable, we still have to seize all favorable factors to prepare for the aging of the population. For the following reasons, the opportunity period to cope with the aging of the population still exists.

There are many people aged 60–64 in the elderly population. In the next five years, among about 300 million people aged 60 and above, nearly 100 million people will still be aged 60–64. The proportion of the elderly who can't take care of themselves is gradually increasing with age, and the demand for endowment resources, especially nursing care, will also increase. The number of elderly people who can't take care of themselves increases with age. The elderly aged 60–64 who can't take care of themselves account for less than 1%. By the age of 70, it rose to 2.1% and 2.2% respectively; By the age of 80, it rose rapidly to 5.9% for men and 7.0% for women; By the age of 90, 15.6% of men and 20.1% of women.⁵

⁴ Du and Feng (2020).

⁵ Lin (2015).

The growth of population over 65 years old has a short period of slowdown. As mentioned earlier, due to the rapid decline of the birth population in China from 1956 to 1961, the growth rate of the elderly population over 65 years old around 2021 has slowed down compared with the growth rate during the 13th Five-Year Plan period. In the middle of the twenty-first century the proportion of the elderly over 65 years old may be close to 30%, compared with this, the aging of the population in the next few years is still a relatively low period, so there is room for us to make preparations.

The 13th Five-Year Plan laid a good foundation for dealing with aging. During the “Thirteenth Five-Year Plan” period, China has taken a series of measures to cope with the aging population. For example, actively promoting the reform of the pension system, changing the practice of adjusting pensions according to a fixed growth rate, and establishing a central adjustment fund system; Constantly improving the construction of the old-age service system, fully opening up the old-age service market, vigorously developing community services, and actively promoting the combination of medical care and nursing have enhanced the service supply capacity; In 2016, the Ministry of Human Resources and Social Security piloted the long-term care insurance system in 15 cities. So far, it has been more than three years, which has benefited the masses and accumulated some experience. On the basis of these works, the planning and integration were strengthened, and a feasible plan to deal with the aging population was put forward strategically and systematically.

18.4.3 Actively Respond to the Aging of the Population from a Strategic Height

We should fully understand and actively respond to the impact of rapid population aging on economic growth and endowment resources, as well as the overall impact on social and economic life. Systematize the population aging policy on the basis of existing work, and raise it to the height of national strategy.

(1) To improve the strategic position of the population aging plan.

The impact of population aging is very extensive. Therefore, the policy system to deal with aging should be strategic, comprehensive and structural. At present, the aging policy is mainly limited to providing the elderly with financial support, medical care, life care services, rights protection and other aspects. The object of the aging policy is limited to the elderly population. However, insufficient attention has been paid to the socio-economic impact of aging, the relationship between aging population and economic growth, and the relationship between aging population and other social policies, and a systematic response strategy has not yet been formed. Overall, the ability to cope with aging population is still insufficient.

The 19th National Congress of the Communist Party of China put forward “actively responding to the aging of the population, honoring the elderly, establishing a policy system for respecting the elderly, and improving the social environment for the elderly”. The Medium and Long-term Plan of the State for Actively Responding

to the Aging of the Population put forward five specific tasks: consolidating the social wealth reserve for the aging of the population, improving the effective supply of labor force under the background of the aging of the population, building a high-quality service and product supply system for the elderly, strengthening the scientific and technological innovation ability to cope with the aging of the population, and building a social environment for the elderly. On this basis, it is necessary to strengthen strategic planning and form a complete system on the basis of perfecting existing policies.

- (2) Continue to improve the pension system, improve the fairness and sustainability of the system.

Introduce citizen pension, and establish a universal and basic first-level pension. At present, China has achieved full coverage of the old-age insurance system, and in fact it has the conditions to establish a citizen pension system. It is suggested that part of the social endowment insurance for urban and rural residents should be reformed into citizens' pension, so as to form the first-level pension with universal basic guarantee covering the whole people. On the basis of the existing system, the pension related to individual contributions, unit supplementary pension, personal endowment savings, etc. will be integrated into multiple levels to establish a multi-level income security system for the elderly. The establishment of the citizen pension system is only the improvement of the existing pension system. If it is paid according to the current standard, there is no need to increase the capital cost, but it is conducive to increasing the sense of social fairness and identity.

Expand the sources of pension income and improve the status of pension income. Appropriately raise the upper limit of pension contribution base. At present, the upper limit of individual contribution base is 300% of the average social wage, which can be appropriately increased (for example, to 500%) to improve the actual contribution level of high-income people; Standardize the payment of old-age insurance, for those whose wages exceed the minimum payment base, they should pay the old-age insurance premiums in strict accordance with the actual wages, but not in accordance with the minimum wage or the minimum payment base; In the new round of reform of state-owned enterprises, we should make overall plans to increase the allocation of state-owned assets to supply the endowment insurance fund.

We should promote the national unification of basic pensions as soon as possible. Due to the different contribution rates in different regions, in order to ensure fairness, the contribution rate must be incorporated into the unified calculation method of basic pension benefits. It is suggested that the treatment of basic pension after national unification includes two parts: the national average wage of on-the-job workers last year and the average contribution of individual indexation. The individualized average contribution is that the national average wage of on-the-job workers in the previous year multiplied by the individual contribution index. Individual contribution index is the average of the ratio of the actual contribution amount to the theoretical contribution amount in each year. The actual contribution amount of each year is equal to the individual's contribution base of each year multiplied by the actual contribution rate, and the theoretical contribution amount is equal to the national average wage

of each year multiplied by the national unified contribution rate stipulated by the system (originally 20%, now 16%). Then, the average of the national average wage of on-the-job workers and the individual's indexed contribution in the previous year is taken as the base for determining the basic pension benefits. This method takes the actual contribution rate of individuals into the treatment calculation, which has three advantages: it truly realizes the unification of horizontal fairness and vertical fairness, and is easy for people to accept; realized the national overall planning, completely eliminated the regional differences, and realized barrier-free transfer in different places; it can realize the effective connection between the old and new systems.⁶

We should incorporate the factors of population aging into the adjustment mechanism for determining treatment. First of all, the factors of population aging should be included in the calculation formula to determine the treatment, so as to ensure the parameters of treatment calculation, such as the number of payment months reflecting the current population aging situation. Secondly, the factors of population aging are brought into pension indexation, and the relationship between wage index, price index, population structure change and pension adjustment mechanism is established. We should determine a basic pension adjustment mechanism including wage index, price index and demographic factors, and announce it to the public, so as to make the adjustment mechanism transparent and scientific.

(3) Promote the reform of gradually delaying retirement age as soon as possible.

At present, the time has come to delay the retirement age, and the plan for delaying the retirement age should be published to the whole society as soon as possible, so as to seek the greatest consensus and implement it as soon as possible. In the design of the scheme, the principle of gradual progress and flexibility should be adopted, and the interests of the people should be considered as much as possible. In propaganda, we should try our best to answer people's doubts from the perspective of people's interests. Only in this way can we reduce the resistance to reform and ensure the smooth implementation of policies.

Introducing the plan of delaying retirement as soon as possible will help to maintain the government's credit. Since the Third Plenary Session of the 18th CPC Central Committee proposed to study the gradual retirement age reform scheme, the scheme of delaying retirement age has been delayed, adding social instability factors. The Ministry of Human Resources and Social Security has given a timetable for the introduction of the program (for example, the program will be released in 2016 and implemented in five years). If the program is delayed for a long time, it will damage the government's credit and adversely affect the reform itself.

As the delayed retirement plan has not yet been introduced, the future reform needs to be accelerated. Starting from 2021, the reform will be promoted according to the way that women are delayed by one year every two years and men are delayed by one year every four years. By 2040, the retirement age of both men and women will reach 65. In the specific operation, the delay of 2 years and 1 year can be decomposed

⁶ Lin (2016).

into the delay of 1 month every 2 months, which will have a smoother impact on the labor market.

In the reform, we should also introduce an elastic mechanism, respect individual wishes and reduce the resistance to reform by providing a variety of options. First of all, people are allowed to choose the retirement age between the old and new systems within a certain period of time; Secondly, taking the statutory retirement age as the benchmark, it is allowed to retire five years in advance, but the pension standard will be lower than that of the statutory retirement age, or it can be retired above the statutory retirement age, and the pension standard can be appropriately raised. Considering the specific national conditions, the flexible space design of retirement age should be appropriately tilted towards women.

- (4) Deepen the reform of the supply side of the aged care service and speed up the construction of the aged care service system.

We should vigorously develop community services and realize service facilitation. Carry out standardization construction of community aged care service to make it have basic service functions. Community aged care service should include three aspects: life care, including home-based service and day care; medical rehabilitation services, including daily physical examination, health management, general treatment (infusion, injection, taking medicine), referral, etc. for the elderly; intermediary services, establishing the connection between the elderly and professional service providers through the construction of public pension service information platform and supervising the service.

We should adjust the functions of old-age care institutions, realize service specialization, and promote the transformation of existing old-age care institutions into nursing institutions. Public pension institutions should concentrate their limited resources on those who need pension services most, increase services for the disabled elderly and increase the proportion of nursing beds. Encourage new old-age care institutions to develop professionally, and give priority to professional old-age care institutions in the construction and operation subsidy policies of old-age care institutions.

- (5) Establish a unified long-term care insurance system.

So far, the long-term care insurance has been piloted for more than three years, so we should sum up the experience and introduce a unified system as soon as possible. If the pilot period is too long, the system will be different in different places, resulting in system segmentation, which will make it more difficult to unify the system in the future. Moreover, at present, the pilot projects in various places have accumulated good experience, and it is possible to establish a unified system. Establishing a unified system as soon as possible can meet the long-term nursing needs of more people in more areas.

The long-term care insurance system should be welfare, inclusive and compulsory, and provide standardized basic care guarantee for citizens. The insured population in all kinds of medical insurance (medical insurance for urban workers, medical

insurance for urban and rural residents) are taken as the people covered by the long-term care insurance system, and most on-the-job employees and all the elderly are included in the insurance coverage. Establish a three-in-one financing mechanism of government subsidies, insurance contributions and user burden. Among the three types of funding sources, insurance payment is the main one, accounting for 60–70% of the whole financing mechanism, with users bearing 10–20% and government subsidies 10–20%.

We should establish a unified grading and evaluation system of national nursing demand. The experience of Japan and South Korea can be used for reference to classify nursing needs. The severity is somewhere between them, and it can be divided into 3–5 grades. Grading standards should be determined according to self-care ability, and insurance premiums can be paid in kind, in cash and in combination.

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Chapter 19

Research on Medium- and Long-Term Employment and Labor Market Development



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In recent years, employment and the operation of the labor market are generally stable. Although the labor market showed short-term fluctuations under the impact of the COVID-19 epidemic in 2020, in the medium and long term, the basic conditions for the stable development of the labor market still exist. In the medium and long term, we should pay more attention to the structural impact of new technological changes on employment, and maintain the basic stability of the labor market while improving labor productivity.

19.1 Employment and the Development of Labor Market

The 13th Five-Year Plan proposes to implement the employment priority strategy to achieve high-quality employment. Create more jobs by implementing a more active employment policy, focus on solving structural employment contradictions, encourage entrepreneurship to bring employment, and achieve more adequate and high-quality employment. In recent years, the actual operation of the labor market shows the following characteristics.

19.1.1 *The Employment Situation is Generally Stable*

Although China's economic development experienced many severe challenges during the "13th Five-Year Plan" period, the labor market remained basically stable

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under the circumstances of increasing downward pressure on the economy, accelerating structural adjustment and drastic changes in the external environment, which became an important guarantee for the healthy development of China's economy. The overall stable employment situation is mainly reflected in the following aspects.

First of all, the total number of employed people continues to grow. At the end of the 12th Five-Year Plan, the total number of urban jobs was 404 million. According to the relevant progress, the total number of urban jobs in 2019 reached about 442 million. By the end of the 13th Five-Year Plan, the total number of urban jobs could increase by more than 10% compared with the end of the 12th Five-Year Plan. The number of migrant workers continues to grow. By the end of 2019, the total number of migrant workers was 174 million, an increase of about 5.41 million or 3.2% compared with the end of the 12th Five-Year Plan.

Secondly, the unemployment rate remains at a low level. In 2017, the urban unemployment rate was started to investigate. By the end of 2019, the average monthly urban unemployment rate was 5.04%, with a standard deviation of 0.15%, indicating that the unemployment rate had little fluctuation and the labor market was generally stable. Although the COVID-19 epidemic caused a short-term increase in urban unemployment rate in 2020, with the economic recovery, the medium-and long-term unemployment rate will return to the normal level.

19.1.2 The Wage Level Continues to Increase

In recent years, the wage level has maintained steady growth, but the growth rate of wage has slowed down. Due to the continuous improvement of the integration of China's labor market, the wage level changes of different groups show a similar trend.

(1) Employed persons in urban units

The wage changes of urban employees mainly reflect the changes of labor costs in urban formal departments. On the whole, the wages of employed people in urban units have increased steadily. During the "Twelfth Five-Year Plan" period, the compound annual growth rate of the average annual real wages of employees in urban units was 8.1%. During the "Thirteenth Five-Year Plan" period, the wage growth rate of this group slowed slightly, and the average annual compound growth rate of per capita wage was 7.8%.

(2) Migrant workers

The wages of migrant workers are most affected by market changes, and it can best reflect the change of supply and demand in the labor market. During the "Thirteenth Five-Year Plan" period, the growth rate of migrant workers' wages also slowed down. According to the data collected by the National Bureau of Statistics, the average annual compound growth rate of the actual wages of migrant workers during the Tenth Five-Year Plan period is 7.5%; the growth rate reached its peak in the "Eleventh

Five-Year Plan” period, with an average compound annual growth rate of 14.4%; During the 12th Five-Year Plan period, it remained at 12.7%; From 2016 to 2019, the speed slowed down significantly, to 6.6%. After the period of rapid wage growth after Lewis turning point, the wage growth rate of migrant workers has gradually converged to the economic growth rate.

(3) Agricultural employees

The change of agricultural workers’ wages reflects the change of rural labor market. According to the survey of agricultural product costs by the National Development and Reform Commission, we use the labor cost of three main crops to reflect the wage changes of rural labor market. During the 12th Five-Year Plan period, the compound annual growth rate of the actual wages of employees was 10%, but there was no growth in 2016–2019.

19.1.3 The Labor Market Structure has Changed Significantly

The degree of industrialization and urbanization has been continuously improved, which has had an impact on the employment structure. From 2015 to 2019, the urbanization rate of permanent residents increased by 4.3% points, which also promoted the non-agricultural employment structure. According to the data of the National Bureau of Statistics, the proportion of agricultural employed population in total employment has dropped from 28.3% at the end of the 12th Five-Year Plan to 26.1% in 2018.

During the “13th Five-Year Plan” period, the non-agricultural employment structure is also undergoing an important transformation: the service industry has become the most important sector to generate jobs, while the employment of the secondary industry began to decrease during the “13th Five-Year Plan” period. According to the newly published economic census data, we can calculate the employment changes of the secondary and tertiary industries in different periods, as shown in Fig. 19.1. It can be seen that the main source of employment growth in recent years is the development of the service industry, while the employment of the secondary industry has dropped to -0.078 , becoming the sector with net employment loss.

19.1.4 The Active Employment Policy System has Been Further Improved

The outline of the 13th Five-Year Plan states that we should “give more prominence to the promotion of full employment as the priority goal of economic and social development, adhere to classified management, increase the labor participation rate, and stabilize and expand the scale of urban employment”. In recent years, the active employment policy system has been further improved.

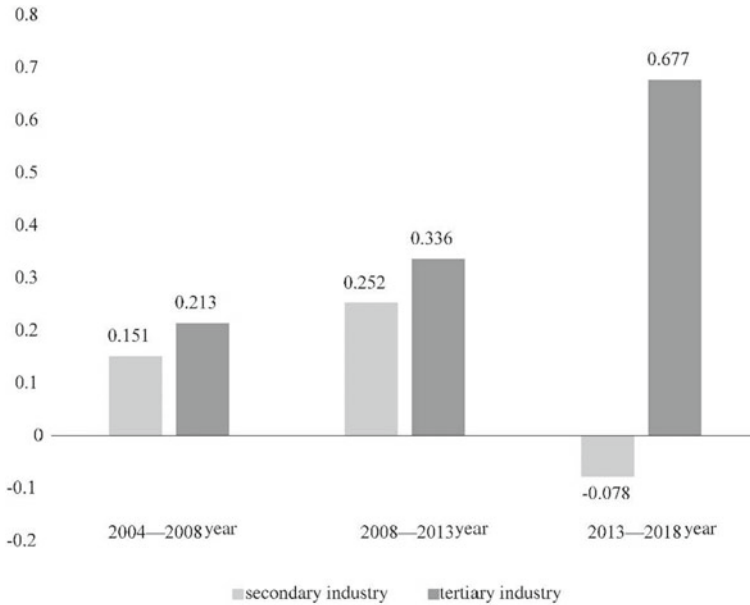


Fig. 19.1 Employment changes of different industries in different periods. *Source* The author calculated according to the data of Bulletin of Economic Census (previous) of National Bureau of Statistics

Firstly, the relationship between active employment policy and macro-control is further clarified. Premier Li Keqiang put forward in the Government Work Report in 2019 that the active employment policy should be incorporated into the government’s macroeconomic policy system, thus further deepening the correlation between the macroeconomic regulation and control system and the regulation of the labor market, and also helping to give full play to the role of the active employment policy in promoting the stable and healthy development of the economy.

Secondly, the major reform of employment regulation index has been achieved in the target of regulation, and the replacement of registered unemployment rate by survey unemployment rate has become the main target of employment policy and the important planning target of government work. Compared with the registered unemployment rate, the survey unemployment rate is more scientific in coverage, index collection process and correlation with other economic indicators, which can more appropriately reflect the actual changes of the labor market. Investigating the unemployment rate as the basis of the government’s work objectives is an important embodiment of improving the governance capacity.

Finally, the ability of active employment policy to make decisions according to the current situation was strengthened. Faced with the increasing downward pressure of the economy and the increasing uncertainty of the external environment, the measures of “six stability” and “six guarantees” focusing on “stabilizing employment” and

“ensuring employment” were put forward in time, which played a positive role in stabilizing the labor market in the short term.

19.1.5 Steadily Push Forward the System Reform Related to the Labor Market

The household registration system is the basic system that affects the operation of the labor market, and the reform of the household registration system has been steadily advanced. In 2016, the urbanization rate of registered population was 41.2%, reaching 43.4% in 2018, an increase of more than 2% points. In 2019, the reform of household registration system has taken another step forward. The progress of household registration system reform in the second half of the 13th Five-Year Plan will exceed that in the first half of the 13th Five-Year Plan. It is expected that the urbanization of household registration population will increase by 3% points. Overall, the urbanization rate of registered population will increase by about 5% points.

The institutional framework of the labor market has been further improved, which has played an important role in building harmonious labor relations. According to the Statistical Bulletin on the Development of Human Resources and Social Security, from 2016 to 2018, the labor contract signing rate of enterprises in the whole country remained at 90%, and the number of valid collective contracts reviewed by the human resources and social security department declined slightly.

We should flexibly grasp the frequency and range of adjusting the minimum wage according to the needs of social and economic development. During the “Thirteenth Five-Year Plan” period, the minimum wage will be adjusted from at least once every two years to at least once every two to three years. From 2016 to 2019, the number of provinces (autonomous regions and municipalities directly under the Central Government) that adjusted the minimum wage was 9, 19, 15 and 8 respectively, while during the 12th Five-Year Plan period, on average there are 24 provinces (autonomous regions and municipalities directly under the Central Government) adjusted the minimum wage every year; The adjustment range of the minimum wage standard is reduced. From 2016 to 2019, the national average minimum wage increased by 4.5% annually, which was significantly lower than the growth rate of per capita GDP and social average wage in the same period. It is also lower than that of the national average minimum wage during the 12th Five-Year Plan period (13.4%). During the “Thirteenth Five-Year Plan” period, the actual minimum wage level in some areas even decreased.

19.2 Mid- and Long-Term Operation Trend of Labor Market

19.2.1 *On the Whole, Labor Supply Is Still Tight*

China's working-age population has formed a long-term trend of gradual reduction. Since 2013, China's working-age population aged 16–59 has continued to decrease, with a decrease of 890,000 in 2019 compared with the previous year, and a cumulative decrease of 14.56 million in the four years from 2015 to 2019. With the total population of working age decreasing year by year, the employment pressure is relatively small, and the labor market can maintain a weak balance on the whole, that is, keep the unemployment rate low and slow growth in employment.

China's fertility rate has fluctuated greatly in history. The low birth rate in 1959–1961 reduced the number of people who dropped out of the labor market¹ in 2019–2021, so the total working-age population even increased slightly. Since 1962, the birth population has increased greatly. As this generation gradually enters the retirement age, the total working-age population aged 16–59 will decrease at an unprecedented rate, and will decrease by more than 25 million in the next five years.² Although the continuous reduction of the number of working-age population has alleviated the employment pressure in total, it will also bring great pressure on pension payment. It is more urgent than any other period in history to improve labor productivity.

19.2.2 *The Growth of Total Employment Slowed Down*

In China's current labor statistics system, the "total urban employment" is the closest to the "total non-agricultural employment" commonly used in developed economies. This index infers the total amount of urban employment according to the sample survey of urban households, which is equivalent to the current international employment data collection method. At present, China's planning and control policies still use "new employment in cities and towns". Because only the creation of jobs is counted, the loss of employment is not considered, and the information collection is based on the statistical report system, so the difference between this index and the actual operation of the labor market is more and more obvious.

¹ Strictly speaking, a certain age does not necessarily become a clear boundary for withdrawing from the labor market, but based on the current retirement system, the labor participation rate of workers after the age of 60 does drop significantly.

² Because the actual fertility level in the first decade of the twenty-first century is not clear, assumptions based on different fertility levels will lead to different prediction results. Based on the prediction of low fertility rate, the number of working-age population aged 16–59 will decrease by more than 30 million in the next five years.

Unlike most developed economies, which have completed the urbanization process, China's urbanization process has entered the late stage, but the transformation of urban-rural employment structure is still not over. Therefore, the process of rural labor migration to cities will continue in the medium and long term. Therefore, by combining the total employment in cities and towns with the total employment of migrant workers, we can roughly judge the changing trend of the total employment in China.

Due to the accelerated change of population structure, the difference between the net increase of urban employment and the new employment in urban areas is constantly expanding. The former reflects the net change of employment between years, while the latter only counts the increase of urban employment every year, without considering the loss of employment. In the period when the total working-age population is increasing, the number of people entering the labor market every year is often greater than the number of people leaving the labor market. At this time, the net increase in urban employment may be greater than the number of new jobs in urban areas. On the contrary, when the population is aging, and the number of people who quit the labor market every year is greater than the number of new people entering the labor market, the net increase in urban employment may be less than the number of new jobs in urban areas. As shown in Fig. 19.2, the net increase in urban employment in 2010 was greater than the number of new urban employment in that year, but the difference between them reversed as the total working-age population began to decrease. During the "Thirteenth Five-Year Plan" period, the number of new jobs in cities and towns remained stable, but the net increase of urban jobs showed a downward trend, resulting in the widening gap between them. As the trend of population structure change has become clearer, we expect that the growth of total urban employment will continue to slow down.

Secondly, the number of migrant workers is another important indicator reflecting the change of total employment. There is a statistical coincidence between the employment of migrant workers and urban employment. Because migrant workers have strong mobility, it is very difficult to include migrant workers in urban employment statistics in the actual operation process. Therefore, the "migrant workers monitoring survey" of migrant workers' outflow places by the National Bureau of Statistics can reflect the change of the total employment of migrant workers more accurately.

As shown in Fig. 19.3, after China's labor market crossed the Lewis turning point, the total growth of migrant workers began to slow down. From the 10th Five-Year Plan to the 13th Five-Year Plan, the average annual compound growth rate of migrant workers is 6.31, 4.00, 1.99 and 0.79% respectively, and the trend of slowing growth is very obvious. Due to the increasing aging of rural areas and the rising level of urbanization caused by labor mobility, the rural labor resources available for transfer may soon be exhausted,³ and the increase of the total number of migrant workers will further slow down or even stagnate.

³ Du and Peng (2018).

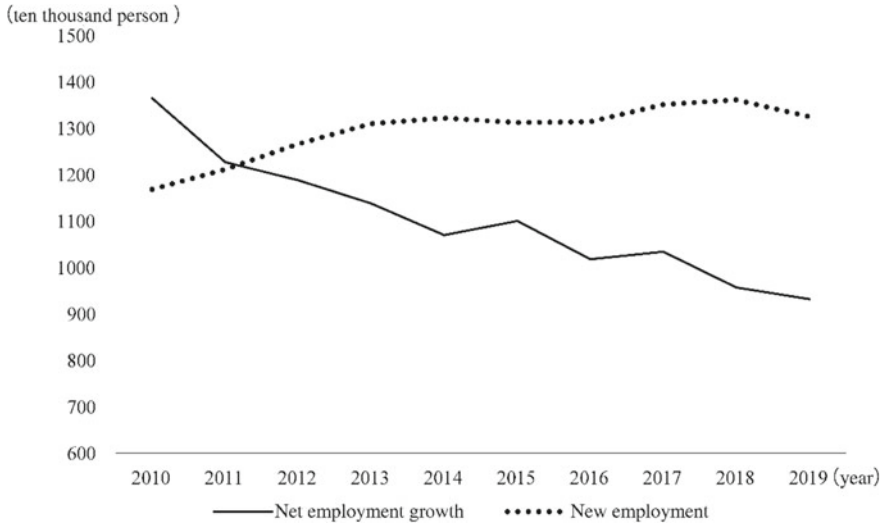


Fig. 19.2 Changes of new employment in urban Areas and net employment growth in urban areas: 2010–2019. *Source* National Bureau of Statistics

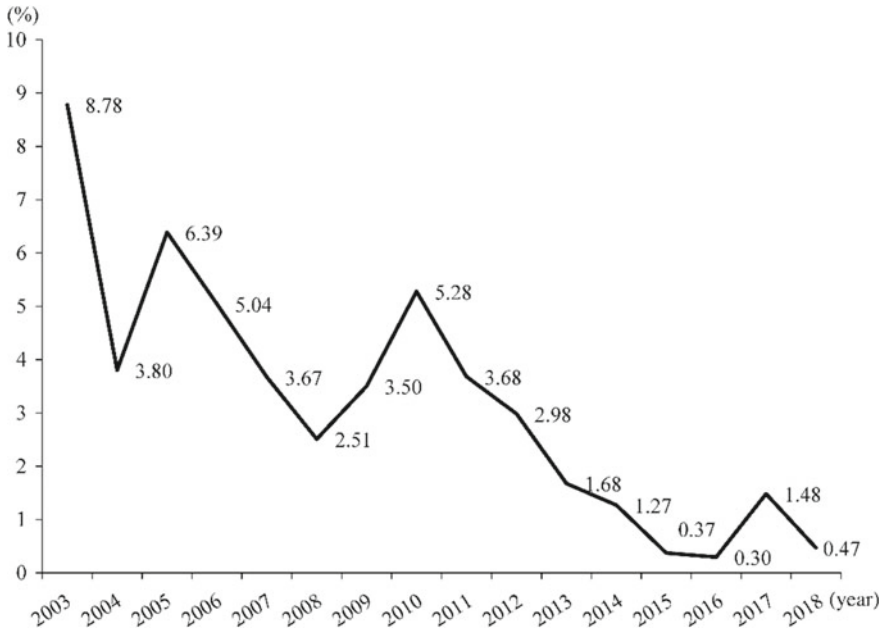


Fig. 19.3 Annual growth rate of total migrant workers. *Source* The author calculated according to the data of “Migrant Workers Monitoring Survey” of National Bureau of Statistics

19.2.3 Determine the Direction of Active Employment Policy According to the Nature of Unemployment

After the economy enters a new normal, the fluctuation of employment and unemployment rate is more in line with the characteristics described by neoclassical economics. Therefore, we should pay more attention to the level of unemployment rate, the composition of natural unemployment rate, and investigate the changes of unemployment rate and registered unemployment rate, so as to improve the accuracy of employment planning and the implementation effect of employment policies.

Figure 19.4 shows that from 2017 to 2019, the surveyed unemployment rate fluctuated slightly around the average level of 5%, but the registered unemployment rate in the same period showed a gradual downward trend. The registered unemployment rate does not include non-local residents in the statistics, which mainly reflects the unemployment situation of urban local residents. From the quantitative relationship, the registered unemployment rate is close to the natural unemployment rate, and the stable change trend of the registered unemployment rate is consistent with the definition of the natural unemployment rate.

If we infer the future operation of China’s labor market according to the changing characteristics of China’s labor market, the neoclassical characteristics will be more obvious. Maintaining an unemployment rate of 5% can roughly achieve full employment, which is also the embodiment that China’s economy continues to maintain a new normal. As the natural unemployment rate is close to the survey unemployment

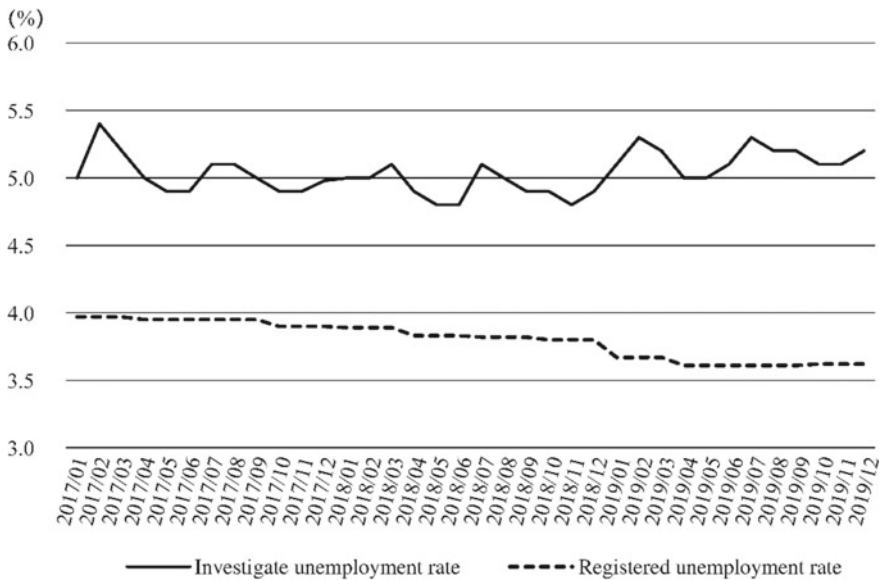


Fig. 19.4 Changes of survey unemployment rate and registered unemployment rate from 2017 to 2019. Source National Bureau of Statistics

rate, structural unemployment and frictional unemployment still constitute the main part of unemployment. However, the proportion of periodic unemployment in the unemployment rate is small, and it still needs to be solved through structural reform rather than short-term demand management. The main reason for natural unemployment is that under the current employment system of urban residents, the level of employment protection of rural–urban workers is relatively low,⁴ they will also be the objects that need attention in the further reform of the employment system.

19.2.4 The Direction of Employment Structure Adjustment has Changed

As China's economy enters a higher stage of development, the structural adjustment driven by industrialization and urbanization will also change. As industrialization enters the later stage, the speed of urbanization slows down, and the way of employment structure adjustment will also undergo important changes.

First of all, with the decreasing compensatory effect on urbanization, the urbanization rate of permanent residents is likely to slow down. In the past, the process of rapid urbanization in China was not only the embodiment of rapid economic growth, but also the compensation for the long-term suppression of urbanization in the planned economy period. With the gradual release of these factors, the speed of urbanization will probably slow down gradually. The change of employment structure related to urbanization is the flow of rural labor force to cities and the change of employment mode from agriculture to non-agriculture. Due to the slowdown of urbanization, the employment allocation between agriculture and non-agriculture will gradually become stable.

Secondly, China's industrialization process has entered the later stage. As the labor cost has obviously increased in the past decade, the development advantages of labor-intensive industries in industry have gradually decreased. China's manufacturing industry has made great progress along with the globalization process, but its competitive advantage has also been weakened due to the increase of unit labor cost. Due to rising wages, the industrial upgrading of replacing labor with technological progress has gradually accelerated. All these factors will continue to strengthen in the medium and long term. At present, the secondary industry has become a sector with reduced employment. From the general experience of developed countries, this trend will continue, and jobs will increasingly depend on the development of the service sector.

From the departmental effect of the adjustment of employment structure, it has shown that within the secondary industry, the larger the original employment scale,

⁴ Under the current employment system, the level of employment protection of rural–urban migrant workers is relatively low, and their unemployment rate is also lower. According to “China's Urban Labor Market Survey” by Institute of Population and Labor Economics of Chinese Academy of Social Sciences, the unemployment rate of migrants in cities is very low, about 1.8%.

the greater the employment losses suffered by the industry. Each point in the above figure in Fig. 19.5 represents the employment situation of an industry within the industrial sector. The horizontal axis reflects the employment level of this industry in 2013, while the vertical axis shows the change of employment in this industry from 2013 to 2018. As we can see, the points in the above figure show an obvious downward trend to the right, which means that the greater the number of jobs in the initial period (and the more obvious advantages), the more serious the employment losses will be in the subsequent structural adjustment process. The following figure shows the employment changes of various industries in the tertiary industry. Although the fitting line in the figure below is not as steep as that in the figure above, it still shows an obviously different upward trend, which means that the employment changes in the service sector show a very different pattern from that in the industrial sector.

The general law of economic structure change shows that in the late middle-income period, the economic structure change will be mainly manifested in the diversification of internal sectors of the industry.⁵ This law will be manifested in different ways in the change of employment structure in different industries, and the diversification of employment structure in manufacturing sector will be manifested in the extension of value chain and the further refinement of division of labor; In the service sector, it may be reflected in the emergence of new service industries and the increase in the proportion of high-end service industries. From the perspective of the operation of the labor market and the change of employment forms, both of them reflect the finer division of labor in the labor market, the higher degree of specialization and the higher level of cooperation.

Therefore, the change trend of employment structure in the medium and long term will be as follows: first, the employment of the secondary industry continues to decrease, and the service industry is the main sector of employment increase; Second, the replacement of labor by technological progress has an impact on employment; Third, the division of labor and specialization of enterprises have been further improved.

These employment trends inevitably require more effective allocation of labor force, so that labor force can flow more effectively between departments and enterprises. This inevitably puts forward higher requirements for the allocation function of the labor market, and also requires the labor market system and employment policy to keep pace with these new changes.

19.3 Key Issues of Labor Market Reform and Development

Based on the analysis of the trend of social and economic development and the running situation of the labor market, we believe that we need to devote ourselves to improving the level of labor productivity, meet the persistent challenge of a new round of scientific and technological revolution, make the basic system of the labor

⁵ Imbs and Wacziarg (2003).

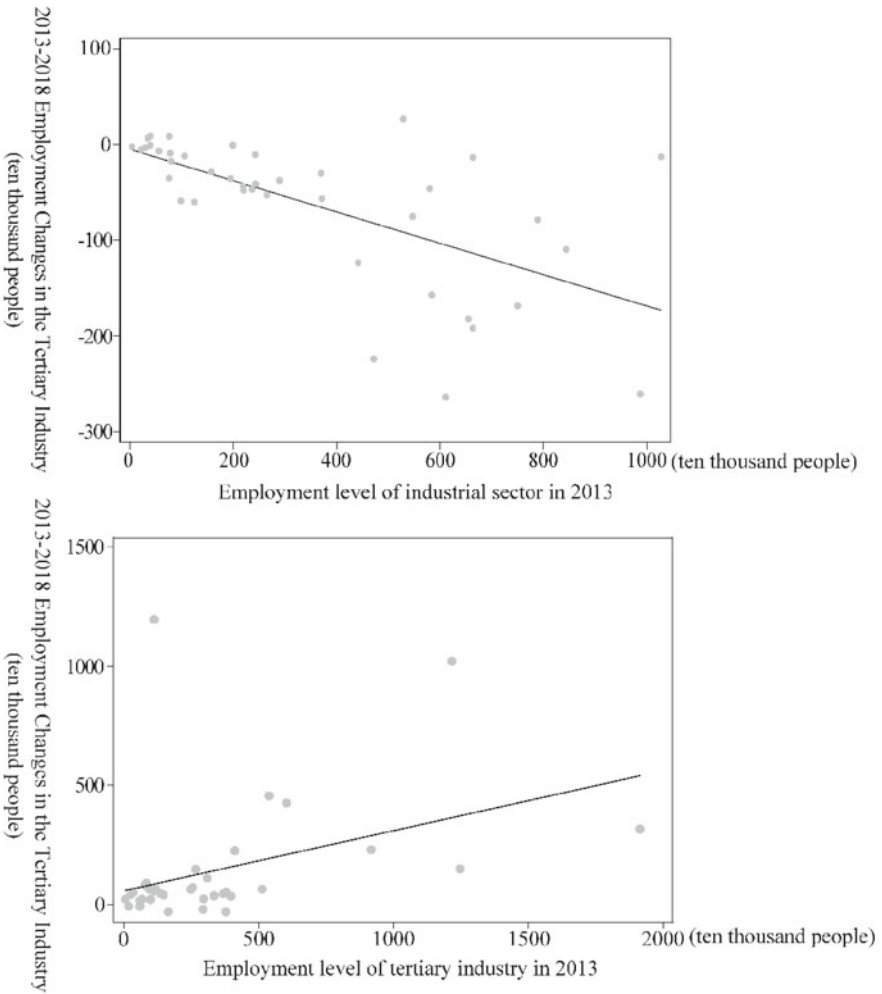


Fig. 19.5 Employment changes in non-agricultural industries. *Source* The author calculated according to the data of Bulletin of Economic Census (previous) of National Bureau of Statistics

market basically finalized and mature, and further improve the way to realize the active employment policy.

19.3.1 Promote the Sustained Growth of Labor Productivity

China’s aging population is accelerating. Due to the generation who were born in “baby boom” that started in 1962, is about to reach the pension age, the pressure of

pension payment is greater than any previous period. Based on the fact that China's pension system adopts the pay-as-you-go system, the foundation of pension payment depends heavily on the fund payment level of the employed population, while the latter directly depends on the level of labor productivity and its growth rate.

Maintaining the growth of labor productivity is also the basis for achieving sustained wage growth. Only the growth of labor productivity can provide material guarantee for the continuous improvement of income distribution pattern, thus realizing the synchronization of wage growth and labor productivity growth.

On the one hand, due to the accelerated population aging and sustained income growth, the increasing demand for labor productivity is more urgent than ever before; On the other hand, the changing trend of economic structure and employment structure makes it more difficult to increase labor productivity, which forms a paradox.

As mentioned earlier, the changes of employment structure during the 12th Five-Year Plan and 13th Five-Year Plan have clearly shown the trend of employment transformation from the secondary industry to the tertiary industry in China. In the future, the pattern of employment reduction in the secondary industry and employment creation relying on the tertiary industry is basically determined. However, judging from the changes of labor productivity in the secondary and tertiary industries, it will be a major problem to resolve the paradox of labor productivity. Figure 19.6 shows the labor productivity of the secondary and tertiary industries calculated according to previous economic census data. As the survey year of the economic census happens to be the middle year of the five-year plan, the data of the four census years can roughly reflect the average level of the four five-year plan periods from the 10th Five-Year Plan to the 13th Five-Year Plan. As shown in Fig. 19.6, there has always been a significant gap between the labor productivity of the tertiary industry and that of the secondary industry. For example, the average labor productivity of the tertiary industry was 89.6% of that of the secondary industry during the Tenth Five-Year Plan period, and it has further decreased to 80.3% by the 13th Five-Year Plan period. Considering the substantial increase of employment in the tertiary industry, the impact of employment structure on the overall labor productivity growth is even more obvious.

It can be predicted that in the medium and long term, the transformation of employment to the tertiary industry with lower labor productivity will inevitably slow down the growth rate of overall labor productivity. On the basis of giving full play to the decisive role of market mechanism, policy intervention and promoting labor productivity growth will also become one of the core objectives of economic development policy and labor market policy.

First of all, we should continue to tap the growth potential of total factor productivity. From the perspective of production function (supply side), the growth of labor productivity comes from three sources: labor time, capital-output ratio and total factor productivity. Obviously, the growth potential of labor time is limited, and with the economic development and the improvement of people's living standard, the general rule is that labor time will be gradually reduced; the improvement of capital-output ratio depends on the continuous growth of investment. In the past, when the

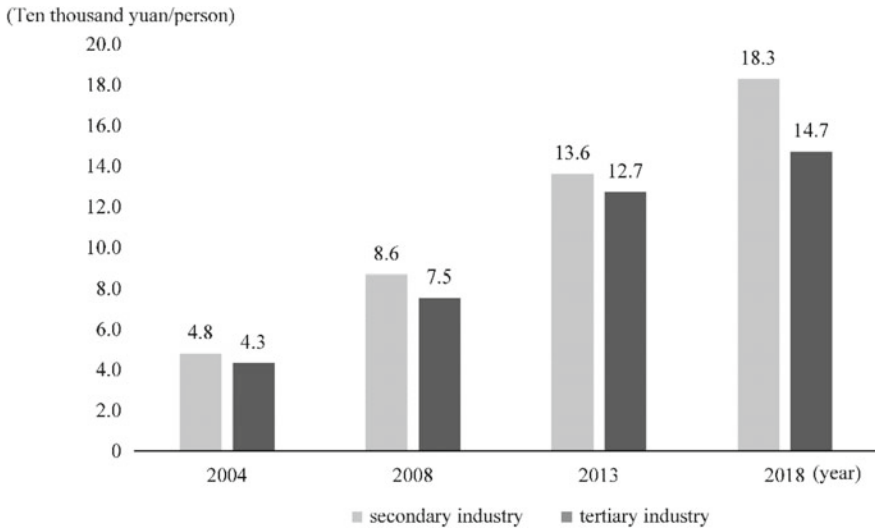


Fig. 19.6 Changes of average labor productivity of non-agricultural industries. *Source* The author calculated according to the data of Bulletin of Economic Census (previous) of National Bureau of Statistics

economic growth mode has been excessively dependent on investment, the room for improvement of capital-output ratio is very limited. Therefore, relying on the growth of total factor productivity to improve labor productivity is almost the only choice in the medium and long term. Its main means are to promote labor-saving technological progress and market-oriented reform to improve the allocation efficiency of production factors.

Secondly, it is necessary to strengthen technological progress and continue to promote the sustained growth of labor productivity in the manufacturing sector. As mentioned earlier, the manufacturing sector is a sector with higher productivity. To continue to exert its productivity advantages, it is necessary to better integrate traditional manufacturing with new technologies, and improve labor productivity by developing modern manufacturing. Optimizing the allocation of various production factors, promoting division of labor and specialization, and extending the industrial chain of manufacturing industry are important ways to improve the productivity of manufacturing sector.

Finally, efforts should be made to improve the labor productivity of the service industry. Because job creation mainly depends on the tertiary industry, the growth of labor productivity in the service sector will play a decisive role in improving the overall labor productivity. In the past, the main reason why the productivity level of service sector was lower than that of manufacturing sector was that low-end service sectors such as living services occupied a large proportion in the tertiary industry, resulting in the low overall productivity level of service sector. In the medium and long term, we can improve the labor productivity of the service industry from the

following two aspects: First, by deepening reform and opening-up, we should vigorously develop high-end service industries such as producer services (such as financial services, industrial design, creative industries, etc.) and increase their proportion in service industry employment; Secondly, to reform the traditional service industry with modern technology and improve the labor productivity of life service industry. For example, using Internet technology can improve the efficiency of life service industry, thus improving its labor productivity.

19.3.2 Actively Respond to the Challenge of a New Round of Scientific and Technological Revolution

During the “13th Five-Year Plan” period, the application of new technologies in various social and economic sectors showed explosive growth: the degree of automation in the manufacturing sector was greatly improved, which was highlighted by the substantial increase in the density of industrial robots. In 2013, the number of industrial robots used per 10,000 people in the manufacturing sector was 2.66, increasing to 39.55 in 2018⁶; the deep integration of Internet technology with the tertiary industry has promoted the explosive growth of cash payment business, platform economy and modern logistics industry, and has become an important source of new employment. The algorithm and computing power of big data have greatly improved, resulting in the rapid accumulation of big data and the rapid development of wireless communication technology. Artificial intelligence technology is in the ascendant, and it is very likely to achieve deep integration with many industrial sectors in the medium and long term. Therefore, we should pay full attention to the challenges brought by these new technologies to the labor market, and make full preparations for relevant systems and policies.

- (1) The new round of scientific and technological revolution has a strong attribute of replacing labor.

From the characteristics of this new technological revolution, the attribute of replacing labor with new technology is stronger than the complementarity between new technology and labor, and its impact on employment cannot be ignored. From the course of economic development, technological progress is a continuous process, but the accelerated development of replacing labor with technology in recent years is the result of the constant changes in the relative prices of capital and labor. As mentioned earlier, during the 12th Five-Year Plan and 13th Five-Year Plan period, China’s labor costs rose rapidly, and the growth rate of labor costs was at the forefront among major economies in the world. In this case, in order to maintain the competitive advantage in the global competition, the manufacturing sector must replace

⁶ Manufacturing employment data comes from the Bulletin of Economic Census of the National Bureau of Statistics; Industrial data source IFR.

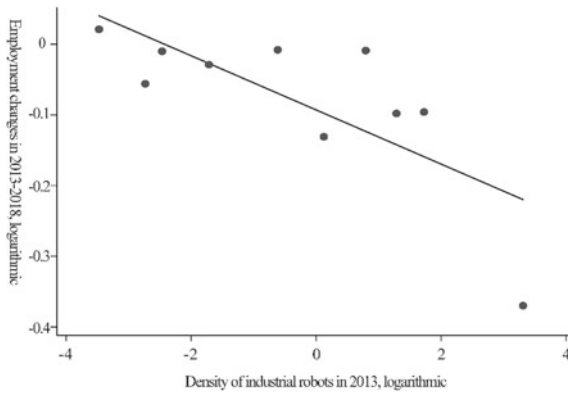


Fig. 19.7 Industrial robot density and employment change. *Source* Employment data of various industries comes from the Bulletin of Economic Census of the National Bureau of Statistics; Industrial data source IFR

labor with labor-saving technology to save production costs and improve economic efficiency.

Figure 19.7 clearly depicts the change of this trend, which shows the employment impact of using industrial robots in some manufacturing industries. The horizontal axis of the graph is the density (logarithm) of industrial robots in 2013, and the vertical axis is the change of employment (logarithm) from 2013 to 2018. Each point in the graph represents an industry. Obviously, the employment loss in industries with higher use of industrial robots is also more severe. At present, compared with 2013, the density of robots in manufacturing industry has been greatly increased, and the industries involved are more common, so we have reason to believe that this mode of replacing labor with technology will continue and have a greater impact.

(2) The impact of technological progress on employment is not balanced.

From the characteristics of this round of technological progress, the impact of technological progress on employment is not the same among different groups. The experience of developed countries shows that workers engaged in different types of work are affected differently by the new round of scientific and technological revolution.

Generally speaking, if the work is in accordance with the established design scheme and has the characteristics of proceduralization and repeatability, then this kind of work will be more easily replaced by automated machines. This kind of work is likely to be replaced by machines, whether it is routine operation with physical strength or requires higher skills. On the other hand, if the work has uncertain attributes and requires immediate solutions or processing and decision-making, the possibility of this unconventional task being replaced is even smaller. Replacing labor with technological progress such as automation and artificial intelligence first impacts the workers engaged in repetitive and regular work.

The experience of developed countries shows that automation replaces a large number of routine jobs with intermediate income. Therefore, the employment in the labor market is polarized: the number of jobs providing life services is increasing, and the number of jobs engaged in creative labor will also increase, but the number of jobs with intermediate income will decrease.⁷ Compared with developed countries, China's extensive application of technology to replace labor lags behind, but judging from the development trend during the 13th Five-Year Plan period, the next period may be an important period when a new round of scientific and technological revolution will have an impact on the labor market.

Of course, the wide application of new technologies will also create new jobs. For example, the development of e-commerce and modern logistics industry has accelerated the growth of express delivery business and become an important source of new employment; Platform economy has given birth to some live webcasts and a series of new occupations attached to them. The experience of developed countries shows that in the period of rapid technological development, new employment mainly comes from the emergence of new occupations.⁸ However, in most cases, the emergence of these new occupations can only make workers (young and highly educated) who can quickly adapt to technological changes become beneficiaries, while the unemployed who have lost their traditional jobs often miss this opportunity. Therefore, although the rapid application of new technology does not necessarily lead to the reduction of the total number of jobs, it will certainly lead to the increase of structural unemployment. We should improve the governance mechanism of structural unemployment according to the changes of new technologies, and deal with possible structural unemployment problems.

(3) The productivity effect of new technologies.

As mentioned earlier, the acceleration of population aging has a more urgent demand for the growth of labor productivity. Obviously, the acceleration of the application of new technology and the further integration of new technology and traditional economy are the most important means to improve labor productivity and the main way to solve the "productivity paradox". On the other hand, although the new round of scientific and technological revolution may bring some negative impacts on the labor market and social and economic life, only by embracing the new round of scientific and technological revolution can the economy obtain the source of lasting productivity growth, and some negative effects produced by the scientific and technological revolution need to be resolved by perfecting social policies.

The application of labor substitution technology will cause employment loss at first, but the expansion of new technology application will increase productivity, reduce production costs, lower prices of products and services, and promote the increase of demand for products and services, which will lead to the increase of

⁷ Autor et al. (2003).

⁸ In the United States, the total employment increased by 17.5% from 1980 to 2007, of which more than half (8.84%) came from the emergence of New Job Titles, Acemoglu and Restrepo (2016), and the same result was frequently seen in the employment changes after many major technological revolutions in history.

employment demand. From the perspective of economic globalization, applying new technologies to improve productivity will enhance the international competitiveness of Chinese products and services, and ultimately increase employment demand. Therefore, it is necessary to combine the promotion of technological progress with globalization, transform productivity advantages into competitive advantages, give full play to productivity advantages with a more comprehensive globalization and a higher level of openness, and expand employment.

19.3.3 Continue to Reform and Improve the Basic System Related to the Labor Market

As the household registration system is the basic system that affects the labor market, reforming and perfecting the household registration system is also an important task of China's transition to a market economy. The outline of the 13th Five-Year Plan puts forward clear requirements to promote the reform of household registration system and the equalization of basic public services, and accelerate the citizenization of rural migrants. In the actual operation of local-led and classified reform, the reform of household registration system is still far from its ultimate goal. Therefore, the household registration system, as the main field of labor market system reform, should grasp the key points and keys of the reform, solve the difficulties of the reform, and realize the ultimate goal of the reform of the household registration system.

During the "Thirteenth Five-Year Plan" period, the urbanization rate of registered population in eastern provinces only increased by less than 1% point, and the gap between the absolute number of permanent residents and registered population in cities even increased; The reform of household registration in the central and western provinces has made rapid progress, and the urbanization rate of household registration population and the gap between urban permanent residents and the absolute number of household registration population are better than those in the eastern provinces. The reform of household registration system is a systematic project. It is necessary to increase the system design at the national level, and all regions and departments should make concerted efforts to deepen the reform of household registration system and comprehensively improve the urbanization level of household registration population.

19.3.4 Pay Attention to the Realization of Active Employment Policy

Incorporate the active employment policy into the macro-economic policy system, and pay more attention to its concrete realization, so as to change the current

phenomenon that the labor market indicators are out of touch with other macro-economic indicators. Learn from the successful experience of developed countries, and incorporate the labor market indicators into the target indicators of macro-control. To put the active employment policy at the macro-policy level, it is necessary to further strengthen the coordination with other macro-economic policies, which is reflected in the following aspects.

First of all, the employment index should be the main target index of macroeconomic regulation and control. The experience of developed countries shows that it is feasible to take labor market indicators such as unemployment rate and employment growth as direct targets of monetary policy. Taking the labor market indicators as the basis of decision-making will naturally strengthen the connection between other macroeconomic policies and employment policies. Of course, taking the employment index as the basis of decision-making needs to rely on more accurate and rapid labor market information, which also puts forward higher requirements for China's labor market statistics system.

Secondly, according to the linkage between natural unemployment rate and economic growth and price level, we should determine the direction and intensity of active employment policy and other regulatory policies. After the labor market enters the neoclassical form, the economic growth, unemployment rate and price level always fluctuate around the potential economic growth rate, natural unemployment rate and appropriate price level. The ultimate goal of fiscal policy, monetary policy and active employment policy is to narrow the difference between the actual indicators and the above balanced indicators.⁹ Obviously, this also puts forward higher requirements for the implementation of the active employment policy: it is necessary not only to understand the dynamic development of the labor market, but also to master the law of the interaction between active employment and major economic indicators, especially to grasp the equilibrium level and its changes in various markets.

Finally, in the process of policy implementation, it is necessary to strengthen the coordination among various functional departments of the government. Not only the macro-decision-making departments should play a role in the coordination of employment policies among departments, but also the employment authorities should play a coordinating role in other macro-economic decisions. We should ensure the goal of "stable employment", manage the fluctuation of the labor market more from the demand side, and eliminate the unemployment caused by cyclical economic fluctuations and the unemployment caused by changes in economic structure. Therefore, the comprehensive management department of macro-economy should be responsible for overall arrangement of macro-control policies, comprehensive coordination of fiscal policies and monetary policies, so as to assume more responsibilities for solving cyclical unemployment and structural unemployment. At the same time, the employment department's participation in the coordination of macroeconomic policies is also conducive to bringing the dynamic information of the labor force into

⁹ Powell (2018).

the decision-making and implementing the macro-control plan for the labor market indicators.

19.4 Policy Suggestions for Medium and Long-Term Development of Labor Market

19.4.1 Adjust the Employment Planning Objectives and Steadily Push Forward the Extension of Retirement Age

Due to the rapid change of population structure, the process of population aging will be accelerated. A large number of workers enter retirement age, which brings more and more financial pressure to the old-age security payment system. Therefore, it is possible to expand the supply of endowment resources by expanding employment as much as possible. Therefore, increasing the employment index can not only reduce the unemployment rate, but also increase the labor participation rate as much as possible, so that the total employment will continue to expand.

From the specific indicators of employment planning, there is a growing difference between “new employment in cities and towns” and “net growth of urban employment”.¹⁰ From the past policy objectives, the indicators for maintaining the stability of the labor market are constantly changing. At present, the combination of registered unemployment rate in cities and towns and new employment in cities and towns has changed to the combination of surveyed unemployment rate in cities and new employment in cities and towns. With the further change of population structure, the work of “stabilizing employment” should not only pay attention to the unemployment rate, but also pay attention to the employment creation ability. Therefore, it will be more appropriate to take “urban survey unemployment rate” and “urban employment net growth” as the control objectives of employment planning.

As the employment rate is directly related to the retirement age, steadily advancing the extension of the retirement age can alleviate the pressure of pension payment and the shortage of labor supply. We can push forward the relevant reforms in a way that the retirement age of women are delayed by one year every two years and that of men are delayed by one year every four years.

¹⁰ The statistical sources of “new urban employment” and “total urban employment” are also different. The former is based on the statistics of the administrative records of the Ministry of Human Resources and Social Security, which is actually the concept of personnel mobility. When the employment situation fluctuates, for example, migrant workers frequently change jobs, the employment scale will be exaggerated; The latter is based on household survey information, and its statistical method conforms to international norms, which can properly reflect the changes of the labor market situation.

19.4.2 Improving Labor Productivity Is the Core Goal of Labor Market Reform

Improving labor productivity is the fundamental need to maintain sustainable economic development, and it is also a key problem that needs to be solved urgently. First of all, from the perspective of planning objectives, improving labor productivity should be regarded as the core objective as important as maintaining the stability of the labor market. It is necessary to prevent the long-term operation efficiency of the labor market from being damaged while maintaining the short-term employment balance. For example, high employment rate and low unemployment rate are the ideal goals to be pursued by the regulation and control of the labor market, and also an important embodiment of the prosperity of the labor market. In contrast, the combination of low unemployment rate and low employment rate has achieved the short-term goal of labor market regulation to a certain extent, but the utilization of human resources is not sufficient and the efficiency of the labor market has not been brought into play. Therefore, the work of “stabilizing employment” should not only focus on the short-term unemployment rate, but also constantly expand the employment creation ability through various means.

According to the development experience of various countries, to improve labor productivity, we must respect the decisive role of the labor market in the allocation of labor resources and give more flexibility in the institutional arrangement of the labor market. Adhere to efficiency as the leading factor in the initial distribution, and put the issue of fairness more into redistribution to solve.

An important means to improve labor productivity is to encourage the application of new technologies. Some technologies that replace labor may cause local employment losses in the short term, but as long as productivity is continuously improved and industrial chain is continuously extended, new forms of employment can be continuously created, and the dual effects of productivity progress and employment expansion can be achieved in the medium and long term. Therefore, from the perspective of policy implementation, we should have a strategic vision and tolerance for possible employment losses in the short term.

19.4.3 Actively Respond to the Challenges of the New Round of Scientific and Technological Revolution and Improve Relevant Systems

A new round of scientific and technological revolution will have a greater impact on the medium and long-term labor market. We should not only actively embrace the new technological revolution to promote the development of productivity, but also do a good job in building relevant systems in advance to minimize the structural shock of the labor market caused by technological progress. Although the impact of

the new round of scientific and technological revolution is long-term and uncertain, the following two aspects still need to be done well.

First of all, we should be prepared for the impact of short-term structural unemployment. As mentioned earlier, the groups impacted by new technology are not balanced, and some workers lack the ability to change jobs in a short time due to their own defects. Moreover, the traditional industry is not only more seriously damaged when it encounters external shocks, but also difficult to recover after being damaged. We must build a social safety net and strengthen social protection for these workers. Make good use of the unemployment insurance fund and other resources accumulated during the 13th Five-Year Plan period, and increase the assistance to the short-term unemployed when encountering the impact of unexpected events such as Sino-US trade friction and COVID-19 epidemic.

Secondly, we should consider the long-term and structural impact of the new round of scientific and technological revolution on the labor market and its distribution problems, and adjust them with redistribution policies. The large-scale popularization of technologies to replace labor will inevitably lead to the change of national income distribution pattern. On the basis of paying attention to efficiency in initial distribution, redistribution should consider the influence of technological progress. While ensuring productivity growth, we should strive that the overall pattern of income distribution will not deteriorate due to technological progress.

19.4.4 Complete the Reform of Household Registration System

The reform of the household registration system should enter the final stage. It is necessary to strengthen the top-level design, promote the reform in the whole country, thoroughly solve the problem of “incentive incompatibility” between the central and local governments, and eliminate the gap between the urbanization rate of permanent residents and registered residents. On the basis of the existing reforms, except for a few super-large central cities, we will strive to fully liberalize the restrictions on settlement as soon as possible.

Improve the cost-sharing mechanism of urbanization of agricultural transfer population. Basic public services such as compulsory education are completely borne by the central government. Employment, medical care, old-age security, housing security, etc. are solved by all levels of overall planning. Quasi-public service projects such as infrastructure, legal aid, recreation and sports are supported by the central government and shared by governments at all levels and social forces.

Strengthen the coordination between the household registration system and other related systems, such as the land transfer system, strive to build a labor market system and social security system that integrate urban and rural areas, strengthen the coordination and linkage of relevant institutions, and establish a nationwide

networked residence permit system, so as to realize the simultaneous and free transfer of population, household registration and insurance accounts.

19.4.5 Make the Active Employment Policy Truly a “Priority” Policy

The employment priority policy has already been established in the government policy system. What needs to be solved is how to make the active employment policy a “priority” policy. The following two aspects need to be highlighted.

First, in order to achieve the employment goal in the macroeconomic policy system, we should take the main employment indicators (such as investigating the unemployment rate and total employment) as the target and decision-making basis of macroeconomic regulation and control. On the basis of perfecting the existing employment statistics system and improving the quality and frequency of employment statistics, we should learn from the experience of developed countries and let the labor market indicators really play a role in macroeconomic decision-making. Taking the unemployment rate surveyed during the 13th Five-Year Plan period as the basis for decision-making has achieved good results. It is necessary to further play the guiding role of investigating unemployment rate, expand the scope of investigation, increase the number of samples, make it representative at the provincial level, and improve its position and role in macroeconomic decision-making.

Second, when the employment goal conflicts with other social policies, there should be a decision-making and settlement mechanism. In the process of social and economic development, different policies are bound to be implemented. Due to the different objectives of different policies, some policies may objectively conflict with the employment priority principle, and may even cause employment losses. This situation has been reflected in the 13th Five-Year Plan period. When other policies conflict with the employment priority principle, defining the priority position of employment is not only conducive to better implementing the employment priority principle, but also enables governments at all levels to define the functional orientation of various policies and reduce the shock of the labor market.

19.4.6 Extend Compulsory Education and Build a More Effective Human Capital Accumulation System

The promotion of human capital is the golden key to solve many problems in the labor market and economic development. The promotion of human capital of workers is the fundamental way to continuously improve labor productivity, and it is also an effective measure to adapt to the adjustment of economic structure and the ever-changing employment structure. In the previous five-year plans, great attention has

been paid to the accumulation of human capital such as education and training. On this basis, the outstanding problem to be solved is to improve the efficiency of the human capital accumulation system, so that every penny can really play its due role.

First of all, we should continue to increase investment in human capital, and bring preschool education and senior high school education into the compulsory education system. Our analysis shows that the change of economic structure will accelerate in the future, and the tertiary industry will become the main source of employment growth. Therefore, compared with the initial stage of industrialization, the demand for employment skills is more uncertain, and the investment in vocational education and training aiming at specific positions will face more risks of investment failure. Therefore, in the distribution of vocational education and general education in senior high school, the investment scale of vocational education should be reduced and the proportion of general education should be strengthened.

The existing research results show that increasing the input and improving the quality of preschool education plays an important role in the formation and accumulation of lifelong human capital. It is necessary to reallocate the resources of primary and pre-school education according to the characteristics of demographic changes, and bring pre-school education into the compulsory education system.

Secondly, the accumulation of human capital should conform to the requirements of a new round of scientific and technological revolution. Because the new round of technological revolution represented by Internet technology, big data application and artificial intelligence is quite different from the technological progress in the process of industrialization, the rate of technological change is accelerated and the uncertainty of skill demand is enhanced, so the traditional education and training mode is difficult to adapt to the human capital demand of the new technological revolution. Therefore, it is necessary to strengthen the prior assessment of government-led investment in human capital, especially in vocational training, and pay attention to the effect of investment.

Finally, pay more attention to the role of market mechanism in human capital accumulation. The victims of the impact of technological progress are often the workers with low education level and old age. How to improve their ability to adapt to the market is an important problem to be solved by the human capital accumulation system. A number of world-class technology companies have emerged in China, and they have the ability to identify workers' skills needs and provide personalized training services. We should make full use of the market mechanism, give full play to their advantages, and improve the quality of workers in a targeted manner.

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Chapter 20

Research on Medium and Long-Term Income Distribution Pattern and Policy



Yang Du and Wen Zhao

Although the income distribution situation is generally improving, in the medium and long term, there are still many challenges to continuously improve the income distribution. Only by adhering to and perfecting the socialist basic distribution system, adhering to the principle of distribution according to work and improving distribution according to production factors can we promote more reasonable and orderly income distribution.

20.1 Changes in Income Distribution Situation and Policies

The objectives of the income distribution plan put forward in the *Outline of the 13th Five-Year Plan for National Economic and Social Development* (hereinafter referred to as the “13th Five-Year Plan Outline”) are to “correctly handle the relationship between fairness and efficiency, adhere to the synchronization between residents’ income growth and economic growth, increase labor remuneration and labor productivity, continuously increase the income of urban and rural residents, standardize the initial distribution, strengthen redistribution adjustment, adjust and optimize the national income distribution pattern, and strive to narrow the income gap of the whole society”. Compared with the *Outline of the 13th Five-Year Plan*, the income distribution during the 13th Five-Year Plan period has made the following progress.

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20.1.1 The Share of Labor Remuneration Continues to Increase

Labor remuneration share refers to the proportion of total labor remuneration of employees in the economic sector to GDP. The higher the share of labor remuneration, the more workers will share the fruits of economic growth. For a long time, the low share of labor remuneration has been the main problem in China's income distribution. During the "Thirteenth Five-Year Plan" period, the share of labor remuneration has been continuously improved with the improvement of market environment and the deepening of income distribution reform. This means that China's income distribution pattern is becoming more reasonable.

In recent years, the statistical caliber of labor remuneration has been constantly adjusted. According to the latest statistics, labor remuneration refers to all monetary and in-kind remuneration that employees should get for engaging in productive activities, mainly including wages, bonuses, allowances and subsidies, social insurance premiums paid by units for their employees, supplementary social insurance premiums and housing accumulation funds, retirement and pension of employees in administrative institutions, and other forms of welfare and remuneration provided by units for their employees, etc.

Internationally, there are two kinds of statistics of labor remuneration. One is wide-caliber,¹ and the other is narrow caliber. According to the suggestion of SNA, the statistical departments of various countries mostly use the concept of narrow-caliber labor remuneration, that is, only calculate the labor remuneration of employee departments; the income of self-employed economic sector is accounted separately, that is, mixed income. This forms the four distribution items of labor remuneration, capital remuneration, net production tax and mixed income in Fig. 20.1. The labor share was 29.9% in 2008, and increased to 37.5% in 2018.

In recent years, the functional distribution has been continuously improved and the share of labor remuneration has been continuously increased, which is due to the following three factors.

First, the increase in demand in the labor market has pushed up wages. The wages of urban employees and rural migrant workers have steadily increased, with the compound annual growth rates of real wages per capita of 7.8 and 6.6% respectively, which is faster than the growth rate of per capita GDP in the same period.

Second, the change from informal job to employment has increased labor remuneration. From 1992 to 2018, the proportion of China's self-employed economy in the national economy decreased from 23.4 to 18.1%, and the proportion of employees'

¹ Self-employed economy is self-employed economic activity, including individual economy and peasant household economy. Wide-caliber statistics refers to dividing a part of the income of the self-employed economic sector as labor remuneration, and taking the sum of it and employees' labor remuneration as the labor remuneration of the economy. Broadness has no meaning of functional distribution to the division of self-employed economic income. The proportion of self-employed economy in developed countries is low, while that in developing countries is high. Therefore, the wide-caliber labor remuneration often varies with the development stage, leading to confusion compared with the international one.

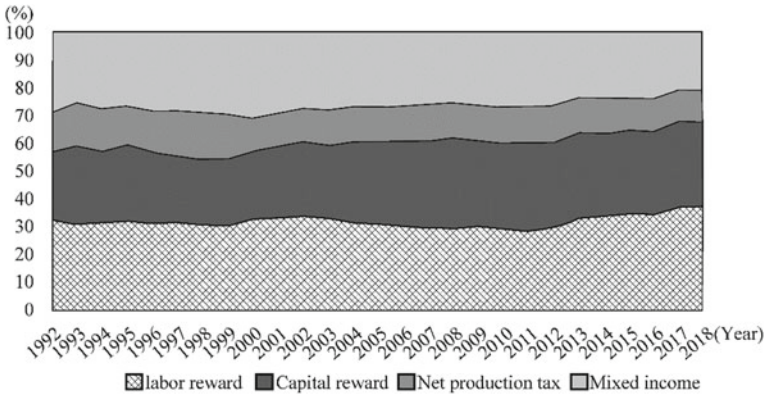


Fig. 20.1 Share of labor, capital, net production tax and mixed income in GDP. *Source* Calculated based on the data of the National Bureau of Statistics

employment in total employment increased from 43.6 to 66.7%, which promoted the increase of total labor remuneration.

Third, the actual social security rate of enterprises is constantly increasing. In addition, the reform of endowment insurance system for staff in government agencies and institutions² increased the proportion of social insurance premium and supplementary social insurance premium in the labor remuneration of staff, pushing up the share of labor remuneration. In 2018, the income of the basic endowment insurance fund of government agencies and institutions reached 1344.48 billion yuan. The actual insurance rate of enterprises increased from 14.7% in 2008 to 16.8% in 2018, and the actual insurance rate of the whole society including government agencies and institutions increased from 12.5% in 2008 to 20.3% in 2018.

Because the disposable income used by workers for consumption and savings should deduct social insurance contributions, housing accumulation fund and personal income tax from their labor remuneration, although the share of labor remuneration has increased, the actual disposable income of workers has little change in GDP share. According to the data such as *Cash Flow Statement*, *China Tax Yearbook* and *China Financial Final Accounts in 2018*, the disposable labor remuneration in 2018 was 23,261.19 billion yuan, accounting for 25.8% of the GDP of that year; Disposable labor remuneration accounts for 70% of total labor remuneration, which is 10% lower than that in 2008 (Fig. 20.2). This shows that the main reason for the increase of labor remuneration share in recent years is the rapid increase of the non-disposable parts of residents such as social insurance premium, housing accumulation fund, enterprise annuity and personal income tax. Compared with 2008, the proportion of total labor remuneration to GDP has increased by 7.6% points,

² The Decision of the State Council on the Reform of the old-age insurance system for staff in government agencies and institutions, January 14, 2015, the website of the Central People’s Government of the People’s Republic of China, http://www.gov.cn/zhengce/content/2015-01/14/content_9394.htm.

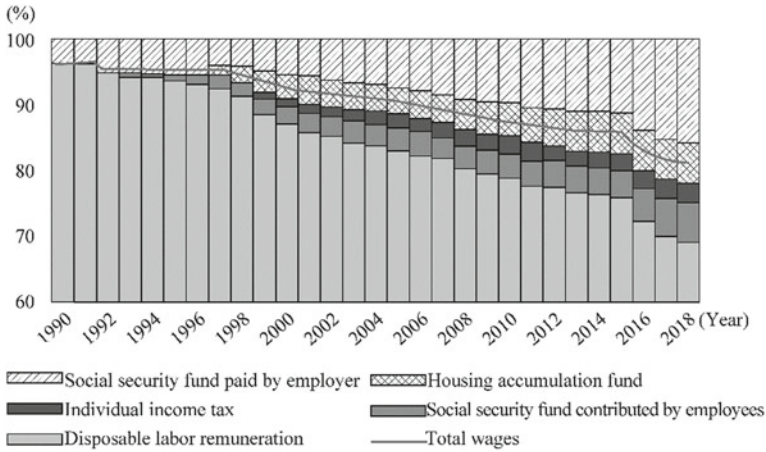


Fig. 20.2 Structure of labor remuneration: 1990–2018. *Source* Calculated based on the data of the National Bureau of Statistics

and the proportion of total disposable labor remuneration to GDP has increased by 2.0% points. The difference of 5.6% points between the two is the increase of the proportion of all kinds of deductions in GDP.

China’s share of capital reward is stable. In 2012, the total return on capital in China was 16,429.9 billion yuan, accounting for 30.5% of the GDP of that year. In 2018, the total return on capital in China was 27,353.4 billion yuan, accounting for 30.4% of the GDP of that year. With the continuous increase of labor remuneration share, the capital remuneration share has been stable at around 30% in recent years.

China’s share of capital reward can remain stable mainly due to the relative reduction of net production tax and mixed income. That is to say, the increase of labor remuneration share is not due to the decrease of capital remuneration share, but to the relative decrease of net production tax and mixed income. The ratio of net production tax to GDP was 12.8% in 2012 and decreased to 11.1% in 2018. The decline in the proportion of net production tax reflects the reduction of corporate tax burden.

From the perspective of structure, the three most important parts of capital reward are interest, dividend and other surplus. In 2018, the interest income was 11,026.3 billion yuan, accounting for 40.3% of the total capital return. Dividends include dividends issued by listed companies, cash dividends and stock dividends of tradable shares and dividends issued by unlisted companies. In 2018, the total dividend was about 1634.9 billion yuan, accounting for 6.0% of the total return on capital. Including land rent, resource tax, mineral resources compensation fee income, paid use fee income of exploration right and mining right, and paid use income of state-owned resources. In 2018, the total land rent was about 832.6 billion yuan, accounting for about 3.0% of the total capital return. Other property income is mainly insurance investment income. In 2018, the total income from other properties was about 27.1

billion yuan, accounting for about 0.1% of the total return on capital. Other surplus is mainly depreciation of fixed assets. In 2018, the total other surplus was about 13,832.6 billion yuan, accounting for 50.6% of the total return on capital.

20.1.2 The Relationship Between Initial Distribution and Redistribution

The initial distribution is inclined to the enterprise sector, and the redistribution is inclined to the residents sector by adjusting the redistribution mechanism, such as accelerating the improvement of taxation, social security and transfer payment as the main means. It embodies the idea of “both efficiency and fairness should be taken into account in the initial distribution and redistribution, and redistribution should pay more attention to fairness” formulated in the report of the 18th CPC National Congress.

- (1) The initial distribution is inclined to the enterprise sector, and the financial proportion of real estate has increased.

Initial distribution refers to the income of enterprises, governments and residents obtained according to their contribution to economic growth. In the initial distribution, the total initial distribution income of the enterprise department is the added value and financial subsidy obtained through business activities and the property income obtained through investment activities, subtracting the part that must be paid to other departments³ from these incomes to get the initial total income of the enterprise department; the total income initially distributed by the government is the added value generated by the government operation, the indirect tax, the interest income, the state-owned equity dividend and the land rent, deducting the labor remuneration of government employees, financial subsidies and interest expenses; The initial total income of residents is the added value generated by individual economic activities and agricultural production activities in urban and rural areas, labor remuneration from enterprises and the government, interest income, dividends in the stock market and insurance investment income, deducting indirect taxes and interest expenses.

As shown in Table 20.1, from 2016 to 2018, the proportion of enterprises in initial distribution increased from 24.2% at the end of the 12th Five-Year Plan to 25.6%, that of government departments decreased from 14.9 to 14.2%, and that of residents decreased from 60.9 to 60.2%.

³ It is mainly labor remuneration, indirect taxes and interest, dividends, land rent and insurance investment income.

Table 20.1 Changes in the initial distribution pattern of national income (*unit %*)

Year	Enterprise	Government	Resident
2008	26.6	14.7	58.7
2009	24.7	14.6	60.7
2010	24.5	15.0	60.5
2011	23.9	15.4	60.7
2012	22.7	15.6	61.6
2013	24.1	15.2	60.7
2014	24.7	15.2	60.1
2015	24.2	14.9	60.9
2016	24.3	14.5	61.3
2017	25.4	14.0	60.6
2018	25.6	14.2	60.2

Source Calculated based on the data of the National Bureau of Statistics

The proportion of financial and real estate industries has increased in the initial total income of enterprises, increasing from 4.0 and 3.9% in 2012 to 5.6 and 4.3% in 2018, respectively.

(2) Redistribution is inclined to residents' departments, and the proportion of residents' income has increased significantly.

As shown in Tables 20.1 and 20.2, through redistribution adjustment measures such as taxation and transfer payment, the income proportion of the three departments has changed. In 2018, compared with the initial distribution, the income share of enterprise departments decreased by 4.2% points, and that of government departments increased by 3.7% points.

(3) "Greater tax reduction and fee reduction" will benefit private enterprises and non-financial enterprises.

In 2019, a larger scale of tax reduction and fee reduction was implemented. The purpose of this tax reduction and fee reduction is to enhance the development potential and ensure financial sustainability. It is an important measure to reduce the burden on enterprises and stimulate the vitality of the market. It is an important reform to improve the tax system and optimize the income distribution pattern, and an important choice for macroeconomic policies to support steady growth, ensure employment and adjust the structure. The measures to reduce taxes and fees mainly include the following four aspects: implementing a larger tax reduction; significantly reduce the burden of social security contributions of enterprises, and reduce the contribution ratio of basic old-age insurance units for urban employees to 16%; increased profits paid by specific state-owned financial institutions and central enterprises; transfer some state-owned capital to enrich the social security fund.

As shown in Table 20.3, the above four measures have a significant impact on the distribution pattern of departments. For the initial distribution, we estimate that

Table. 20.2 Changes of national income redistribution pattern (*unit %*)

Year	Enterprise	Government	Resident
2008	22.7	19.0	58.3
2009	21.2	18.3	60.5
2010	21.2	18.4	60.4
2011	20.0	19.2	60.8
2012	18.5	19.5	62.0
2013	19.8	18.9	61.3
2014	20.5	18.9	60.6
2015	19.8	18.5	61.6
2016	20.0	17.9	62.1
2017	21.2	18.0	60.8
2018	21.4	17.9	60.7

Source Calculated based on the data of the National Bureau of Statistics

the initial distribution of government departments accounted for 12.2% in 2019, down 2% points from 2018. This is mainly the result of VAT reduction. Correspondingly, the proportion of initial distribution of non-financial state-owned enterprises increased by 0.5% points to 4.5%; The proportion of initial distribution of non-financial private enterprises increased by 1.6% points to 17.6%. For redistribution, the redistribution of government departments accounted for 16.2% in 2019, down 1.7% points from 2018. The redistribution proportion of non-financial state-owned enterprises increased by 0.2% points, about 3.6%; the redistribution proportion of non-financial private enterprises increased by 1.6% points, about 14.7%.

20.1.3 Third, the Income of Residents has Increased Steadily and the Distribution Pattern has Improved

The goal set by the 18th Party Congress is to double the per capita income of urban and rural residents in 2020 compared with 2010. In 2010, the per capita disposable income of Chinese residents was 12,507.6 yuan, which was increased to 24,604.5 yuan in 2019 at constant prices. In 2020, the target can be achieved only if the growth rate reaches 1.7%.

- (1) Residents' income is basically synchronized with economic growth, and the income of low-income groups has improved significantly.

According to the household survey data released by the National Bureau of Statistics, the total amount of per capita disposable income in 2018 was 39.4 trillion yuan (Fig. 20.3). In 2016, the total amount of per capita disposable income accounted for 44.5% of GDP, which decreased to 44 and 43.8% in 2017 and 2018, respectively.

Table. 20.3 Departmental distribution situation in 2019: initial distribution and redistribution (*unit %*)

Total income pattern of initial distribution					
Year	Non-financial state-owned enterprise	Non-financial private enterprises	Financial institution	Government	Resident
2018	4.0	16.0	5.6	14.2	60.2
2019	4.5	17.6	5.6	12.2	60.1
Disposable gross income pattern					
Year	Non-financial state-owned enterprise	Non-financial private enterprises	Financial institution	Government	Resident
2018	3.4	13.1	4.9	17.9	60.7
2019	3.6	14.7	4.7	16.2	60.9
Total initial distribution income-total disposable income					
Year	Non-financial state-owned enterprise	Non-financial private enterprises	Financial institution	Government	Resident
2018	0.6	2.9	0.7	3.7	0.5
2019	0.9	2.9	0.9	4.0	0.8

Source Based on the data of Ministry of Finance, State Taxation Administration of The People’s Republic of China and National Bureau of Statistics

According to the data of the first three quarters of 2019, the proportion of total per capita disposable income to GDP will rise to 44% in 2019.

As can be seen from Fig. 20.3, the income situation of low-income groups has improved significantly. In 2018, the per capita disposable income of rural residents in poverty-stricken areas was 10,371 yuan, which is 1.99 times that of 2012, with an average annual growth rate of 12.1%; after deducting the price factor, the average annual real growth rate is 10.0%, which is 2.3% points faster than the national average

Fig. 20.3 Total amount of per capita disposable income and its proportion to GDP. Source Calculated based on the data of the National Bureau of Statistics

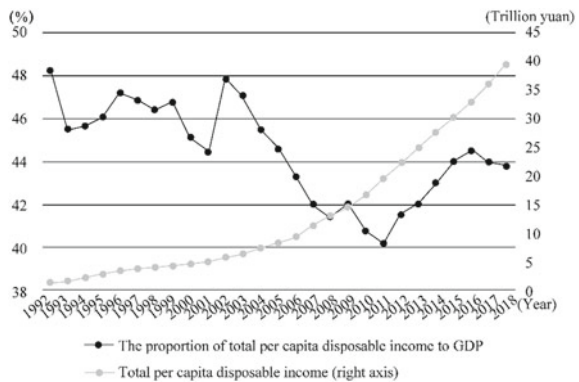


Table 20.4 Structure of per capita disposable income (*unit %*)

Year	Labor reward	Property income	Operational income	Transfer income
2008	81.0	4.4	14.4	0.3
2009	80.5	3.8	15.3	0.4
2010	78.5	3.4	17.6	0.5
2011	77.8	3.7	18.0	0.5
2012	79.8	4.1	15.5	0.6
2013	83.7	4.0	11.4	0.9
2014	84.0	3.9	11.2	0.9
2015	84.5	3.5	10.9	1.1
2016	84.1	3.8	10.9	1.2
2017	85.1	3.9	10.6	0.4
2018	85.2	2.7	11.0	1.1

Source Calculated based on the data of the National Bureau of Statistics

growth rate in rural areas. In 2018, the per capita disposable income of rural residents in poverty-stricken areas was 71.0% of the national rural average, 8.8% points higher than that in 2012, and the gap with the national rural average was further narrowed (Table 20.4).⁴

(2) The income gap between residents has widened slightly.

From 2013 to 2018, the income gap between residents first decreased and then increased. The Gini coefficient of residents' income is an important indicator to judge the income gap of residents. According to the data released by the National Bureau of Statistics, the coefficient rose slightly from 0.462 at the end of the 12th Five-Year Plan (2015) to 0.468 in 2018. Residents' income gap index is another indicator to judge residents' income gap, which is obtained by dividing the average per capita disposable income of residents in China by the median. This data is released quarterly by the National Bureau of Statistics. As shown in Fig. 20.4, from 2013 to 2015, the income gap index and Gini coefficient both show that the income gap of Chinese residents gradually narrowed, and slightly increased from 2016 to 2018. Among them, the income gap index of urban residents and the income gap index of rural residents increased from 1.071 and 1.110 in 2015 to 1.078 and 1.119 in 2018, respectively.

The main reason for the widening income gap among residents in China is the widening income gap within cities and towns. The income gap between urban and rural areas and different regions in China is shrinking, but the income gap within cities and towns is widening. The income gap between urban and rural areas decreased from 2.731 in 2015 to 2.685 in 2018. The regional income gap (measured by the ratio of residents' income in eastern and western regions) decreased from 1.673 in 2015 to 1.655 in 2018, and the income gap within rural areas also decreased.

⁴ National Bureau of Statistics (2019).

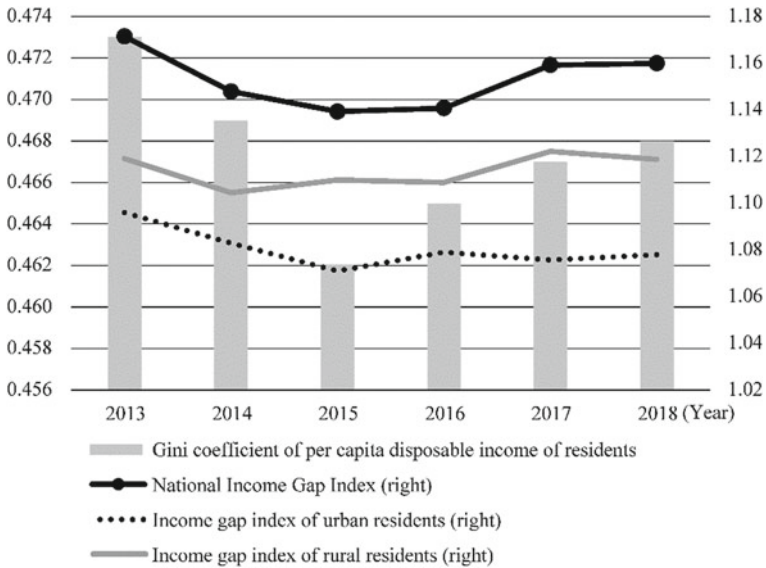


Fig. 20.4 Income gap of residents. *Source* Calculated based on the data of the National Bureau of Statistics

According to the data of the first three quarters of 2019, the income gap index of residents is 1.151, which is slightly lower than that of the same period of 2018. At the same time, the income gap between urban and rural areas and within rural areas has slightly decreased, and the income gap within urban areas has slightly expanded but not by a large range. Therefore, we speculate that the income gap between residents in 2019 and 2018 is not much different.

The outbreak of COVID-19 in early 2020 has become a major public event affecting the whole country, and it has also had a great impact on the growth of residents' income. However, the strategic goal of building a well-off society in an all-round way after the COVID-19 outbreak can still be achieved, and the strategic goal of doubling residents' income and building a well-off society in an all-round way can still be achieved. At present, the epidemic mainly affects the wage income of residents and the operating income of small and micro enterprises and self-employed households in some industries.

The first stage of epidemic prevention and control from the closure of Wuhan to the end of the Spring Festival holiday is the most critical stage of epidemic prevention. Due to strict isolation measures, tourism, accommodation and catering, culture and entertainment, wholesale and retail, transportation and other industries have suffered huge impacts. According to the survey results, the shutdown ratio of the tertiary industry such as accommodation and catering, entertainment, transportation and logistics, livelihood services, wholesale and retail all exceeded 70%. It is estimated that nearly half (46.4%) of small and micro enterprise operators whose revenue is less than 100,000 yuan will see a year-on-year decrease of more than 80% in the first quarter of 2020.

After the Spring Festival, epidemic prevention and control entered the second stage, and areas outside Hubei began to focus on epidemic prevention and control and economic recovery. However, due to the epidemic situation, employees' return journey is delayed and the employment rate is low, so many projects can't be started or can't be fully started. The impact on small, medium and micro enterprises and private enterprises in the secondary industry is obvious.

Although the COVID-19 epidemic will have a negative impact on economic activities, it is a one-time impact phenomenon and will not have a long-term impact on residents' income growth. Judging from the situation of China's economic and social development and the possible impact of the epidemic, although the epidemic will temporarily slightly reduce the growth rate of residents' income and other development indicators, on the whole, the goal of building a well-off society in an all-round way in 2020 can be achieved as scheduled.

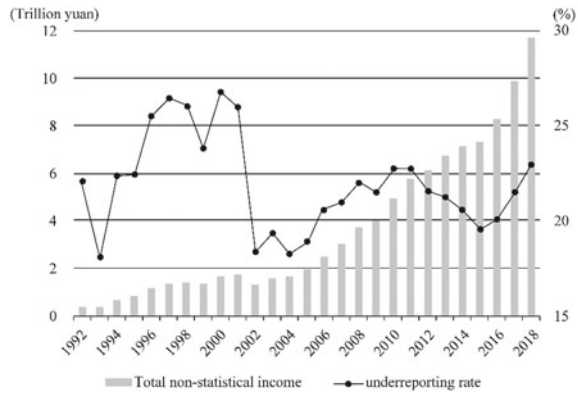
20.1.4 Changes of Non-statistical Income and Its Influence on Residents' Income Distribution

The Outline of the 13th Five-Year Plan proposes to "protect legal income, regulate hidden income, curb non-market factors such as power and administrative monopoly, and ban illegal income". To construct a reasonable income distribution order, we need to first understand the current situation of income distribution. Non-statistical income refers to the income of residents who are difficult to be included in the routine household survey. At present, there is still a large amount of non-statistical income outside the national income accounting system. Therefore, when we calculate the income gap index or Gini coefficient, we can't include this part of income. As the non-statistical income mainly belongs to the income of high-income groups, the actual income gap index of residents may be higher than the statistical calculation results.

The accounting of non-statistical income is based on the principle of balance of payments in national economic accounting. Every fund has both its source and its application, and the two are equal. From the perspective of national economic accounts, the application of each fund depends on the production account, and the source of each fund depends on the household survey. There has always been a phenomenon of "application is greater than source" in residential departments.

From the perspective of sources of funds, the per capita disposable income and the total amount is low because there are few samples of high-income groups in the household survey. From the aspect of capital application, the *Statement of Capital Flow* compiled by the National Bureau of Statistics records the direction and scale of capital application of enterprises, governments and household departments (residents) from gross production value to initial distribution and redistribution. The total disposable income of household departments (residents) in the *Statement of Capital Flow* includes the income directly counted through household surveys, as well as the

Fig. 20.5 Non-statistical Income in China from 1992 to 2018. *Source* Calculated based on the data of the National Bureau of Statistics



income not surveyed. This part of the income that has not been investigated is the income that has been transferred from enterprises and government departments to residents, but has not been reflected in the household survey, that is, the non-statistical income.⁵

Figure 20.5 shows China’s non-statistical income from 1992 to 2018. In 2018, China’s non-statistical income totaled 11.73 trillion yuan, an increase of 1.85 trillion yuan over 2017, with an increase rate of 18.7%. In 2018, the total non-statistical income accounted for 13% of GDP, an increase of 1% point over 2017. In 2018, the total non-statistical income accounted for about 23% of the total actual per capita disposable income (false report rate), an increase of 1.5% points over 2017. From the structural point of view, the underreporting rates of wage income and transfer income are low (6 and 2% respectively), while the underreporting rates of operational income and property income are high (62 and 77% respectively).

In terms of time change of the underreporting rate, the high and low points of the underreporting rate in the recent period appeared in 2011 (high point) and 2015 (low point) respectively. There are two main reasons, one is related to the standardization of income distribution; Second, the household survey reform initiated by the National Bureau of Statistics in 2013 has improved the data quality, which is similar to that of the survey method reform in 2002. Since 2016, the underreporting rate has increased again, and the income gap index and Gini coefficient of residents have increased simultaneously. Therefore, it can be inferred that if the non-statistical income is taken into account, the actual income gap of Chinese residents should be larger than the current statistics.

The above research shows that if non-statistical income is taken into account, the Gini coefficient of residents’ income may fluctuate at a high level since 2009.

⁵ In the “China Financial Stability Report (2019)”, the People’s Bank of China used the income data of residents in the Capital Flow Statement (instead of household survey). Shi Faqi calculated the total amount of per capita disposable income in 2008 by using the Statement of Capital Flow (Shi 2010). It is consistent with our calculation results.

20.2 Medium- and Long-Term Problems of Income Distribution

20.2.1 The Wage Income of Low- and Middle-Income Residents Grows Slowly

According to the data of “Per capita disposable income of national residents divided into five equal income groups” released by the National Bureau of Statistics in 2018, the nominal growth rate of per capita disposable income of “lower middle income households” (about 280 million people) in urban and rural areas dropped to 1.25 and 1.92% respectively, while the consumer price index (CPI) was 2.1%. Therefore, excluding rising prices, the real income of these two groups of residents showed negative growth, which was the first time in many years.

The main income source of “middle-lower income households” in urban and rural areas is wage income. Urban wage income accounts for about 52% of disposable income, and rural income accounts for about 34%. Among the four types of income of urban and rural residents, only the growth rate of wage income has declined, so the main reason for the sharp decline in the growth rate of disposable income of low- and middle-income groups is the decline of wage income.

According to the salary level from high to low, the employed people can be divided into five categories: urban non-private enterprise employees (169.6 million), urban private enterprise employees (139.52 million), rural private enterprise employees (218.17 million), urban individual economic employees (104.4 million) and rural individual economic employees (55.97 million). Urban and rural “middle-lower income households” mainly belong to the latter four categories.

As shown in Table 20.5, in 2018, the disposable wage income of all employees increased by about 4.5% in nominal terms, including about 11.4% for urban non-private enterprises, about 5.5% for urban private enterprises, about 1.0% for rural private enterprises and about 0.6% for individual employees. Compared with 2017, the growth rate of wage income of employees in rural private enterprises and self-employed employees has dropped significantly, and employees in urban private enterprises have also declined. This is the direct cause of the decline in the growth rate of per capita disposable income in low- and middle-income groups.

20.2.2 The Virtual Economy Expands the Income Gap of Residents

Virtual economy is an economic activity that transfers and distributes wealth with the help of price changes, but does not create wealth. At present, the national economic accounting system accounts the existing wealth of the society transferred by virtual economy as new wealth. It is estimated that in 2006, China’s virtual economy GDP

Table 20.5 Per capita wage income of all kinds of employed persons

	Employee								Individual employee
	Urban non-private enterprises	State-owned enterprise	Institutions and institutions	Financial institution	Urban private enterprises	Rural private enterprises			
Wage income (RMB)									
2015	51,223	70,885	94,242	117,100	37,011	29,621			19,416
2016	54,480	76,174	96,632	120,852	39,941	33,218			19,713
2017	58,488	83,243	102,761	124,016	42,243	34,956			20,049
2018	65,127	96,262	108,993	122,533	44,571	35,296			20,178
Nominal growth rate of wage income (%)									
2015	9.2	6.7	14.4	17.8	9.4	4.7			1.3
2016	6.4	7.5	2.5	3.2	7.9	12.1			1.5
2017	7.4	9.3	6.3	2.6	5.8	5.2			1.7
2018	11.4	15.6	6.1	-1.2	5.5	1.0			0.6

Source: Calculated based on the data of the National Bureau of Statistics

accounted for 3.4% of the total GDP, which increased to 5.1% in 2015 (the stock market surged to push up the virtual economy GDP) and 4.8% in 2019.⁶ This proportion in the United States and Japan has been stable at 10% in the last decade.

The most important parts of virtual economy are financial industry and real estate industry. The virtual economy of the financial industry is mainly composed of the securities investment income of the secondary market and some insurance income. The virtual economy of real estate is mainly the added value of residents' own housing services, followed by the land value-added tax of real estate development and management. The ratio of virtual economic added value in the national real estate industry shows a downward trend, from 57.2% in 2006 to 49.4% in 2017 (see Table 20.6); The added value of virtual economy in the financial industry is basically stable, and there is no trend of change.

The income of virtual economy is different in different departments. Among them, tax revenue is government income, and the added value of residents' own housing service belongs to virtual income. For other added values, workers' remuneration can be regarded as residents' income according to the distribution relationship in the input–output table, and the rest can be regarded as enterprise income. From the perspective of virtual economic income division (Fig. 20.6), the income of enterprise department accounts for about 6%, that of government departments accounts for about 19%, that of residents departments accounts for about 13%, and that of virtual income accounts for about 62%. Tracing back to the source, the income of the four departments can be classified into three categories: new wealth, existing wealth and virtual wealth, accounting for 3, 35 and 62% respectively. Three types of wealth correspond to three types of systematic accounting deviations. If both indirect taxes and asset transactions can widen the income gap, the virtual economy will widen the income gap of residents.

20.2.3 The Income Distribution Effect of the Fourth Industrial Revolution

The fourth industrial revolution will result in labor being replaced by technology, so it may lead to structural unemployment. At the same time, the creative destruction of traditional economic sectors by new technologies will inevitably cause corresponding employment losses, and some workers will lose their jobs. Moreover, the unemployed in traditional industries often lack the skills to make use of new technologies, so they cannot be the beneficiaries of new technologies. There is no doubt that the increase of structural unemployment in the short term is not conducive to the improvement of the income distribution pattern because labor is replaced by new technology and its imbalance among different groups.

As the fourth industrial revolution will replace labor with technological progress, the use of new technology will not only improve labor productivity, but also affect the

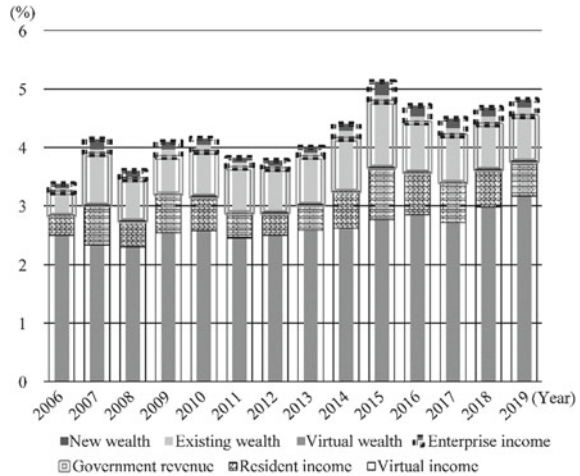
⁶ Zhao et al. (2019).

Table 20.6 Proportion of virtual economy in securities market, insurance market and real estate market (*unit* %)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Securities market and insurance market	14.1	26.2	16.5	19.0	17.0	12.1	10.2	10.8	14.9	20.8	15.4	14.6
real estate market	57.2	50.7	55.3	52.6	52.4	51.2	52.2	52.2	54.5	54.2	51.7	49.4

Source Calculated based on the data of the National Bureau of Statistics

Fig. 20.6 Proportion of added value of industries and departments in virtual economy to national GDP.
 Source Zhao et al. (2019)



national income distribution pattern. Using the data of listed companies, we analyzed the situation of reducing the share of labor remuneration and increasing the share of capital remuneration in the new economy. By dividing all listed companies into new economy and traditional economy according to the nature of their business, calculate the added value and labor remuneration of each enterprise, and sort the labor remuneration share of enterprises in 2018 from low to high, as shown in Fig. 20.7. Among them, there are 365 new economic enterprises (upper horizontal axis) and 966 traditional economic enterprises (lower horizontal axis). It can be found that in enterprises whose labor remuneration share accounts for 20–80%, the labor remuneration share of the traditional economy is higher than that of the new economy. Because technological progress has the attribute of replacing labor, the share of labor remuneration of new economic enterprises is obviously lower than that of traditional economic enterprises. Therefore, the new economy will reduce the share of labor remuneration and increase the share of capital remuneration. The popularization of new technology may widen the income gap.

Within the workers’ group, on the one hand, there are middle-high income unemployed people who are impacted by artificial intelligence, and middle-income unemployed people who are impacted by automation, resulting in the differentiation of employment structure; On the other hand, after the adjustment of employment structure, the number of employed people in low-skilled jobs will increase, the competition will be more intense, and the actual wages may decline, which will lead to the widening of the wage gap between high-skilled people and low-skilled people.

In addition, when data becomes a factor of production, data is the wealth resource in the era of artificial intelligence. Once data participates in wealth distribution as a factor, it may widen the income gap between data information owners and other groups, as well as the income gap between data industry and other traditional industries. And the monopoly of data may form a positive feedback loop of “the more you use it, the better it becomes” for artificial intelligence, and lead to the natural

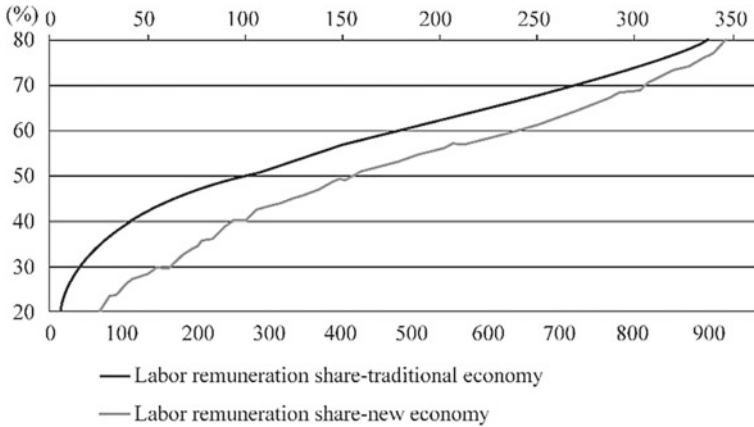


Fig. 20.7 Share of labor remuneration: comparison between new economy and traditional economy. *Source* Calculated based on the data of the National Bureau of Statistics

monopoly of these industries: technology enterprises are not only larger than traditional enterprises, but also fewer in number. Some countries’ experiences show that the monopoly formed by new technology will reduce the living space of small and medium-sized enterprises and employment opportunities, and at the same time, it will cause the problem that extremely high-income earners account for too much proportion in the national income distribution and widen the income gap.

20.2.4 *The Personal Income Tax System Needs to Be Improved*

During the “Thirteenth Five-Year Plan” period, the intensity of China’s tax reform has increased unprecedentedly. In 2018, the seventh revision of the Individual Income Tax Law started a new tax system reform that combines classification with synthesis. At the same time, the starting point of collecting personal income tax has been raised, and a special additional deduction system has been implemented, with great efforts to reduce taxes. The reform of personal income tax is helpful to expand middle-income groups, and it has great practical significance to benefit people’s livelihood. In the future, it is necessary to further play the role of personal income tax in narrowing the income gap and solve the following problems.

First, in China’s personal income tax, labor remuneration income tax accounts for a high proportion. In 2001, income tax on wages and salaries, income tax on labor remuneration, income tax on remuneration and income tax on royalties accounted for 43% of personal income tax, which increased to 63% in 2008 and 72% in 2017; in 2017, China’s labor remuneration accounted for only 56% of residents’ total income. This situation is quite different from some developed countries with small income

gap. For example, Japan is one of the countries with reasonable income distribution. In 2017, Japan's labor remuneration accounted for 92% of the total income of residents, but the income tax of labor remuneration accounted for only 59%.

Second, more equitable taxation needs to change from "small comprehensive" to "big comprehensive". The reform in 2018 takes income from wages and salaries, income from labor remuneration, income from remuneration and royalties as comprehensive income, and taxes them according to a uniform excess progressive tax rate, which belongs to a small-scale synthesis. However, the income from business and capital (including the income from the production and operation of individual industrial and commercial households, the income from contracted and leased business of enterprises and institutions, the income from interest dividends, the income from property lease and the income from property transfer) has not been comprehensively collected, which objectively brings new unfairness.

Third, the excessive personal income tax on highly skilled talents is not conducive to improving international competitiveness. It is not conducive to talent introduction and international competition to adopt a higher marginal tax rate for high wage earners with a monthly salary of more than 45,000 yuan. In recent years, the United States, Britain, Japan, Australia and other countries have successively lowered the maximum marginal tax rate, which has become a recent international trend. At present, the competitive situation between China and the United States in the high-tech field is very obvious, and the current excessive marginal tax rate inhibits the international competitiveness. China's choice of the highest marginal tax rate of 37% lower than that of the United States will help attract high-end talents in the competition with major countries. At present, the *Notice on Guangdong-Hong Kong-Macao Greater Bay Area's Preferential Policies for Individual Income Tax* has reduced the marginal tax rate, and has been well received by all circles. It is extremely beneficial to the introduction of talents, and it is worth popularizing nationwide.

Fourth, the tax burden of front-line workers is still heavy. The Fourth Plenary Session of the 19th CPC Central Committee pointed out that: we should persist in paying more for more work, focus on protecting labor income, increase the labor remuneration of workers, especially front-line workers, and increase the proportion of labor remuneration in the initial distribution. The 210 million taxpayers with a monthly salary of more than 5000 yuan, whose current annual salary level is concentrated between 80,000 and 90,000 yuan, are the mainstay of Chinese workers. In 2018, China's total employment was 430 million, of which 170 million were employed in urban units, which is the main tax payer of personal income tax. The income tax of wage labor in personal income tax is about 940 billion yuan, and the per capita burden is about 5865 yuan according to the number of employed people in urban units. However, the per capita consumption expenditure of urban residents in China was only 26,112 yuan in 2018, and the ratio of per capita tax burden to per capita consumption was nearly 1:4. Imposing higher personal income tax on ordinary workers increases their burden, which is not conducive to the implementation of the principle of distribution according to work.

20.2.5 The High Leverage Ratio of the Resident Sector Is Not Conducive to Narrowing the Income Gap

At the end of 2018, the leverage ratio of China's household sector was 60.4%,⁷ and the debt balance was about 55.5 trillion yuan. According to the average interest rate of 5.4%, the debt interest in 2019 is about 3 trillion yuan. In 2019, the urban resident population was 848.43 million, an increase of 2.1% over the previous year. The per capita disposable income of urban residents was 42,359 yuan, a nominal increase of 7.9% over the previous year. The newly-increased income of urban residents was only 3.3 trillion yuan. Most of the new income is offset by debt interest. At present, under the high debt structure, the income growth of urban residents cannot be effectively used for consumption.

In 2018, mortgage loans accounted for 54% of household sector debt. The loan-to-income ratio (balance of individual housing loans/disposable income) was 47.4%, up 3.7% points from the previous year. Income level affects residents' debt-paying ability, and the debt-paying situation of individual low-income families deserves special attention. According to the 2016 China Household Tracking Survey conducted by Peking University, the debt burden of low-income families is heavier than that of high-income families: the average debt-income ratio of indebted families with annual income less than 60,000 yuan is 285.9%, while that of indebted families with annual income more than 360,000 yuan is 89.0%. In addition, 0.8% of the indebted families whose annual income is less than 60,000 yuan have a debt of more than 500,000 yuan, which means that these families need to pay off their debts with all the income of nearly 10 years under the condition of constant income level. Low-income families have limited financial assets and rigid consumption expenditure, which is likely to worsen their financial situation because of unexpected expenditure demand. At present, due to the high leverage ratio of enterprises and the government, there is little room for adjusting the proportion of household sector in national income.

20.3 Policy Suggestions for Medium- and Long-Term Income Distribution

Reasonable income distribution is the premise of stimulating the production enthusiasm of all parties and the foundation of sustained and healthy economic growth. Since the "Thirteenth Five-Year Plan" period, China's income distribution reform has been continuously promoted, and the unreasonable income distribution pattern in the past has been improved. The share of labor remuneration continues to increase, and the distribution relationship between labor and capital develops in a more reasonable

⁷ People's Bank of China, China's Financial Stability Report (2019), November 25, 2019, People's Bank of China website, www.pbc.gov.cn/goutongjiaoliu/113456/113469/3927456/index.html.

direction. A stable share of capital returns is generally conducive to stabilizing investment expectations. The distribution relationship among enterprises, government and residents has been continuously optimized and adjusted, and redistribution has obviously tilted towards residents. The larger scale tax reduction and fee reduction and related measures started in 2019 have injected new vitality into economic growth, with private enterprises and non-financial enterprises benefiting the most. Residents' income and economic growth have basically synchronized, and the income of low-income groups has improved significantly. However, in recent years, the income gap among residents has widened slightly after years of narrowing.

In the future, the continuous improvement of the income distribution pattern will face four new problems: the wage income growth of low- and middle-income residents may slow down; Virtual economy expands the income gap; the fourth industrial revolution may widen the income gap; the personal income tax system still needs to be improved.

To solve these problems, we should focus on the following six aspects: the distribution relationship between labor and capital; distribution relationship among enterprises, government and residents; the distribution relationship among residents; the distribution relationship between the central and local governments; the distribution relationship between real economy and virtual economy; the distribution relationship between new economy and traditional economy.

Therefore, we should continue to follow the reform direction pointed out by the 19th Party Congress and the Fourth Plenary Session of the 19th Central Committee, adhere to and improve China's socialist basic distribution system, adhere to the principle of distribution according to work, improve the system and mechanism of distribution according to factors, and promote more reasonable and orderly income distribution.

20.3.1 Continue to Raise the Level of Labor Remuneration Reasonably

We should continue to create a market and institutional environment conducive to increasing the share of labor remuneration. We will vigorously support the development of service industries, labor-intensive enterprises, small and micro enterprises and innovative science and technology enterprises, and create more jobs. And improve and implement policies to encourage self-employment, such as small secured loans and financial interest subsidies. Effectively reduce the financing tension of small and medium-sized enterprises, and significantly reduce the comprehensive financing cost. Incorporate the odd-job employment platform into the employment subsidy policy.

We should improve the statistical system of virtual economy and establish a set of indicators to measure wealth increment as the basis of scientific macro-decision. And guide and manage the society's expectation of income growth, and alleviate

the social distribution tension caused by “developing from the real economy to the virtual economy”.

20.3.2 Promoting the Income Growth of Low- and Middle-Income Workers

We should establish wage decisions and normal growth mechanisms that reflect the relationship between supply and demand in the labor market and the economic benefits of enterprises. Improve the wage guideline system, and establish a unified and standardized enterprise salary survey and information release system. According to economic development, price changes and other factors, timely adjust the minimum wage standards, and issue the minimum wage standards for some industries. Focusing on non-public enterprises, we will actively and steadily implement collective wage negotiation and collective wage negotiation in industries and regions. Safeguard the legitimate rights and interests of workers. Improve the wage payment guarantee mechanism, focus on monitoring areas with outstanding wage arrears and industries prone to wage arrears, and improve the differential wage guarantee payment method linked to the credit rating of enterprises.

We should improve the long-term mechanism to promote the rapid growth of farmers' income. We will speed up the system and mechanism of urban–rural integration, promote the balanced allocation of public resources, the equal exchange and free flow of production factors between urban and rural areas, promote the integration of urban and rural planning, infrastructure and public services, establish and improve the urbanization mechanism of agricultural migrants, and make overall plans to promote the reform of household registration system and the equalization of basic public services. Implement the newly revised *Land Administration Law of the People's Republic of China* and share the land value-added income reasonably.

We should increase residents' property income through multiple channels, speed up the development of multi-level capital markets, implement the dividend system of listed companies, strengthen supervision measures, and protect the legitimate rights and interests of investors, especially small and medium investors. Promote the reform of interest rate marketization, moderately expand the floating range of deposit and loan interest rates, and protect the rights and interests of depositors. Strictly regulate bank charges. Enrich fund products such as bond funds and money funds. Support qualified enterprises to implement employee stock ownership plans. Broaden the channels for increasing residents' rents, dividends and bonuses.

20.3.3 Continue to Improve the Personal Income Tax System

We should significantly raise the threshold of personal income tax. Personal income tax is not only a policy tool to adjust the income gap of residents, but also a policy tool to adjust the distribution of production factors. Wage income tax has long been the main part of personal income tax. Under the situation of low share of labor remuneration and slow wage growth, it is helpful to correct the imbalance of macro-income distribution pattern by making some compensation to ordinary workers by using the reduction and exemption of personal income tax.

The marginal tax rate of personal income tax should be reduced. According to the difference of personal income tax burden between China and other important economies, overseas high-end talents and talents in short supply working in China will be subsidized, which will be exempted from personal income tax. At the provincial and municipal levels, formulate the identification and subsidy measures for overseas high-end talents and talents in short supply.

We should implement a collection, settlement and payment system of taxes. Study the corresponding rules for establishing the hedge settlement system, greatly reduce the innovative labor income tax rate, protect innovative labor achievements and protect innovative talents' labor enthusiasm.

20.3.4 Consolidate the Achievements of Tax Reduction and Fee Reduction, and Standardize Hidden Income

The market operation cost should be reduced. We should deepen the reform of "streamline administration, delegate power, strengthen regulation and improve services", promote the reduction of institutional transaction costs, and work hard to create a good soft environment for development. Tax reduction and fee reduction for small and medium-sized enterprises are not entirely "giving more", but some kind of compensation for their excessive market risks, and more likely "taking less". Consolidate the achievements of tax reduction and fee reduction, improve property tax, promote structural tax reduction, reduce the tax burden of low- and middle-income people and small and micro enterprises, and form a tax system conducive to structural optimization and social equity.

An open, transparent, fair and reasonable income distribution order should be formed and promoted. Non-tax revenue should be regulated strictly. In accordance with the principle of levying taxes and clearing fees, we will continue to promote the change of fees to taxes, further clean up and rectify all kinds of administrative fees and government funds, resolutely cancel illegal and unreasonable fees and fund projects, and appropriately reduce the charging standards for fees. Vigorously promote the electronization of salary payment and accelerate the construction of modern payment and settlement system.

20.3.5 Strengthen the Construction of Social Security and Subsidy System, and Timely Adjust Poverty Standards

After absolute poverty is eliminated, relative poverty will become an important task of poverty alleviation in China. Learn from the experience of developed countries to establish the standard of dynamically adjusting poverty, and steadily improve the standards of urban and rural subsistence allowances, social assistance, pensions and preferential treatment, etc. We will improve the linkage mechanism linking the basic living standard of urban and rural low-income groups with rising prices, and gradually improve the minimum living standard of urban and rural residents. Vigorously develop social charity.

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Chapter 21

Research on Middle- and Long-Term Social Development Goals, Strategies and Policies



Guangjin Chen

The year 2020 is the target year set by China to complete the building of a moderately prosperous society in all respects, and it is also the concluding year for the 13th Five-year Plan for the National Economic and Social Development. It is an important research topic to summarize the great achievements made in implementing the strategy for building a moderately prosperous society in all respects and the 13th Five-year Plan, to look forward to the medium and long-term vision of social development in the next three decades, to draw up measures to realize these visions, and to build relevant social development policy systems.

21.1 New Stage of Social Development

Building a moderately prosperous society in all respects is the first of the two centenary goals of the Communist Party of China. The year 2020 is the concluding year for this goal, and China is moving closer to completing the task of building a moderately prosperous society in all respects. After 2020, the theme of the practice of building socialism with Chinese characteristics will be changed to building a modern socialist country in all respects, and China's social construction will also enter a new stage. The report to the 19th CPC National Congress put forward the strategic plan for building a modern powerful socialist country in two stages: from 2020 to 2035, we will basically realize socialist modernization; from 2035 to the middle of the twenty-first century, we will develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful,

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realizing the second centenary goal of the CPC.¹ The “two-stage” strategic arrangement has drawn the timetable and road map of China’s socialist modernization drive. The first stage from 2020 to 2035 is a key period for achieving this great strategic transformation, and the important transition stage in the “two-stage” modernization strategy. In this stage, we will build on the foundation created by the moderately prosperous society, and strive to strengthen areas of weakness, and focus on solving the acute problems caused by unbalanced and inadequate economic and social development in this stage, laying a more solid foundation to basically achieve socialist modernization by 2035.

By the end of 2020, we will complete the building of a moderately prosperous society in all respects. In the new stage of social construction, it is necessary to comprehensively summarize the great achievements of building a moderately prosperous society in all respects. Meanwhile, in accordance with description about the evolution of the principal contradiction in Chinese society in the Report to the 19th CPC National Report, we should strive to meet the people’s aspirations for a better life, carry out in-depth research on the acute problems caused by unbalanced and inadequate economic and social development in this stage, and constantly solve the contradiction between these problems and the people’s aspirations for a better life.

From the perspective of the five-pronged approach to building socialism with Chinese characteristics, the great achievements of building of a moderately prosperous society in all respects are reflected as rapid development of the cause for securing and improving people’s well-being, constant improvement of people’s living standards, and improvement of quality of life in all respects.

Since the launch of reform and opening up over 40 years ago, particularly since the 18th CPC National congress in 2012, China has been continually reforming its labor employment system, and a unified labor market has gradually formed. The total employment is constantly increasing, the employment quality and the modernization level of employment structure keep improving, and the professional structure is increasingly optimized, and remarkable achievements have been made in building a harmonious labor relation.

Remarkable achievements have been made in the reform and development of national income distribution system, and a balanced and rational pattern of the income distribution system in efficiency and fairness has been gradually formed. The per capita disposable income of urban and rural residents has grown year by year, and China has generally entered the rank of medium-income countries. For more than 40 years, China’s GDP has averaged an annual growth rate of around 7% in comparable prices, and the incidence of poverty has declined year by year. Especially since the 18th CPC National Congress, China has implemented the strategy of targeted poverty alleviation and the great practice of eradicating extreme poverty in an all-round way in the vast majority of rural areas, and has achieved the world’s most remarkable achievements and success in national anti-poor endeavors.

The housing conditions of urban and rural residents have been improved significantly and the quality of housing have been improved year by year. The per capita

¹ Xi (2017).

floor space is increasing, and the housing structure is more reasonable. Drinking water and sanitation lavatory improvement in rural areas has been promoted rapidly, and urban and rural residents' health facilities are improving, becoming a symbol with an epoch-making significance in improving the quality of life of urban and rural residents in China.

The long-term fast growth of the national economy provides a solid material foundation for the development of China's social undertakings. For more than 40 years, particularly since the 18th CPC National congress in 2012, China has continuously deepened the reform of its education system. All forms of education at all levels have been improved. The modern education system has been constantly improved, the quality of education has been continuously improved, and the education level of urban and rural residents has been significantly improved. Compulsory education has been fully popularized. The popularization rate of senior high school education has been significantly improved, the higher education system has been further improved, and all forms of vocational education at all levels are booming. The development of education helps constantly improve the cultural quality and market competitiveness of urban and rural residents, and is an important support for China to secure and improve people's well-being.

The reform of medical and healthcare systems has been deepened continuously, the modern medical and health service systems keep improving, and the level and quality of medical and health services in urban and rural areas has been improved year by year. The share of residents' out-of-pocket medical and healthcare spending is declining year by year, and the financial burden of urban and rural residents for medical and healthcare is constantly alleviated. The people's health has been improved significantly, infant and maternal mortality rates have been declining year by year, the population mortality rate has maintained at a low level for a long time, and the average life expectancy is increasing year by year.

China is reforming its social security and social assistance system and moving toward building modern social security and social and economic systems, and has gradually improved its social security system for urban and rural residents. The social security system covers all urban and rural residents. The population coverage of social security is constantly expanding. The social security payment level is increasing stably year by year, and social security is playing an increasingly stronger role in securing people's well-being and promoting social equity. The modern social assistance system keeps improving, and the level of assistance keeps improving with the development of the national economy and society. The minimum subsistence guarantee system for urban and rural residents has been expanding to realize universal coverage for eligible residents, providing minimum living guarantee for low-income urban population and rural poverty-stricken population.

The basic living facilities for urban and rural residents keep improving, and the living environment is getting better. The living facilities for urban residential communities and the community environment keep improving, and the newly-built communities are equipped with a complete set of facilities and have a nice environment. Remarkable achievements have been made in renovation of old residential areas, which have taken on a new look. Remarkable achievements have also been made in

construction of urban public cultural and sports facilities in parks, libraries, exhibition halls, cultural centers, gyms, etc., and the public living space of urban residents and the quality of public life keep improving. The implementation of the strategy to build new rural areas and the rural vitalization strategy has significantly improved the appearance of rural areas, and systematic road hardening for communities and domestic wastewater treatment provide an increasingly improved living environment for rural residents. Public cultural and health facilities such as village-level libraries, reading rooms, and bathrooms have been basically popularized, and a relatively sound public living space in rural communities has been initially formed.

While making a comprehensive summary of the great achievements in building a moderately prosperous society in all respects, we must also be keenly aware that there are still some areas of weakness, problems and challenges in our social construction.

China still faces great pressure in the job market, and the structural contradiction in employment demands prompt solution. In response to the impact of scientific and technological progress (network and artificial intelligence) on employment, we should plan ahead and make preparations. The people have ever stricter requirements for high-quality employment. We still face the problem of a relatively large income distribution gap, the per capita disposable income gap between urban and rural residents keeps narrowing slightly, and the gap of incomes and average wage levels among employees of different industries, different social groups and work units under different forms of ownership shows an expanding trend. The income inequality has been continuously increasing for several years after several years of decline, and the risk of “middle income trap” still exists. By 2020, China will solve the problem of absolute poverty in rural areas. How to consolidate the achievements made in implementing the strategies to eradicate poverty, and how to deal with the problem of relative poverty after absolute poverty is resolved are the problems that should be taken seriously and addressed for a long time in the future.

We should upgrade management of social security funds to higher-level authorities, and solve the so-called fragmentation problem. We should increase the coverage, guarantee and assistance levels of social security and social assistance systems and guard against welfare-dependence. There are some acute problems caused by unbalanced and inadequate development in the field of social services. We need to vigorously develop and continuously improve the pre-school education system, and attach great importance to improving the quality and fairness of compulsory education. How to further improve the quality of higher education and make it fairer and better adapt to the needs of economic and social development need is to be solved urgently. The issues concerning the quantity, quality and prices of medical and healthcare supply is still an issue of great concern to the people, and the balance and rationality of medical and health resource allocation still needs to be improved. With the deepening of degree of population aging, the modern social pension service system that meets China's national conditions should be further developed and continuously improved. We should strengthen public participation in elderly care services and make such services more specialized, and try to promote the industrialization of social elderly care services.

Social structure is still under adjustment and change, and we are facing a smaller space in surplus opportunities of social flow and the challenges of class solidification. Compared to typical countries at the same economic development level, China still has a smaller proportion of middle-income group.² Studies show that estimated by the relative standards, in 2015, China's middle-class income groups accounted for 38.27%, and an "olive-shaped" modern social structure is far from being formed. Moreover, it is even more noteworthy that the development of China's middle-income group is still unstable, and its development speed is not adaptable to China's economic and social development.

Arguably, while summing up the great achievements made in building a moderately prosperous society in all respects, we should further consolidate these great achievements and strengthen areas of weakness in the presence stage. This is an important medium- and long-term task of China's social development and social construction and a solid foundation to fulfill the first-stage goals of the two-stage modern strategy. Here, we have proposed that from the perspective of social development and social construction, the overall goal of the first stage of China's "two-stage" modernization strategy is to build as "overall well-off society" from 2021 to 2035; the overall goal target of the second stage is to truly realize "common prosperity" from 2036 to 2050, which is to build a society of "common prosperity." From the logic of history, practice and theory, shaking off poverty, meeting people's basic needs, building a well-off society, building a "overall affluent society," and finally realizing "common prosperity" and building "a society of common prosperity" will constitute a complete logic chain of social development and social construction of the People's Republic of China during the period from its founding to the middle of the twenty-first century.

The term "kuanyu" (which means "affluent") first appeared in *The Discourses of the States · the Discourses of Jin* (Guo Yu · Jin Yu Si), which wrote: "Now the King is governing the world by virtue, why not tolerate these?" It mainly means tolerance in governance. Later, it gradually evolved to cover the meaning of affluence or abundance in life. Comparatively speaking, the term "xiaokang" (which means "moderate prosperity") appeared earlier. *The Book of Songs* wrote, "The people are hard-pressed, they need some modest comfort (xiaokang)." Here, "xiaokang" means a settled life. In later generations' understanding, "xiaokang" covers the meaning of "kuanyu" in some extent. Either in terms of semantics or their use in historical literature, "kuanyu" has richer meaning than "xiaokang". The level and quality of life represented by "kuanyu" is higher than that of "xiaokang". For example, the first part of *The Heroic Sons and Daughters* by Wen Kang in the Qing Dynasty wrote, "Although the life of Sir An's family is not as affluent as that of their older generations, they have some houses handed down by their ancestors." Since the 1980s and 1990s, when it comes to the issue of "xiaokang", some scholars have raised the topic of "kuanyu" and advocated building a well-off society. After entering the twenty-first century, some scholars directly proposed the idea of building "a well-off society in all respects," and believe that "a well-off society in all respects" is an

² Li (2017).

important part of securing a better life for the people in the current stage.³ This statement has caused some repercussion in the academic community.⁴ Meanwhile, since 2000, some local governments have gradually introduced the concept of “kuanyu” when formulating the regional development plans. For example, in 2005, Guangdong Province proposed the goal of building a well-off society during the 11th Five-Year Plan period. In 2007, at the 10th Guangdong Provincial CPC Congress, Guangdong Province proposed realizing a well-off society in the coming 5 years, and formulated a series of development indicators for building a well-off society.⁵

According to the report to the 19th CPC National Congress and the *Decision of the CPC Central Committee on Major Issues Concerning Upholding and Improving the System of Socialism with Chinese Characteristics and Advancing the Modernization of China’s System and Capacity for Governance* adopted the 4th Plenary Session of the 19th CPC Central Committee, coupled with the findings of related studies and local practices, based on our understanding, “an overall affluent society” covers the following connotations:

First, urban and rural residents’ income will reach the overall average income of residents of moderately developed countries in the same period by 2035, and they will achieve relatively economic independence, thus unleashing their consumption capacity, and laying a solid consumption foundation for economic development.

Second, basic social security is guaranteed for urban and rural residents, the public risk management system and mechanism is established, all kinds of crimes, especially new crimes, are reduced, the self-protection awareness and ability of urban and rural residents is enhanced, and the lives and property of urban and rural residents are better protected.

Third, social security and social welfare of the whole society will reach the level of secondary welfare guarantee, which both secure basic needs and stimulate social vitality; we will ensure people’s access to childcare, education, employment, medical services, elderly care, housing, and social assistance.

Fourth, in terms of anti-poverty, we will enter the relative poverty stage and gradually establish and improve the support system and mechanism for the poor. More importantly, we will create new ideas, standards and practices to ensure urban and rural areas to grow together.

Fifth, in terms of social structural adjustment, we will continue to adjust the income distribution system and mechanism, and narrow the income distribution gap to a relatively reasonable level; and continuously improve the social flow mechanism, expand the size of the medium income group, and promote the formation of “an olive-shaped society.”

³ Jiang (2013).

⁴ Hong (2013).

⁵ Refer to Yu (2007).

In accordance with the two-stage strategy proposed by the report to the 19th CPC National Congress, by the end of 2050, we will realize the second centenary goal, that is, we will develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful. From the perspective of social development and social construction, we will achieve “common prosperity” and build a society of common prosperity. In general, “common prosperity” can also be understood from the above five aspects.

First, by the end of 2050, urban and rural residents’ income will reach the income level of residents in developed countries in the same period, and the consumption capacity of urban and rural residents will be firmly improved and reach the corresponding level, and firmly became the first and main driving force for economic development.

Second, urban and rural residents’ life security and social security will be fully guaranteed, and the public risk management system and mechanism will be highly improved, achieving high-level social security and social order.

Third, in terms of social security and social welfare, we will strive to reach the security level that is highly commensurate with the economic and social development, which will provide high-quality basic guarantee and stimulate high-level social vitality. We will fully ensure people’s access to childcare, education, employment, medical services, elderly care, housing, and social assistance.

Fourth, the percentage of population in relative poverty of the entire society measured in accordance with the relative poverty standard set by the common international practices is maintained at a lower level (around 10%).⁶ We will establish a multidimensional support system and mechanism for people in relative poverty.

Fifth, in terms of social structural adjustment, we will continue to adjust income distribution system and mechanism, and reduce the income distribution gap to reasonable level (the Gini coefficient will drop to 0.4); improve social flow mechanism, and the proportion of medium-income groups will reach the desired level of a modern society and form an “olive-shaped society.”

In summary, we can summarize the middle- and long-term goal of China’s social construction as three aspects of social structure, improvement of people’s well-being, and social governance. In this chapter, we will mainly discuss relevant strategic measures and policy needs from these three aspects.

⁶ According to the official statistics of the countries concerned, the relative poverty rate of developed countries is generally more than 10%. For example, the U.S. census data shows that in 2017, there were about 42 million people in poverty in the United States, accounting for 13.4% of the total population (cited indirectly from *Human Rights Record of the United States in 2018* issued by the State Council Information Office of the People’s Republic of China). The annual poverty report released by the German Equality Welfare Federation on December 12, 2019, shows that in 2018, the poverty rate in the state of Bavaria in southern Germany was 11.7%, the poverty rate of Ruhr Region reached 21.1%, and the poverty rate of the State of Bremen was up to 22.7% (Tian 2019).

21.2 Long-Term Development Goals, Strategies and Policies of Social Structure

The modernization of social structure is the fundamental requirement of social modernization. Theoretically, and from the perspective of international field of view, it is at least reflected as modernization of social structure of population, modernization of social structure of space, modernization of employment structure, modernization of structure of interest relationship, and modernization of social class structure. While drawing up medium- and long-term plans for China's social development, we must first pay close attention to drawing up plans from the perspective of social structure. Previous economic and social development plans, although involving social structure adjustment, lack clear and concentrated expressions. To truly realize the "two-stage" modernization strategy proposed by the 19th CPC National Congress, social structure is an essential perspective. We must establish a social structure that is adapted to the level of economic and social development, which is the foundation of social structure to further consolidate the achievements made in building a moderately prosperous society in all respects and also a premise of social structure to march toward an "overall affluent society", realize "common prosperity" and build a society of common prosperity.

The CPC Central Committee has always been paying great attention to social structure, especially the modernization of population structure and urban-rural structure. President Xi Jinping has reiterated that we must strive to increase the size of middle-income group. For example, on May 16, 2016, President Xi Jinping chaired the 13th meeting of the Central Leading Group for Financial and Economic Affairs, which studied the issues concerning supply-side structural reform and expanding China's middle-income group. General Secretary Xi Jinping stressed at the meeting that expanding the middle-income group is the key to realizing a moderately prosperous society, and it is also an indispensable requirement of transformation of the growth model, reform of economic structure, and maintenance of social harmony, stability and long-lasting national peace. We must continuously expand the middle-income group while pursuing development.⁷

In terms of the development of social structure of population, we must first continue to adjust the development model of population and form a more reasonable age structure: the total fertility rate of childbearing women should increase to 1.6 or above, and reach the replacement level in the long term, which should be an important measure to cope with population aging in China. Secondly, we must promote the development of stable and harmonious family structure, and continue to promote new urbanization and gradually solve family separation problems due to population flow and semi-urbanization. Thirdly, we must continue to promote the development of education at all levels, especially pre-school education and higher education.

In terms of the development of social structure of space, the most important thing is to continue to promote the strategy of new urbanization. In the medium and long

⁷ Chen and Bo (2016).

term, we must implement the development strategy on the three tasks concerning 100 million people proposed after the 18th CPC National Congress, and basically realize the people-oriented urbanization with Chinese characteristics. At present, China's urbanization rate has basically reached 60% and will reach 65% in the middle and long term. By 2035, the urbanization rate will increase to more than 70% on the basis of the current level of urbanization. We must solve the deviation in the urbanization level between permanent residents' population and household registered population. At present, the deviation of the two is about 15%, and will be reduced by at least by 5% in the middle and long term. By 2035, this deviation will be eliminated. We will promote urban-rural integration, basically realize the equalization of basic public services in urban and rural areas, and give priority to improving public services in small and medium cities and small towns. We will accelerate the implementation of the rural vitalization strategy to basically achieve the goals of the rural revitalization strategy. We will accelerate the promotion of social development in the central and western regions, and realize the basic balance of regional social development.

In terms of development of employment structure, we will continuously promote the development of high-quality employment. We will keep the development level of industrial structure of employment stable and strive to realize high-quality employment in each industry. We will promote the adjustment and improvement of occupational structure of employment, enhance the stability and security of occupations, and reduce the occupational anxiety of middle classes, laying the foundation of employment and occupational structure for expanding the middle-income group. We will adapt to the overall trend of new technologies, new industries, new business formats and new models, and do a good job in flexible employment, with priority given to building a support system and security system.

In terms of development of interest relationship structure, the most important task in the current stage is to continuously improve the income distribution structure, further narrow the income gap between urban and rural residents and the income gap in the whole society, and strive to reduce the Gini coefficient from the current 0.47 to 0.4–0.42 in the medium and long term. We will improve the transfer payment system and the taxation system, and give to play their major role in adjusting income distribution. The experience of OECD countries shows that transfer payments and taxes can reduce the income distribution gap by at least 1/3, of which transfer payments contribute 2/3, and taxes contribute 1/3. We will continue to narrow the income gap between urban and rural residents, and strive to reduce the ratio of per capita disposable income of urban and rural residents from 2.66:1 in 2019 to 2.3:1 in the medium and long term, to 2:1 in 2035 and to 1.5–1.7: 1 in 2050 that is internationally acceptable. This is also the level that China has ever achieved in 1983. We will strive to reverse the rising trend of the Gini coefficient of the whole society since 2016, and regulate the wealth distribution gap, with priority given to improving the relevant taxation system. At present, China's wealth Gini coefficient is relatively high, and based on the international experience it is hard to reduce this gap. The point is that we should show the fairness of social system through a tax system, reduce the sense of relative deprivation of low-income residents, and enhance people's sense of fulfillment. We will continuously improve the consumption level of middle-income and

low-income residents, and establish related consumption support systems, such as tax break to support middle- and low-income dwellers, which is an important move to assist people in relative poverty in urban and rural areas.

In terms of the development of structure of social class, we will strive to improve the social mobility mechanism to avoid too serious solidification of social structure. This is an important task that needs to be highly valued to and accomplished in the next 30 years. The point is to give priority to maintaining a stable workforce of farmers and industrial workers, improve employment security and social security for employees in basic manufacturing and medium- and low-end commercial service industries, narrow the gap between their wage levels and the wage levels of workers in other industrial sectors, and increase their opportunity to flow upwards in income. We will continue to expand the size of the middle-income group. At present, the middle-income earners account for less than 40% of the total population in China, but middle-income earners generally account for more than 50% in developed countries, and 60% or even higher in some developed countries. We will strive to increase this ratio to about 45% in the middle and long term, to about 50% in 2035, and to about 55% in 2050.

21.3 Long-Term Goals, Strategies and Policy Measures for Improving People's Well-Being

As mentioned above, the most remarkable achievements in building a moderately prosperous society in all respects have been made in our efforts to improve people's well-being. On the basis of further consolidating the previous achievements in improving people's well-being, we will still focus on further shoring up points of weakness and solving the acute problems caused by unbalanced and inadequate development. After accomplishing the goals of the medium- and long-term plans, in our efforts to improve people's well-being, we will strive to improve people's overall standards of living and quality of life.

In terms of development of labor employment, it is the most important task to continuously improve employment quality. In the medium- and long-term, efforts should be made to establish an advanced modern employment training system, increase employment expenditure, and promote the stable and healthy development of labor employment. To this end, based on the international experience, we should also accelerate the reform and innovation of financial employment expenditures, and improve the proportion of financial expenditure on labor employment in GDP. Based on the experience of developed countries, this proportion is generally more than 1%, and more than 2% in some countries.⁸ We should improve the modern labor security system, strengthen safety production and labor protection, and improve the employment-related social insurance systems. Especially, we need to increase social insurance participation of rural migrant workers.

⁸ Adema and Ladaique (2009).

In terms of establishment and development of a modern education system, there is still a large development space for education at all levels, and in the medium- and long-term, we will strive to increase the gross enrollment rate of higher education for young people of the appropriate age from 48.1% in 2018 to around 55%. According to the *Korean Social Indicators for 2014* released by the National Statistical Office of South Korea on March 19, 2015, in 2014, the higher education enrollment rate of schools in South Korea was 75% for female students, and 68% for male students. We will increase the popularization rate of higher education for the working-age population (aged 25–64). Related data show that in 2012, the higher education popularization rate of the working-age population was 42% in the U.S., 51% in Canada, 46% in Israel, 45% in Japan, and 54% in Russia. According to the data released by the Ministry of Education in 2015, the percentage of the working-age population who had received higher education in China was 15.83%.⁹ We will strive to raise this figure to more than 30% in 2035 and more than 40% in 2050. We will speed up to establish the pre-school education system, realize the popularization of pre-school education and increase the gross enrollment rate of pre-school education from the current 82% to cover all children. We will speed up to establish the lifelong education system and the civic education system, and cultivate mature modern citizens.

In terms of establishment and development of the modern medical and healthcare system, we must comprehensively summarize the lessons in coping with SARS in 2003 and the COVID-19 epidemic in 2020, and further improve the public medical and healthcare system, including the public health emergency system. We will speed up to establish the modern general doctor and family doctor systems, and achieve high-quality wide coverage of the family doctor system. We will strengthen the building of the medical and health care service network at the community level and improve the service capabilities. We will promote the achievement of the strategic objective of healthy China.

In terms of establishment and development of the modern social security system, we must continuously improve the pooling level of social security system, and in the medium and long term, we will fully upgrade the management of basic old-age insurance and basic medical insurance funds to provincial authorities and eliminate the inter-regional gaps caused by the comprehensive pooling. We will rationally reduce the personal medical burden of residents. With the development of the economy, we need to appropriately improve the social security level to realize the baseline equality. We must continue to support social insurance funds, especially the old-age insurance fund and the medical insurance fund, to grow bigger and maintain and increase their value. We will promote the establishment of a comprehensive urban and rural elderly care system comprising various elderly care patterns, with home-based elderly care services in rural communities playing the leading role. We will establish and improve the supervision system for the modern security system and prevent related risks.

In terms of current achievements and future requirements in anti-poverty endeavors, China has achieved the goal of eradicating extreme poverty by 2020. In the medium- and long-term, we will continue to strengthen our efforts in anti-poverty

⁹ Ma (2015).

in rural areas, consolidate the achievements made in targeted poverty alleviation, and prevent various phenomena of returning to poverty. Starting from 2021, we will establish the modern systems to assist people in relative poverty in urban and rural areas, including the income, medical and education security systems.

21.4 Modernization of System and Capacity for Social Governance

The *Decision of the CPC Central Committee on Major Issues Concerning Upholding and Improving the System of Socialism with Chinese Characteristics and Advancing the Modernization of China's System and Capacity for Governance* (hereinafter referred to as “the Decision”) adopted at the 4th Plenary Session of the 19th CPC Central Committee stated that: “Social governance is an important aspect of state governance. We must strengthen and develop new forms of social governance, improve the social governance system led by Party committees and implemented by the government, based on consultation, coordination, broad participation and the rule of law, and supported by technologies, and establish a community for social governance in which everyone is responsible, dedicated, and shares benefits to ensure that the people live and work in contentment and the society is stable and orderly and to usher in a new stage in building a Peaceful China.” In the spirit of the Decision, we will speed up to establish a democratic consultation mechanism and science and technology support system; by 2035, we will basically establish a modern social governance system and initially form a community for modern social governance; by 2050, we will realize the goad of modernizing our social governance system and capacity for governance.

Establishing a modern social governance system is a systematic program, and it is critical to make clear the basic idea that modern social governance should run through the whole process. The so-called basic idea refers to the theoretical understanding of modern social governance, including the basic meaning (what it is), the basic value principles (why), the main governance structure (who governs), and the main functions of governance (what are the contents of governance). Without necessary theoretical understanding, the practice of building a modern social governance system lacks theoretical guidance, and various mistakes and errors will inevitably appear in practice, which in turn have serious consequences for social governance.

The fundamental connotation of establishing a modern social governance system is to realize the modernization of social governance system through comprehensive deepening of social system reforms in accordance with the requirements of modern social governance. Modern social governance must fully reflect the state-society relationship, the government-citizen relationship, the relationship between public power and civil rights, and the relationship between citizens. It is a modern concept that in essence emphasizes the political—social status equality and cooperation relationship between them. Without doubt, this does not mean that there is no relationship

between the leader and the led in the modern governance system. Just as Marx put it, even if we have realized the communist society, a band still needs a command, and a factory still needs managers. It is particularly worth mentioning that theoretically there are three summary statements about the paradigm expression of state-society relationship. First, the so-called state corporatism paradigm. Under this paradigm, the state has the absolute dominance over the society and its organizations. Second, the so-called social corporatism paradigm. Under this paradigm, the society and its organizations participate in social governance under the guidance of the state based on the principle of autonomy of will. Third, the so-called pluralism paradigm. Under this paradigm, the society and its organizations participate in social governance within a certain legal framework through competition. Based on the reform practices since China's reform and opening-up and its future reform direction, China will create a paradigm that is suitable for its national conditions on the basis of three paradigms.

The basic value principle for establishing a modern social governance system is to serve the common well-being of all citizens of a country and its continuous improvement need. The so-called common well-being not only means the general well-being of the society and its growth, but also the well-being of all social members and their growth. The value goal of the modern social governance system is to achieve fairness, justice, inclusion, and sharing in production and distribution.

The main architecture of the modern social governance system refers to the actors of social governance and the relationship between them. A variety of social actors including the government and its civil servants are widely involved in social governance in various legal forms, forming a governance pattern featuring multi-participation and social co-governance, which are the fundamental characteristics of the main architecture of modern social governance. In this system, the government, various institutions, all kinds of organizations established in accordance with the law, and the majority of social members are participants in the whole social governance who all play a certain role in social governance.

The main function of the modern social governance system is to regulate various social relations based on the basic value principles of modern social governance, including various social relations, power relations, and right-power relations as well as the interest relations attached to these right-power relations.

When carrying out the top-level design of China's modern social governance system, we should sum up and learn from the historical and practical experience of social governance in China and other countries. More importantly, we should also take into consideration China's basic national conditions and social reality, and draw the institutional framework of China's modern social governance system, and identify its path mechanism, main rights and responsibilities, resource allocation, and timing logic according to the basic concept of modern social governance with a view to regulating social relations, resolving social contradictions, promoting social harmony and improving people's well-being through wide participation and democratic consultation under the modern system of rule of law.

Specifically speaking, the logical framework of the modern social governance system includes two dimensions: social affairs governance, and social relationship governance.

In the social governance system, the main object of social affairs governance is the supply and acquisition of social services. The social services mentioned here include public services provided by the government to the society and public welfare services provided by the society. Governance of government public services and social welfare services will follow different logic principles. Providing modern public services, including public education, medical and health care, labor employment, social security and assistance, public order and security, is the power and duty of modern governments, while acquiring public services is the right of citizens in modern society. Without doubt, while enjoying the kind of right, citizens should also assume the corresponding responsibilities, including the rights and obligations of participation in varying degrees and different ranges. Therefore, the foundation of public service governance of a modern government is the government's power and responsibilities and citizens' rights and obligations. As for social public welfare services, whether they are provided or acquired, or whether they are mutually beneficial (for example, internal services of various mutually beneficial organizations) or whether they are beneficial to others (for example, volunteer charitable services provided by social welfare organizations and individual citizen to non-specific objects), are all based on citizens and their groups' own free will and advocacy, so the foundation for governance of social public welfare services is the volunteer actions of citizens and their groups to provide social public welfare services, and we should provide legal guarantee and policy guarantee to make them orderly, effective, sustainable, and secure.

Social relationship governance aims to address social frictions, contradictions, and conflicts caused by differences in interest, status and value orientation among various social groups (or even individuals) through strike a balance among them so as to coordinate various social relations, making the entire social relationship system to achieve overall harmony.

Either social affairs governance or social relations governance should be based on certain institutions and standards. Institutional and standard systems for regulating social governance come at three levels. At the first level is the macro social system, which is the top-level design of the social governance system at the institutional and standard level. At the second level are institutions, rules and standards guidelines in all major sectors of social governance. At the third level is the system of social norms, which is not established by the State through the coercive power of public power but comprises the codes of conduct formed in social interactions that play different roles in regulating social relations and promoting social welfare and other aspects and reflect the spirit of the so-called "rule of virtue."

The social governance system involves multiple subjects whose objectives, demands and value orientations are greatly different. The paths and methods to meet these objectives and demands are also different. It is necessary to build a group of complex mechanisms to integrate these aspects, form an effective order, and promote the harmony of the whole society. Based on the theoretical research and practical experience of social governance at home and abroad, we can generally sum up the following three major types of mechanism.

The first type of mechanism is related to the subjects of governance, including equal participation mechanisms, democratic consultation mechanisms, etc. applicable to all subjects. Meanwhile, for party and government subjects, it is also applicable to the top-down administrative orders. For non-party subjects, volunteer mobilization and advocacy mechanisms are also very important.

The second type of mechanism is related to resource input management. In the field of social governance, resource input and allocation must be even-handed and efficient. Enhancing efficiency is to better realize fairness. In other words, here efficiency should be subordinate to the requirement of even-handedness. In terms of requirement of even-handedness, relevant resources should be allocated to achieve maximum equality, inclusiveness, and shareability so as to maximize the well-being of all social members (not just maximize the general well-being of society). In terms of efficiency requirement, we must allocate more resources in areas, departments, and service sectors that we can better achieve equality, inclusiveness, and shareability. Meanwhile, after establishing the resource input and allocation mode, its utilization should meet the efficiency requirement, which involve the ability and conditions of resource users. Introducing moderate competition mechanisms in social construction and social governance is critical for ensuring resource utilization efficiency.

The third type of mechanism is the efficiency and even-handedness guarantee mechanism of social governance, which is generally composed of three major mechanisms, namely government regulation mechanism, open and transparent resource utilization mechanism, and supervision mechanism for government and other governance subjects for resource utilization.

The effective operation of the modern social governance system also needs to be supported by the corresponding security system. More accurately, such a security system is also an integral part of the social governance system. To put it simply, the security system of modern social governance is generally composed of four parts. First, political guarantee. In China, the leadership of the Communist Party of China, which is committed to the modernization of social governance, is the basic political guarantee for the healthy operation of the socialist social governance system with Chinese characteristics. Second, legal guarantee. The related state institutional and normative arrangements should be ruled by law, and the relevant laws should be made first so that the social governance system can operate according to law; non-state social governance institutions and norms should also not be contrary to the spirit of modern State laws, but instead should be reasonable supplements to State laws. Third, resource guarantee. The resources for modern social construction and social governance come from public financial resource input, social (organizational) resource mobilization and personal resources mobilization of citizens, the most important of which is public financial resource guarantee, followed by social (organizational) resource input, and citizens' individual volunteer resource investment is also an important supplement. Fourth, social management subjects' capacity building guarantee. There are different capacity requirements for different subjects of social governance. If all the actors have the corresponding capacity, social governance can be carried out satisfactorily. China has just started to establish its modern

social governance system, and capacity building of relevant actors should be continuously strengthened in the process of social governance practice so as to provide the necessary guarantees for the modernization of social governance system.

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Chapter 22

Middle- and Long-Term Social Security Development Goals, Strategic Priorities and Reform Suggestions



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In recent years, China has further strengthened efforts in improving the social security system, and achieved remarkable results in eliminating absolute poverty, promoting fairer income distribution and other aspects. The overall planning goals have been basically realized, and some projects have been completed ahead of schedule. China is now at a pivotal stage of transforming its growth model, improving its economic structure, and fostering new drivers of growth. The country is facing rising downward economic pressure amid intertwined structural, institutional and cyclical problems. Downward pressure on the domestic economy grows, the global economy continues to slow down, and sources of turbulence have substantially increased, increasing the uncertainty and risk of current economic and social operation and raising the urgent need for establishing a fairer and more sustainable social security system. Social security is expected to play a greater role in promoting economic development and social stability and sustaining people's well-being.

The 4th Plenary Session of the 19th CPC Central Committee has identified the direction and goals for the development of China's social security system. However, unlike the high-speed growth period of more than 40 years after the reform and opening-up, China's economic development has now entered the medium—to—high-speed stable development stage, and the downward pressure of economic and financial growth has increased the constraint on the financial sustainability

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of the social security system and the balance of social security responsibility sharing of governments at all levels. Although China has realized the overall goal of poverty eradication, this is the result of implementing the social security policy for meeting essential needs. There exist the problems such as areas of weakness of “three guarantees”, acceleration of population aging, widening income gap, widening income gap and flexible employment forms, which has set a more urgent requirement for the social security system.

22.1 Goals and Ideas of Social Security Reform

22.1.1 Development Situation and Missions

China is facing some new challenges and uncertainty factors in the realm of social security. First, in its anti-poverty endeavors, China is moving from eliminating absolute poverty to a new stage focusing on addressing relative poverty. The year 2020 is the concluding year for the fight against poverty, and the goal of building a moderately prosperous society in all respects will be achieved. This means that China has solved the issue of overall absolute poverty, the role and tasks of social security against poverty will face historical changes, and consolidating the achievements of the battle against poverty and solving relative poverty will become an important task for the development of social security system in the future. Meanwhile, we will further enhance the income distribution regulation function of social security and enable it to play a greater role in promoting people’s livelihood guarantee and achieving common prosperity. Second, the impact of rapid population aging is increasingly serious. For the coming period, China will see a rapid growth of the aging population and a peak period during which a large number of employment population will retire from the labor market. To cope with the challenges from rapid growth of the aging population and meet the increasing economic security and service security demands and even spiritual needs of the huge elderly population is an urgent task of social security development in China. Third, economic growth slowdown will further restrict the development of social security in the future. China is now at a pivotal stage of transforming its growth model, improving its economic structure, and fostering new drivers of growth. The country is facing rising downward economic pressure amid intertwined structural, institutional and cyclical problems. The scale of long-term stable employment is decreasing, while informal employment and flexible employment are increasing, which imposes huge pressure on the operation of the social security system, particularly on maintaining the stable growth of income. Meanwhile, the transregional and even transnational flows of population and labor have further increased the complexity of social insurance premium contribution and benefit calculation, and continuation accounting, and social security handling management is facing greater pressure.

At present, China's social security system and related institutions are still afflicted with many problems. First, we have not yet achieved full coverage of social security. Although China's social security system has achieved wide coverage, a number of urban and rural residents and freelancers have not participated in social insurance or not covered by the system. Second, the social security system still needs to be improved. In the system model that combines social pooling accounts with personal accounts, the functions of personal account are distorted. The financing mechanism and benefit payment and adjustment mechanism of social insurance are yet to be improved. There are still the problems such as the unsound social security handling service system and low service capacity. The management and investment systems of social security funds are yet to be improved, and we still face huge pressure to maintain and increase their value. Third, the redistribution role of social security income does not work satisfactorily. Social security benefits vary greatly in different regions and for different identities, especially for urban and rural residents, and national pooling of basic old-age social insurance is making slow progress. Fourth, the social security resource allocation mechanism is irrational. The three aspects of the government, the market and the society are not clearly positioned in social security. The government's fiscal input structure and methods for social security are irrational, and the financial and administrative powers of the governments at different levels are not clearly defined. Market entities and social entities have not fully participated in social security construction, and the integration of social security resources needs to be further improved. Fifth, the sustainability of social security funds is impacted. Affected by economic downturn and tax cuts, the growth rate of social insurance or even fiscal revenue is declining. On the contrary, old-age insurance benefits are growing, and it is hard to reverse the increasing trend of social security and welfare public service expenditures. At present, social insurance has greater dependence on public finance, and it has become an increasingly serious problem to maintain a balance between receipts and payments of social insurance funds, which has brought negative impact on sustainable development of social security.

22.1.2 Medium- and Long-Term Development Objectives and Ideas of Social Security

The 4th Plenary Session of the 19th CPC Central Committee proposed that we will uphold and improve the livelihood system for protecting both urban and rural residents and work to meet people's ever-increasing needs for a better life. As an important part of the livelihood security system in the new era, social security should be coordinated with other social policies, economic policies, and while securing the basic needs, it should play a greater role in resisting social risks, maintaining social stability, and improving the performance of and upgrade China's economy to meet people's needs for a better life.

The specific medium and long-term development goal of social security is to adapt to the requirements of economic and social development, improve the social security system, improve the social security operation system mechanism, consolidate the results of the battle against poverty, explore the ways to address relative poverty, realize the national pooling of basic old-age insurance, strengthen social security income adjustment, promote social security public service development, build a fairer, more efficient, more sustainable multi-tiered social security system, and realize high-quality development of social security.

Based on the above objectives, the basic ideas of long-term development of social security include: covering the entire population, clearly defining rights and responsibilities, providing support that hits the right level, coordinated development, and scientific governance.

Covering the entire population: social security should develop from “wide coverage” to “full coverage” and from “full coverage at the institutional level” to “covering all urban and rural residents”. We will ensure that various groups of people have access to enjoy social security, and adopt targeted measures to extend it to cover people who have difficulties in participating social security, including low-income groups, freelancers and employees in new forms of business. We will further extend social security coverage and work to see that everyone has access to social security.

Providing support that hits the right level: we will improve the social security system to be commensurate with the level of economic development, and ensure that all residents share the results of reform and development equally. We will do everything within our capacity. On the one hand, we must steadily raise the level of social security benefits, improve the social security benefit adjustment mechanism, and establish a mechanism for dynamic coordination of social security and economic and social development. On the other hand, we should not set the social security levels conservatively, and otherwise we would be unable to achieve the objectives of social security. In particular, the social security levels must be commensurate with people’s ever-increasing needs for a better life and the goal of common prosperity.

Clearly defining rights and responsibilities: we will clearly define the responsibilities of different players of social security to ensure that all players function in coordination, complement each other and perform their specific tasks. We will clearly define the responsibilities of the central and local governments, and reasonably separate the financial and administrative powers of the governments at different levels. We will further improve the management responsibility of social security, and clearly define the responsibilities of the competent authorities to achieve seamless connection between overlapped departments and institutions. With regard to social insurance undertakes, we will continue to uphold the principle of combining rights and obligations, and build a more scientific and reasonable premium payment and benefit adjustment mechanism.

Coordinated development: we will strive to realize coordinated development between social security and different projects, establish a scientific mechanism for raising social security resources and use management to realize mutual complement and cooperation among different players such as the government, the market, and the society. We will raise the level of social pooling of basic old-age insurance and

basic medical insurance systems to achieve coordinated development of social security between urban and rural areas and among different regions. We will promote the integration of social security projects, and launch pilot projects of the medical security systems for residents and for workers in urban areas to achieve coordinated development of social security in urban and rural areas.

Scientific governance: We improve the scientificity of social security system design and management so that the social security management system will embark on the road of scientific development. We will strengthen the top design and strategic planning of social security, optimize social security system model and system design, improve the social security resource allocation mechanism, establish a scientific and reasonable benefit adjustment mechanism, enhance the capacity of social security management and resource security to achieve sustainable development of the social security system.

Covering the entire population, clearly defining rights and responsibilities, providing support that hits the right level, coordinated development, and scientific governance are the core essentials of medium- and long-term development of social security. To achieve better quality, more efficient, fairer, and more sustainable development is the fundamental goal of medium- and long-term development of social security. Better quality and multi-tiered development is the direction of the medium- and long-term construction of the social security system.

China's social security system covers the three areas of social assistance, social insurance and social welfare. It is supported by a large number of projects. In each field, or for each project, the next period will be a very important development stage. We need to sum up the achievements made in social security development and propose the policy suggestions on the development goals, key tasks and reform and development. Due to limited space, this chapter will focus on studying the development in three areas, namely the social assistance system, the old-age insurance system, and the medical insurance system, and necessary supplements on other related issues will be provided in the part of policy recommendations.

22.2 Reform and Development of the Social Assistance System

22.2.1 Transformation and Upgrading of the Social Assistance System

Social rescue is the social security system mainly targeting at the poor, and it plays a crucial role in securing the basis living needs for the poor and those suffering from accidents.¹ It is the final fortress against poverty and the last safety net for the entire

¹ Wang and Wang (2015).

society. During the 13th Five-Year Plan period, China has rolled out a slew of anti-poverty policies such as social assistance and development-oriented poverty alleviation in accordance with the targeted poverty alleviation and elimination strategy, and has achieved remarkable results. The social assistance system focusing on subsistence security has basically taken shape and plays an important role in ensuring that poor people are free from worries over food and clothing and have access to compulsory education, basic medical services and safe housing. In 2019, there were 43.335 million urban and rural residents entitled to basic living allowances, 4.716 million urban and rural residents living in dire poverty were brought into the coverage of the relief and support system, and 861,000 million person-times of vagrants and beggars without assured living sources have received relief and assistance.² 180,000 people received temporary assistance, a total of 77.82 million people were financed to participate in basic medical insurance program, and outpatient and inpatient assistance were granted to 61.80 million recipients. After unremitting efforts, China's poor population has been greatly reduced, and the number of rural population living in poverty dropped from 55.75 million in 2015 to 5.51 million at the end of 2019, and the incidence of poverty was 0.6%. In 2019, the per capita disposable income of rural residents in impoverished areas was 11,567 yuan, reaching 72.2% of per capita disposable income of rural residents.³ According to the arrangement of the 2019 National Poverty Alleviation and Development Work Conference, China is expected to lift the remaining impoverished population out of poverty by the end of 2020, and completely solve the problems concerning two assurances and three guarantees (assurances of adequate food and clothing, and guarantees of access to compulsory education, basic medical services and safe housing). During the 13th Five-year Plan period, China has eliminated absolute poverty for the first time in its history. However, we should also be aware that poverty is a complex, dynamic, integrated social phenomenon, and eliminating absolute poverty does not mean the end of poverty. No society is able to completely eliminate poverty problems or poverty phenomena. This is because poverty is a term in both absolute sense and relative sense. Regardless of the level of economic development, there are some people in the society who will fall into poverty for various reasons, and there is always a certain amount or percentage of population is living in relative poverty.

In the coming period, regional general poverty gradually decreases, relative poverty will become the main form of poverty in China and mainly manifested as the basic life guarantee issue for the low-income groups, as well as imbalance between urban and rural areas and among different regions and groups. There are still a significant number of groups whose incomes are significantly lower than the

² “Guided by Xi Jinping’s Thought on Socialism with Chinese Characteristics in the New Era, Promoting the High-quality Development of Civil Affairs to Contribute to Winning the Battle against Poverty and Building a Moderately Prosperous Society in All Respects—the National Civil Affairs Work Conference Held in Beijing”, the Website of the Ministry of Civil Affairs, December 29, 2019, <http://www.mca.gov.cn/article/xw/mzyw/201912/201200022633.SHTML>.

³ The National Bureau of Statistics, *The Statistical communique of the People’s Republic of China on the National Economic and Social Development*, the website of the National Bureau of Statistics, February 28, 2020, http://www.stats.gov.cn/tjsj/zxfb/202002/t2020028_1728913.html.

average level in society. The persistence of poverty will be a new issue we have to face in the future.

In the field of social security, social assistance is capable of strengthening areas of weakness and expanding common ground. With the growth of China's financial strength and the reduction of the population in absolute poverty, social assistance has favorable conditions to expand its coverage and achieve greater development. For the population in relative poverty, social assistance will play a stronger role in fighting against poverty. In the medium and long run, China's anti-poverty strategies and policies also need to change and upgrade with changes in situations and tasks.

22.2.2 Problems and Target Tasks of the Social Assistance System

China's current social assistance system is generally a selective, complementary social security system. Although it can play a certain role in assisting selected recipients, it does not function effectively in poverty relief and sharing of the results of economic and social development. Presently, the main problems in social assistance include that a smaller fund size, narrow coverage, low benefit standards, institutional unsoundness, unclear positioning, poor convergence, uneven distribution of assistance resources and low management service capacity. The problems such as a reduction in number of assistance recipients, benefits overlapping, giving assistance to people not urgently in need etc. Under the current administration system, some problems exist between social assistance and some other anti-poverty policies, such as resource dispersion and repeated investment.

Based on the overall requirements of China's anti-poverty strategy and the transformation and upgrading of the social assistance system, we have proposed the following reform objectives and ideas: integrate social assistance resources, identify the direction of social assistance and dynamically combine the original input in poverty alleviation and the 8 concrete institutional arrangements to form a new comprehensive assistance system. The new social assistance system should include the three parts of basic living security, social assistance and targeted assistance, aiming to address the problems such as securing the basic living needs of the poor, meeting the basic public service needs of low-income groups, and increasing the income for the poor people with the ability to work. Efforts should be focused on improving the system and structure so as to convert the institutional advantage of social assistance, i.e. providing subsistence allowances for those unable to shake off poverty through their own efforts alone, to higher efficiency in anti-poverty governance and improving people's well-being.

(1) Strengthening the basic living/subsistence allowance system

In the future, we should still strengthen the role of social assistance in providing subsistence allowances to people most in need and raise their income or living standards to above the poverty line so as to "eliminate the survival crisis for all

our people". Meanwhile, we should also actively expand the coverage of social assistance, raise security standards, and further upgrade the subsistence allowance system into the basic living security system. In accordance with the principle of "providing social assistance for all people in need", we should expand the coverage of social assistance and raise subsistence allowance standards. Particularly, disadvantaged groups, such as households with income slightly higher than the poverty line but not eligible for subsistence allowances, and expenditure-based impoverished households should be brought into the coverage of the social assistance system. Based on the situation of economic development and continuous improvement living standards, we should raise social assistance and security standards, improve the mechanism for dynamic adjustment of social assistance standards, implement the mechanism to link assistance and security standards with price rising, and strengthen assistance for the disabled, children, the elderly and patients with severe illnesses, etc., to effectively enhance the sense of fulfillment for people in need.

(2) Establishing a comprehensive social assistance system

In addition to low income, impoverished families often also face many other unfavorable factors, such as insufficient human capital, high catastrophic health expenditure due to serious illnesses of family members, inability to bear the costs of children's education, care and housing, and less access to basic public services. This has not only led to difficulties in life, but also often led to chronic poverty and even intergenerational transmission of poverty. According to the arrangements of the basic public service system, we should further optimize the special assistance systems aiming to meet various service needs, and establish a comprehensive social assistance system to provide targeted assistance to those in need. We should address whatever difficulties urban and rural residents encounter, and the assistance policies should not be linked with particular groups (mainly people eligible for subsistence allowances), but households with lowest income may enjoy priority in access to various assistance policies. Based on the changes in social needs, we should strengthen weaknesses of the existing assistance system, gradually develop a care and relief system for the elderly in need, an employment support system for laborers of impoverished households, and a mechanism for care and protection and controlling dropout for the rural left-behind children and needy children.

(3) Enhancing the sustainability of the social assistance system

As a catching-up economy, China must always adhere to the strategic orientation of giving priority to development. The policy orientation of the social assistance system should give equal importance to the needs and possibility, and we should do everything within our capacity, but try to avoid welfare dependency caused by improper assistance. We should promote the transition from survival-oriented social assistance to development-oriented social assistance according to the new development requirements. We should still adhere to development-oriented poverty alleviation, which aims to increase the income of low-income groups and strengthen transfer

employment of rural labor force and full employment of low-income groups. We should strengthen education assistance and medical assistance, and try to improve the human capital level and self-development ability of poor people. For other compensatory assistance systems, we should appropriately distinguish people who partially or completely lost their ability and conditions to work and people who entirely have ability and conditions to work, and take differentiated policies. We should optimize the operational mechanism of the assistance system, and encourage those who receive assistance, especially people who have the ability to work, to actively get employed or self-employed. For those who have the ability to work, jobs instead of grants should be provided, or the requirements for participating in public welfare activities should be clearly defined.

(4) Recipients of targeted assistance

We should formulate detailed poverty relief standards, and explore to establish a multi-dimensional standard system that combines general poverty standards, special assistance standards and classified standards. We should move faster to unify the standard of rural poverty alleviation allowance and the standard of rural subsistence allowance, and may design the national unified poverty line (subsistence allowance) standard based on the “basic living standard”, and all regions may formulate their own standards commensurate with the local economic development level accordingly. We should establish special assistance standards for low-income families, especially expenditure-based poor families, and establish special assistance standards integrating “expenditure” and “income” to provide special assistance to groups above the general poverty line. Classified standards should identify recipients according to social demographic characteristics (people with disabilities, elderly people, orphans, and unemployed people). In the concrete implementation process, it is necessary to take into consideration elements such as income, families, physiology, and society, and accurately identify people eligible for assistance and timely make dynamic adjustments. On this basis, we should divide recipients into different classes based on circumstances of difficulty, degree of difficulty, difficulty duration, causes of their poverty, number of family members and demands, anti-risk ability, etc., and provide assistance to different classes according to different standards. We should strengthen active discovery and accurate identification, fully mobilize the enthusiasm of communities, agents (primary and secondary schools, and hospitals), social organizations, charity organizations, and social workers, to actively identify the circumstances, such as living difficulties of residents within the districts and their demands for assistance, sinking back into poverty after poverty eradication, etc. Particularly, we should pay close attention to the urgent needs of “silent” groups such as those with mental illnesses or intellectual disability, elderly people who live alone etc.

(5) Improving social assistance management capabilities

The implementation effect of social assistance depends to a large extent on our capacity for governance. We should reasonably separate the administrative power and fiscal expenditure responsibilities of governments at all levels in the field of social

assistance, gradually establish scientific and reasonable financial allocation standards for social assistance, and form a mechanism for stable growth of fiscal input. We should optimize the expenditure structure, and strengthen investment in medical assistance, education assistance, housing assistance, and temporary assistance. We should strengthen basic information collection, fully implement “Internet + Government Service”, fully collect information such as number of family members, sources of income, education of children etc., promote cross-regional and cross-sectoral data connectivity and sharing, and carry out dynamic monitoring of life risk or crisis for people in need. We should strengthen community-level management capabilities, delegate the examination and approval power in social assistance to lower levels, and clearly define the responsibilities of the government in township (sub-district) level. We should establish a working mechanism of “acceptance by one department and jointly handing by multiple departments”, coordinate the work of relevant business departments, create “green channel” to timely address the pressing problems of people in need and ensure that people with urgent or special needs will have somewhere to go for support and will be able to get that support straight away.

22.3 Reform and Development of the Old-Age Security System

22.3.1 Main Problems with the Old-Age Security System

(1) Low pooling level of old-age insurance

The pooling level of China’s basic old-age insurance is low. In addition to the provincial-level unified pooling, in most provinces, prefecture-level pooling of funds is implemented, and provincial-level unified pooling of funds is achieved in the form of adjustment funds. The low pooling level of China’s old-age insurance system has created many difficulties for its smooth operation. First, the low pooling level has weakened the mutual assistance function of the system. The lower the pooling levels of old-age insurance, the weaker its mutual assistance function. On the contrary, the higher the pooling levels of old-age insurance, the stronger its mutual assistance function. Second, old-age insurance policies vary greatly in different regions. Affected by many factors, the premium payment bases of the basic old-age insurance for urban workers vary greatly in different regions. In some regions, the minimum payment base is 60% of the average wage of employees, while in some regions, this figure is 40%. The actual payment rate varies greatly, resulting in uneven burdens for enterprises in different regions. Third, the low pooling level of China’s old-age insurance system has led to unfair pension benefit. From the perspective of the insured, the fairness of old-age insurance benefit means that the insured persons who pay the same amount of old-age insurance premium in the working age should receive roughly the same amount of old-age insurance benefit when they retire, and their pension benefits

should not be different because they pay premiums and receive pension benefits in different regions. Fourth, the low pooling level of China's old-age insurance system has created many difficulties for its smooth operation. Specifically, this is reflected as solidification of local interests, difficulty in old-age insurance transfer and continuation, restriction on reasonable flow of labor force and on formation of fair market economy competition, and inhibition of economic growth.

(2) Poor self-balanced capability and financial sustainability of old-age insurance fund

In recent years, the financial sustainability of old-age insurance fund is facing great challenges, and in the short term, it is hard to improve the self-balance ability of the fund. First, the income of old-age insurance fund is currently less than its expenditure, and the income and expenditure gap is expanding. The fund gap of China's old-age insurance for urban workers started to appear in 2014, and has expanded continuously year by year, from 132.1 billion yuan in 2014 to 464.9 billion yuan in 2017.⁴ The personal premiums of the basic old-age insurance for urban and rural residents are all included in the personal accounts, and the governments give subsidies during the payment and benefit payment stages. It has been decided since the basic old-age insurance for urban and rural residents was initially designed that it is difficult to achieve self-balance of the fund in its operation. With the increase of the number of residents participating in the insurance, its fund gap continues to expand. Based on calculations, the gap between income and expenditure of the basic old-age insurance for urban and rural residents increased from 55.6 billion yuan in 2012 to 156.2 billion yuan in 2017.⁵ Second, the high-speed growth mode of fiscal subsidy is not sustainable. The financial sustainability of China's basic old-age insurance highly depends on financial subsidies, and presents a rising trend. The subsidies of the governments at all levels for the basic old-age insurance increased from 388.3 billion yuan in 2012 to 1049.8 billion yuan in 2017, an increase of 2.7 times.⁶ The growth rate of government subsidies is approximately twice that of government income. In recent years, the growth rate of government income has slowed down, so the financial sustainability of old-age insurance will face huge tests. Excessive government subsidies will also lead to structural imbalance of sharing of old-age insurance responsibilities and thus affect the self-balance nature and sustainability of the insurance system.

(3) Imbalanced development of the multi-tiered old-age insurance system

In order to establish a multi-tiered old-age insurance system, China has introduced a slew of policies to pilot enterprise annuities, occupational annuities and the tax-deferred pension plan. The second- and third-tiered old-age insurance policy tools have been gradually improved, but the multi-tiered old-age insurance system is still imbalanced. The government-led basic old-age insurance still takes a dominant position, and second- and third-tiered old-age insurance is developing slowly. This is

⁴ The data are obtained by the author based on the original data from the *Statistical communique on Human Resources and Social Security Development*.

⁵ Ibid.

⁶ Ibid.

mainly because the legal contribution rate of China's old-age insurance system is high, which has produced certain crowding-out effect for the development of enterprise annuities, occupational annuities and commercial old-age insurance. The enterprise annuity scheme is difficult to expand. Almost all companies participating in the enterprise annuity scheme are state-owned enterprises and monopoly enterprises, but a large number of small- and medium-sized private enterprises have hardly participated in it. The size of enterprise annuity assets is not large (in 2018, enterprise annuity accounts for only 1.61% of GDP), so it is difficult to form a stable force for investment in the capital market. The proportion of balance of enterprise annuity fund to the fund balance of the basic old-age insurance for urban workers rose slowly from 18.28% in 2010 to 29.02% in 2018.⁷ Meanwhile, enterprise corporate annuities and occupational annuities have widened the gap in pension benefits among staff with different identities. As the occupational annuity system of government organs and public institutions has the quasi-mandatory characteristics, almost all government organs and public institutions have joined the occupational annuity scheme, which will further enlarge the gap of overall pension benefit level between staff of government organs and public institutions and employees of enterprises. The tax-deferred commercial old-age insurance is developing extremely slowly, and can hardly form the third pillar. Since the tax deferred commercial old-age insurance scheme was piloted for more than a year ago, due to the factors such as only a small amount of tax concessions, low deferred tax amount and low incentive, the sale value of tax-deferred commercial old-age insurance products is less than 200 million yuan.

(4) The contradiction between premature retirement age and average life expectancy

At present, the statutory retirement age to receive a monthly basic pension in China has been following the principle of 1978 (60 for male employees, 55 for female officials and 50 for female workers), but the average expectancy of residents has increased significantly. In 2018, the average life expectancy in China is 77 years.⁸ The gap between residents' average life expectancy and statutory retirement age is gradually expanding, and the average life expectancy after the retirement of urban workers is gradually extending. The contradiction between the early statutory retirement age and the extension of average life expectancy is increasingly serious. First, it has increased the payment pressure of old-age insurance fund. Taking the personal accounts of the basic old-age insurance for urban workers as an example, the funds of personal accounts are paid on a monthly basis in a total of 139 months, that is, after 11 years plus 7 months after retirement, the accumulated funds of personal account will be fully paid. Calculated based on the life expectancy of 77 years, even if all employees retire at the age of 60, the old-age insurance funds will also bear more than five years of longevity risk for them. As the average life expectancy further increases,

⁷ The data are obtained by the author based on the original data from the *Summary of National Enterprise Annuity Fund Business Data* for the previous years issued by the Ministry of Human Resources and Social Security the Human Resources and Social Security.

⁸ "Statistical Communique of the National Health Commission: in 2018 China's Average Life Expectancy is 77 Years", http://www.gov.cn/shuju/2019-05/27/Content_5395154.htm, May 27, 2019.

if the payment years for pensioners are not adjusted, the burden of longevity risk will further increase. Second, reducing the supply of labor force is not conducive to the effective use and optimization of labor resources. Compared with the initial period of reform and opening-up, laborers' physical conditions and mental states in their statutory retirement age have significantly improved, and most of laborers are still in an energetic stage, so if laborers retire too early, this will directly reduce the supply of proficient workforce and directly reduce sources of labor income and fund income.

(5) Demands for diversified elderly services can hardly be met

By the end of 2018, China's elderly population aged 60 and above was 250 million, accounting for 17.9% of the total population; and the elderly population aged 65 and above was 167 million, accounting for 11.9% of the total population.⁹ China's population aging is characterized by fast aging, a higher proportion of older people, urban-rural inversion, regional imbalance, getting old before getting rich, and getting old before getting prepared. At present, China's elderly care service supply is unable to meet the diverse elderly care service needs of the elderly. This is specifically manifested in the following aspects. First, the problem of uneven development of elderly care services is serious. There is uneven development among different regions, between urban and rural areas, among home-based elderly care, community-based elderly care and institution-based elderly care, between medical and convalesce care, as well as proportional unbalance between elderly care beds and nursing care beds in elderly care institutions. Compared with urban areas, there are some problems with elderly care services in rural areas, such as severe shortage of supply of social elderly care service facilities and elderly care services, poor functions, less service items, low quality and efficiency, and poor availability. Second, there is a substantial disjunction between supply and demand of elderly services. The facilities such as elderly care beds, community elderly day care centers, home-based elderly care services, etc., have been constructed and improved to meet the relevant standards, but there exist the problems such as low service quality and single service mode. The elderly who need elderly care services do not have access to the corresponding services, while the elderly care services supplied by the society may face shortage of demand.

22.3.2 Goals and Tasks of the Reform and Development of the Old-Age Security System

The old-age insurance system is the largest social security project involving the largest amount of fund raising and distribution. It has profound significance in securing the basic life of the elderly and maintaining stable economic and social

⁹ The National Bureau of Statistics, "Statistical Communique on National Economic and Social Development for 2018", the website of National Bureau of Statistics, February 28, 2019, http://www.stats.gov.cn/tjsj/zxfb/201902/t20190228_1651265.html.

and development. It can be regarded to some extent as the main part of the entire social security system. The old-age insurance system has always been the focal point and difficult point of the reform and development of the social security system. Based on the problems of old-age insurance system, the main long-term tasks of reform and development of the old-age insurance system include: to fully realize the nationwide pooling of pension funds, steadily implement the policy of delayed retirement, gradually narrow the gap of basic old-age insurance benefits among different elderly people with different identities, accelerate the development of the second and third pillars of the old-age insurance system, and improve the scientific governance system and mechanism for pension funds to ensure risk control and sustainability of the funds.

(1) Comprehensively advancing nationwide pooling of basic pension funds

China has established a central adjustment system for basic pension funds of enterprise employees to balance payment burdens of local governments. In the future, the central adjustment system will be gradually transitioned to the nationwide pooling system. After the current proportion of adjustment fund is raised to a certain scale, the pooling part of pension funds will be managed by the central authority to form a single nationwide old-age insurance pooling fund. We will establish a nationwide old-age insurance income and expenditure budget system, and determine the financial subsidies according to the gap between income and expenditure to ensure nationwide pension payments. While realizing the nationwide pooling of pension funds for urban enterprise employees, we will gradually realize the provincial-level pooling of the old-age insurance for staff of government agencies and public institutions and the old-age insurance for urban and rural residents. When necessary, we will give to play the role of the nationwide social security fund.

(2) Enhancing financial sustainability of old-age insurance

Against the backdrop of tax and fee reduction, it is an increasingly important task to ensure financial sustainability of old-age insurance. First, we will increase the income of old-age insurance fund by optimizing the system. We will expand the coverage to include workers in flexible employment and take flexible measures to stabilize their contributions. Second, we will try to maintain and increase the value of basic pension funds through various means. Third, we will improve the measures for paying social security benefits, adjust the “one-size-fits-all” or “massive stimulus” pension fund growth policy, and establish a more scientific benefit adjustment mechanism.

(3) Actively promoting the embellishment of a multi-tiered old-age insurance system

We will explore measures to address the root cause for slow development of the second and third pillars. We will strengthen the top design of the multi-tiered social security system, reasonably plan the proportion and positioning of different pillars, and clearly define the role of different players in multi-tiered social security. We will clearly set the goals and functions of each pillar of old-age insurance. We will expand old-age insurance to cover the entire population and secure the basic life needs of all elderly people. Old-age insurance should have a certain income redistribution

function, and the standard of security should not be too high. The second and third pillars should be an important supplement to the first pillar. The difference in pension funds should mainly be reflected in the second and third pillars, and the second and third pillars should lay more stress on efficiency. On the basis of not increasing the burdens of enterprises and individuals, we will strengthen the development of the second and third pillars by means of splitting the old-age insurance premium rate. Meanwhile, we will further improve tax system and tax preferential policies, and encourage people to participate in the third pillar.

(4) Implementing the policy to postpone the retirement age or the pension age

With the extension of life expectancy of Chinese population, delaying the statutory retirement age has become a consensus in academia. In the medium and long run, we will face a critical period to implement the above policy, and we must put the above policy measure in place as early as possible. We may make headway step by step, and steadily advance the policy to delay the retirement age or the pension age.

(5) Accelerating the establishment of multi-tiered and diverse elderly care service supply system

In order to meet the multi-tiered and diverse care service requirements of the elderly, we must move faster to put in place a support and security system focusing on home-based elderly care services, change the bias of “placing too much value on institution-based elderly care, while ignoring home-based elderly care”, and consolidate the foundation position of home-based elderly care. Meanwhile, we will strengthen the combination of medical care and nursing care, and especially the connection of community-based elderly care and medical services. We will open pension institutions, set up geriatric hospitals, rehabilitation hospitals, nursing centers, traditional Chinese medicine hospitals, and hospice care services. We will jointly advance the establishment of a long-term nursing insurance and long-term nursing service system, effectively strengthen areas of weakness in the caring system for the oldest elderly, the disabled elderly, and elderly empty nesters. We will advance the extensive use of “Internet + ” in the field of elderly care services, and promote the development of the elderly care service industry.

22.4 Reform and Development of the Medical Security System

Medical insurance is an important institutional arrangement with an aim to lessen the medical care burden of people, enhance public welfare, and maintain social harmony and stability. The size of medical insurance fund is second only to that of old-age insurance, and medical insurance is the second largest program in the field of social insurance. The CPC Central Committee and the State Council attach great importance to people’s health and have established the basic medical security system covering the entire population. Since the 18th CPC National Congress, we

have made further headway in the reform of the national medical security system and make breakthrough progress in solving the difficulty and high cost of getting medical services. During the 13th Five-Year Plan period, China's basic medical insurance system for urban workers, basic medical insurance system for residents, major illness insurance system and medical assistance system have been operating stably, social medical insurance projects have achieved the full coverage, and the standards of medical insurance benefit are steadily increasing.

However, in the face of the growing demand for medical services, there are still some problems in our health service and medical security systems. The broke out during the Spring Festival of 202 further exposed the areas of weakness in our health services, medical security, public health, emergency management and other aspects. These problems show that China's "new round of medical reform" failed to fully realize the expected goals. The current health service and medical security system does not adapt to the requirement of comprehensively raising the national health security standards and health governance capabilities, and is still far from meeting the construction goal of "Healthy China".

22.4.1 Main Problems of the Medical Security System

(1) Coverage of social medical insurance needs to be expanded

By the end of 2019, the number of people covered by basic medical insurance was 1354.36 million, accounting for 96.7% of the total population of 1400.05 million in the mainland in the same period.¹⁰ On the whole, the medical insurance system had basically realized "full coverage at institutional level" and "coverage of all residents eligible", but there were still 45.69 million people who had not been covered by the system. In 2019, an additional 9.78 million people were covered by basic medical insurance. Calculated based on this rate, there were 40 to 50 million people in the 13th Five-Year Plan period who were not covered by basic medical insurance. Meanwhile, 77.82 million people were funded to participate in basic medical insurance in 2019, indicating that more than 100 million people had not contributed directly to medical insurance.¹¹ In addition, a considerable number of employees have participated in medical insurance for urban residents with relatively low contribution rate and low reimbursement benefits, and the number of people covered by basic medical insurance (including retired employees) was 329.26 million.¹² This only accounted for 74% and 42.5% of employees in urban areas and employees nationwide respectively, indicating that a considerable number of employees had not participated in the basic medical insurance of urban employees. Particularly, there was only a number

¹⁰ The National Bureau of Statistics, Statistical Communique on National Economic and Social Development for 2019, the website of National Bureau of Statistics, February 28, 2020, http://www.stats.gov.cn/tjsj/zxfb/202002/T20200228_1728913.html.

¹¹ Same above.

¹² Same above.

and proportion of migrant workers who had covered by basic medical insurance for urban employees. A survey in 2018 showed that flexible employees in new forms of business accounted for only 6% of people covered by basic medical insurance for employees, and accounted for 35.7% of people covered by basic medical insurance for residents.¹³ It is still an important task for the development of the medical security system to expand the coverage of medical insurance, increase the number of employees participating medical insurance and improve participation quality, and reduce the number of people “who pay their own medical expenses”.

(2) Serious problems of low pooling level and “fragmentation” for basic medical insurance

In 2009, China launched a new round of reform of the medical and healthcare system,¹⁴ which requires prefecture-level unified pooling of funds for basic medical insurance. The *Social Insurance Law* promulgated in 2011 requires gradually implementing provincial-level unified pooling of funds for basic medical insurance. In the 13th Five-year Plan period, all localities have basically realized prefecture-level unified pooling of funds, but only the 4 municipalities of Beijing, Tianjin, Shanghai and Chongqing, as well as Ningxia, Qinghai, Hainan and some other provinces have realized provincial-level unified pooling of funds.¹⁵ Many regions have not yet realized provincial-level unified pooling of funds. Restricted by the low pooling level of medical insurance fund, patients will have much inconvenience in reimbursement and settlement for medical expenses when seeking medical treatments in other regions or in institutions other than contracted medical institutions, which has seriously affected the operating efficiency of the medical insurance system and patients’ sense of fulfillment.

In the past few years, China implemented the strategy for coordinating urban and rural development and has basically completed the integration of the basic medical insurance system for urban and rural residents, but the “fragmentation” problem of the social medical insurance system has not yet been resolved. The “fragmentation” problem of the basic medical insurance system has seriously affected the allocation efficiency of medical resources. There are great differences between the social medical insurance systems for urban workers and for urban and rural residents in the same region. The benefits of the basic medical insurance system for urban

¹³ Xie (2020).

¹⁴ On March 17, 2009, China released to the public “the Opinions of the CPC Central Committee on Deepening Reform of the Medical and Healthcare System” (referred to as “the Opinions”). The Opinions set the near-term goal of “effectively reducing residents’ burden of medical expenses and making medical services more affordable and accessible” and the long-term goal of “establishing a basic medical and healthcare system covering both urban and rural residents to ensure that every resident has access to safe, effective, convenient and affordable basic medical and healthcare services.”

¹⁵ The reply to the proposal of the National Healthcare Security Administration raised in August 2019 by Pang Guowang, deputy to the 13th National People’s Congress, on urging the National Healthcare Security Administration and the Ministry of Finance to move faster to implement the national pooling of the medical insurance fund, August 6, 2019, https://www.sohu.com/a/333107149_753101.

workers in different regions also vary greatly. The medical insurance systems vary in different regions, and cross-regional transfer and continuation face great difficulties. There are great differences in medical resources and service quality, and excessive concentration of high-quality resources has led to coexistence of resource waste and resource deficiency, becoming a problem restricting urban and rural residents and urban workers' equal access to medical services.

- (3) The medical insurance fundraising mechanism is unscientific and the medical insurance fund face high operation pressure

The fundraising proportion of basic medical insurance for employees varies in different regions. In some regions, the income of pooling fund falls short of expenditure, while personal accounts have excessive surplus, reducing fund using efficiency. The personal contribution system for urban and rural residents is not uniform, and there is great difference in contribution rate. The proportion of personal contribution in medical insurance fund is constantly decreasing. The ratio of government subsidies to personal contribution in the basic medical insurance for urban and rural residents have gradually evolved from the initial 2:1 to 3:1 and 4:1, and even up to 8:1 in some areas.¹⁶ The basic medical insurance system for urban and rural residents has insufficient insurance attribute, and depends too excessively on government subsidies in responsibility sharing, which is not conducive to controlling moral risks such as excessive medical treatment. A fixed-amount contribution system has been implemented for a long time, and there is a lack of linkage between it and residents' income, which is likely to lead to relatively high burdens of medium- and low-income groups.

Population aging, rapid growth of chronic diseases, excessive medical treatment behavior, expansion of national medical insurance reimbursement list, outbreak of public health emergencies, and increase of people's health security demand have brought increasingly high pressure on the operation of medical insurance fund. In 2018, the total income of basic medical insurance fund was 2109 billion yuan, and the total expenditure was over 1760.7 billion yuan. Among them, the growth rate of income of basic medical insurance funds for urban employees increased by 8.7%, while the expenditure increased by 11.5%. The income of basic medical insurance funds for rural and non-working urban residents was 697.394 billion yuan, an increase of 27.1%, and the expenditure was 628.451 billion yuan, an increase of 28.9%.¹⁷ The growth rate of expenditure of basic medical insurance funds is much greater that of their expenditure, which has reduced the sustainability of basic medical insurance funds. The current COVID-19 Pandemic and other public health events have further impacted the stability of medical insurance funds, which in turn set pressing requirements for fiscal funds. As of February 19, 2020, the health insurance departments of all provinces (autonomous regions and municipalities)

¹⁶ Zheng (2019b).

¹⁷ "Statistical Express on Medical Security Development for 2018", the website of the National Medical Security Bureau, February 28, 2019, http://www.nhsa.gov.cn/art/2019/2/28art_7_942.html.

and the Xinjiang Production and Construction Corps have appropriated in advance 17.179 billion yuan to contracted medical institutions as special funds for fighting the COVID-19 Pandemic.¹⁸ In recent years, the rapid growth of medical and health care consumption expenditure has caused brought heavy economic burdens to the people. The catastrophic medical expenditure due to critical illnesses has become a main manifestation of the problem of “expensive medical bills and difficult access to quality medical services”, and also a direct factor affecting relations between doctors and patients.

(4) Difficulty in medical insurance fund supervision and serious illegal acts involving medical insurance fraud

The management of medical insurance funds, from their raising to use, involve many links and many complicated influencing factors, so there is great difficulty in supervision over the funds. Illegal activities, such as some medical service institutions and patients plotting together to defraud medical insurance funds, were prevalent in some areas. This poses huge risks to the security of the funds, undermines their normal operation, seriously infringes on the legitimate rights and interests of the people, and causes bad social influence. In 2018, during the special action targeting at medical security fund fraud, 66,000 contracted medical institutions violating laws were investigated and punished, accounting for about 1/3 of the institutions under the spot check, accounting for 1/9 of all contracted medical institutions and drug-stores, and 24,000 individual violators were investigated and punished.¹⁹ Medical insurance fraud involves a large number of violators and many links, and fraudulent activities are highly concealed, so the situation of fraud governance remains grim.

22.4.2 Goals and Tasks of Reform and Development of Medical Security System

In the future, population aging is accelerating, high incidence of chronic diseases, accelerated application of a large number of new equipment, new technologies and new drugs in clinical medicine, implementation of the national strategy known as “Healthy China” and improvement of health awareness among residents, etc., will lead to further increase in medical needs and rapid growth of medical expenses. In order to safeguard the people’s health, efforts should be made to continue to center around the people’s health, and accelerate the establishment of a sustainable multi-tiered medical insurance system with universal coverage, urban–rural integration, clear rights and responsibilities, and adequate guarantee. There should also be efforts

¹⁸ “National Healthcare Security Administration: 17.179 Billion Yuan Appropriated as Special Funds for Fighting the Covid-19”, February 20, 2020, China Youth Net, http://news.youth.cn/gn/202002/t20200220_1220543.htm.

¹⁹ “Statistical Communique on National Basic Medical Security Development for 2018”, the website of National Healthcare Security Administration, June 30, 2019, http://www.nhsa.gov.cn/art/2019/6/30/art_7_1477.html.

to improve the impartiality and coordination of medical insurance. The national strategy known as “Healthy China” shall be promoted to make people feel safer, happier, and enjoy a stronger sense of fulfillment.

(1) Optimizing basic medical insurance financing responsibilities

Safeguarding residents’ health is the common responsibility of the government, the society, units, families, and individuals. The setting of personal accounts of basic medical insurance lacks the nature of mutual assistance. The personal account system of the basic medical insurance for employees has proven to be inadaptable to the needs of the situation, and should be transformed to the pooling fund. The proportion of (individual) financing of the basic medical insurance funds for rural and non-working urban residents is too low and does not adjust with the increase of income, affecting the fairness of basic medical insurance systems, and imposing a huge pressure on fund operation and government finance. Meanwhile, the contribution rate of basic medical insurance for urban employees is much higher than that of the basic medical insurance for rural and non-working urban residents, but the gap between the benefits of the two systems is gradually shrinking.²⁰ It is imperative to reform the personal account system of basic medical insurance for urban employees, enhance the contribution responsibility of the insured people in the basic medical insurance for rural and non-working urban residents, clearly define the responsibilities of fund-raisers, and establish a scientific and reasonable fund-raising mechanism.

We should cancel the personal account system, and steadily use the cumulative funds in personal accounts.²¹ The disadvantage of personal accounts is that there is no risk dispersion mechanism, which goes against the fact that medical insurance pursues mutual assistance under the majority rule. After canceling personal accounts, we can realize the horizontal fairness between the insured. We will establish and improve the general support mechanism for covering outpatient medical bills. We will advance trials for integrating the basic medical insurance system for rural and urban non-working residents and the basic medical insurance system for urban employees. Meanwhile, we will establish a mechanism for retirees to pay premiums in accordance with the insurance system for rural and urban non-working residents. We will establish a benchmark premium rate system for basic medical insurance, standardize the payment base policy, reasonably determine the premium rate, and implement dynamic adjustment. We will gradually reform the system of paying fixed amounts of premiums, specify the contribution rate for residents participating in basic medical insurance, and appropriately improve the contribution rate for individuals. We will continue to increase the government’s investment in basic medical services, especially in public health, to fundamentally solve the traditional mechanism of public health and basic medical services relying on “market services”.

²⁰ Huang and Qiu (2019).

²¹ The disadvantage of personal accounts is that there is no risk diversification mechanism, which is contrary to the principle of mutual aid and mutual aid under the pursuit of most laws by medical insurance. After the personal account is cancelled, horizontal fairness among the insured can be achieved.

(2) Implementing provincial-level pooling of basic medical insurance funds

We will move faster to put in place a system for the settlement of medical expenses incurred at different places, which is a key task proposed at the 4th Plenary Session of the 19th CPC Central Committee. Implementing the system for the settlement of medical expenses incurred at different places is to adapt to the needs of China's national conditions of cross-regional population flow, and also an inherent requirement for ensuring equal access to social security. Realizing provincial-level pooling of medical insurance fund is an important move to implement the system for the settlement of medical expenses incurred at different places. In the medium and long run, based on the standards of unifying the system and policy, unifying collection and payment of fund and integrating management services, we will strive to realize provincial-level pooling of basic medical insurance funds by relying on the achievements of China's promoting Internet technologies and scientific and technological progress and innovation, providing institutional and environmental guarantee for the implementation and efficient operation of the system for the settlement of medical expenses incurred at different places. Meanwhile, we will promote the coordination of medical assistance pooling level and basic medical insurance pooling level, and improve the use efficiency of assistance funds.

(3) Improving the multi-tiered medical security system

To meet people's diverse medical service needs, we should not just rely on the security role of basic social medical insurance. Excessively relying on government subsidies to meet people's diverse medical service needs will undermine the sustainable operation of medical insurance fund. The essence of basic social medical insurance is to promote basic medical security for the people and promote social equity. To prevent patients and their families from falling into poverty due to catastrophic medical expenditures, we should further improve the multi-tiered medical security system, and form a strong security mechanism for preventing poverty caused by diseases. We will continue to strengthen the security level of basic social medical insurance, and further improve the medical assistance system and the mechanism for medical assistance to critical diseases, and give full play to the role of medical assistance in securing basic medical needs. We will solidly promote the development of supplementary medical insurance for enterprises and commercial health insurance, and effectively enhance the role of market-oriented risk sharing mechanism in health protection. We will encourage and regulate operation mechanisms for social charitable donations and private medical mutual assistance, and promote the role of the government, market, society, and individuals in optimal allocation of resources in health protection.

(4) Advancing the comprehensive reform of medical insurance fund management and payment methods

The proper management and use of basic medical insurance fund is the need for realizing scientific management of medical insurance funds, the reflection of improving the medical insurance governance system and governance capacity, and the key to improving the health and well-being of the people. With the establishment of the critical disease insurance system and continuous investment of government finance, the

minimum line of payment for reimbursement of inpatient medical expenses and critical disease insurance has been lowered, outpatient medical expenses are included in the scope of medical insurance reimbursement, the catalog of medicines covered by national medical insurance system is continuously updated, and the pilot projects for payment by a certain category of disease is steadily advanced. These moves have laid a good foundation for reducing patients' economic burdens and improving health recovery.

We will improve the management of medical insurance funds and establish a mechanism for dynamic adjustment of the catalog of basic medical insurance. Dynamic adjustment involves not only specific medical services and medicines, but also the authority of the central and local governments. In addition, we will also establish medical services and drug inclusion mechanisms for public health events. The medical insurance payment methods should be improved. First, basic schemes, basic policies, basic payment programs and standards should be precisely and effectively defined, and the system of a list of medical insurance benefits should be established and improved, and the problems of over insurance and under insurance should be resolved from the institutional perspective. Second, the accuracy of payment and use of medical expenses should be improved. According to the principle of focusing on clinical needs, reasonable diagnosis and treatment and appropriate technology, a sound mechanism of payment by Diagnosis Related Groups (DRGs) should be fully implemented,²² the diversified and compound medical insurance payment system focusing on payment by a certain category of disease should be improved to raise fund operation efficiency. Third, a cooperative mechanism and platform for setting prices of normal medical services and drugs should be established. We should improve the efficiency of consultations and negotiations between medical insurance administrative agencies and medical institutions, and ensure that the medical service cost decision-making mechanism is for the public good.

(5) Improving the mechanism for regulating medical insurance funds

It is suggested to improve the institutional mechanism for preventing and cracking down on fraudulent activities targeting medical insurance funds. First, we should establish a mechanism to accurately identify medical insurance frauds. Second, we should revise the *Social Insurance Law* or independently formulate the *Medical Security Law* to define the powers and responsibilities of the law enforcement bodies, and formulate medical insurance anti-fraud regulations. Third, we should make full use of information technologies such as big data, block chains etc. to improve the efficiency and accuracy of inspection of medical expense bills by social insurance agencies, and establish digitalized, networked, intelligent medical service databases, and a new type of medical insurance fund operation monitoring system. Fourth, we should further promote improve the medical and health management system and medicine circulation system, further promote the coordinated reform of medical services, health

²² Payment by DRGs means payment of medical expenses by medical insurance funds and patients to hospitals in accordance with the principle that patients in the same DRGs are expected to have similar hospital resource use.

insurance, and the medicine industry, and improve the hierarchical diagnosis and treatment operation mechanism and comprehensive supervision over drug supply guarantee. We should implement cross-sectoral collaborative supervision, actively and introduce a third party to participate in supervision. We should strengthen law enforcement and punishment for illegal activities to fundamentally solve medical insurance frauds.

(6) Improving the payment mechanism of medical insurance funds for public health incidents

Medical expenses should be reimbursed by social medical insurance based on the catalogs of medical insurance medicines drugs and medical service items developed by China. However, public health emergencies are likely to the circumstance that subscribers must obtain medical services outside the medical insurance catalog, and often obtaining these services will cause catastrophic medical expenditures to subscribers. Therefore, we must enhance the strategic purchase role of medical insurance fund, and accurately reduce the economic burdens of affected patients in public health incidents. We should sum up as soon as possible the lessons and experience in dealing with public health incidents such as SARS and the COVID-19 pandemic, and improve the mechanism to cope with public health events. We should move faster to revise the relevant laws and regulations such as the *Social Insurance Law*, endow social medical insurance funds with the function of strategic purchase of medical services, and establish sound payment mechanisms and measures for public funds such as social medical insurance fund to respond to public health incidents.

22.5 Suggestions on Promoting Major Social Security Reforms

22.5.1 *Establishing a Long-Term Social Security Mechanism for Mitigating Relative Poverty*

In the coming next period of time, China will focus on addressing relative poverty. Exploration shall be made for the establishment of a long-term mechanism to solve relative poverty, and give play to the positive role of social security in relieving relative poverty. First, we should vigorously implement the proactive poverty alleviation policy, continue to implement the effective measures for “targeted poverty alleviation” and “targeted poverty elimination”, and actively explore a long-term mechanism for addressing relative poverty through active employment and other moves. Second, we should improve and expand the income redistribution function of the social security system. First, the minimum living security system should be changed to basic living security system, so that “subsistence allowances” can be transformed into “basic living security”, and establish a standard mechanism for dynamic

adjustment of “basic living allowances”.²³ Second, we will vigorously expand the coverage of social insurance, lower the insurance threshold for poor people, increase the social pooling of social insurance fund, and establish a benefit compensation mechanism that is prioritized to low-income and poor population. Third, public spending in social assistance and social welfare should be increased. According to the principle that whoever in need should have access to social assistance and social assistance should be provided on demand, the basic living needs and necessary social spending of the poor should be guaranteed. Fourth, we will explore to establish a system for providing welfare benefits for needy elderly people, disabled people and children. Fifth, we will integrate the security items in “targeted poverty alleviation” into the social security system, and strengthen the connection between social security and development-oriented poverty alleviation and basic public services to form an institutional synergy.

22.5.2 Improving the Self-Balancing Mechanism of Social Insurance Fund

Insurance funds are special funds with clearly defined functions contributed by employers and the insured. Self-balancing is the basic requirement of social security funds, and government policy subsidies and public finance inputs should only be secondary. There must be clear numerical or proportional limits, which should comply with the Budget Law. Strict assessment should be carried out for social insurance budgets and routine operation that relies on massive government subsidies to prevent unlimited increase in fiscal budgets or even the situation of “indebted” social security. A self-balance mechanism for social insurance funds (government subsidies are provided, but the responsibilities should also be clearly defined) should be established, which is an important issue in medium- and long-term the reform of social security and also the key to achieving the sustainability of social insurance system. The factors affecting the balance of social insurance funds should be properly assessed, and comprehensive measures should be adopted to control social insurance debts.

First, we must officially set a plan to rise the statutory retirement age. It is suggested that the retirement age be raised to 60 both men and women in the medium and long term, and map out a plan for rising the retirement age to 65 in progressive steps. Second, we should improve the old-age insurance benefit payment and adjustment mechanism. The statutory retirement age and the prescribed age of benefits entitlement should be distinguished, and a flexible receiving mechanism should be established to encourage employees to delay the time to collect their pensions and give appropriate incentives. We will establish a pension index adjustment mechanism, take into consideration the wage growth rate and price index change, and synchronize and adjust pension benefits for all kinds of personnel. Third, we should extend the

²³ Wang and Long (2013).

minimum contribution period of old-age insurance for receiving pensions to more than 20 years. Fourth, we should strengthen social insurance fund management, improve the mechanism for raising and maintaining the value of surplus of social security fund and cumulative social security funds. We should carry out classified management of different types of social security funds, strengthen the market-based investment function of cumulative social security funds, improve the policies and channels for social insurance funds into capital market investment operation, and realize diverse investment portfolios of social insurance fund to ensure fund safety and raise and maintain their value. Fifth, we should speed up the establishment of a pension actuarial reporting system. We should establish a pension actuarial report system based on short-term balance and long-term balance, and establish a financial adaptation mechanism that is adapted to external environmental changes to enhance the financial sustainability of pension insurance.

22.5.3 Nationwide Pooling of Basic Pension Funds

Realizing nationwide pooling of basic pension funds is an inevitable choice to safeguard the rights of the insured, promote equal access to basic old-age insurance, realize sustainability of the funds, adapt to the trend of population flow, and promote fair regional competition. On the basis of establishing the central adjustment fund, the goal of nationwide pooling of pension funds will be achieved in the medium and long term. To this end, we should have a clear idea about nationwide pooling of basic pension funds and promote relevant reforms. First, the payment base, premium rate and fund-collecting authorities for basic old-age insurance should be unified to realize unified collection of basic pension funds nationwide. Local governments should, based on the 40–600% of nationwide average wage in society as the lower and upper limits of premium payment base, reexamine whether it is feasible to further lower the premium rate from the overall level of 16%, and advance the arrangement that tax authorities should be responsible for collecting basic old-age insurance premiums. Second, nationwide unified payment of aged-care pensions should be achieved. Based on insurance actuary pricing and nationwide average wage, the nationwide unified, scientific and reasonable old-age insurance benefit determination and adjustment mechanism should be established. Third, the old-age insurance handing procedures and management information system should be integrated, and a mechanism for nationwide unified management of basic pension funds should be established.

22.5.4 Accelerating the Establishment of a Multi-Tiered Old-Age Security System

The goal of building a multi-tiered old-age insurance system has been clearly set, but the slow development of the second and third pillars has been a long existing problem. Further reforms are necessary to promote healthy development of a multi-tiered old-age security system, especially the second and third pillars. First, the targeted replacement rate of the three pillars of old-age insurance should be clearly set. The targeted replacement rate of old-age insurance should be no greater than 50%, and in the long run, it should be further lowered to around 40%. The targeted replacement rate of the second and third pillars should be equal to or higher than the basic pension. The overall efficiency of multi-tiered old-age insurance system should be increased. Second, while maintaining the existing rates unchanged or slightly lowering them, the basic old-age insurance premium rates should be separated, and part of basic old-age insurance premiums should be paid by the second and third pillars. Third, by reforming the fiscal and tax systems, the tax preferential policy should be improved, and policy incentives to encourage more people to participate in old-age insurance should be enhanced through optimizing the design of supplementary security system. Forth, market competition should be encouraged and investment control should be properly released. Investment yields determine the second and third pillars can continue to operate healthily and stably. The government should encourage financial institutions and large-sized enterprises to participate in enterprise annuity operations, forming pension insurance investment fund pools with orderly competition, and individuals or businesses can choose freely among the fund pools. Fifth, efforts should be made to jointly promote the development of long-term nursing insurance and long-term nursing service systems, and improve the connection mechanism for basic pension funds and long-term nursing services and community-based care services. On the basis of clearly defining the functions of home-based care, community-based care and institution-based care, efforts should be made to build an elderly care service system that coordinates home care, community-services and institution-based services and integrates medical care and health care.

22.5.5 Deepening Medical Reform and Improving the Medical Security System

Reform is always an ongoing task and will never end, which is especially true in the medical field. We should sum up the lessons from the new round of medical reform starting in 2009, and start another new round of medical reform. Efforts should be strengthened in overall design of the medical reform to promote the reform, development and improvement of the medical security system. To meet the requirement of “integrated systems, improved policies, upgraded mechanisms and more effective services”, we should optimize the fund-raising responsibility

of basic medical insurance, realize provincial-level pooling of basic medical insurance, improve the management of medical insurance funds, accelerate comprehensive reform of payment methods, clarify the medical insurance fund payment policy for public health incidents, improve the mechanism for supervision over medical insurance funds according to law, and greatly improve the capacity for governance of medical security. While strengthening the role of the government as the main body and its leading role, we should encourage social forces to participate in medical services, encourage the public to lead a positive and healthy lifestyle, and give play to the fundamental role of families and individuals in health security. We should encourage the development of commercial insurance and give play to the role of market mechanisms in building a multi-tiered medical security system.

22.5.6 Enhancing the Role of Unemployment Insurance in Promoting Employment

Thanks to the rapid economic development and the proactive policy for promoting employment, China's employment situation is inspiring on the whole, the registered unemployment rate stays at a low level, and there is an enormous accumulated surplus in the unemployment insurance fund. In the future, China will face climbing employment pressure and serious problems such as structural unemployment, under employment and employment insecurity.²⁴ The reform of the unemployment insurance system is a very urgent task. Unemployment insurance funds must be used to provide compensation and unemployment assistance to unemployed people, but more importantly, their security function of labor skills training, promoting employment, and stabilizing employment should be promoted. First, exploration must be made to establish a new mechanism for employees to participate in social insurance through the Internet platform, and give short-term unemployment subsidies for persons awaiting employment in cities and towns such as recent college graduates. Second, the level of unemployment insurance benefits should be appropriately increased. Third, the function of unemployment insurance funds in employment skill training should be strengthened. Fourth, the provincial-level pooling of unemployment insurance funds should be achieved as early as possible, and the role of the unemployment insurance system in supporting the unified labor market should be strengthened.

²⁴ The World Bank (2018).

22.5.7 Constantly Improving Social Security Governance and Management System

As the medical insurance system becomes more mature and stable, social security is constantly growing in terms of funds, service system, service objects, etc., but various complicated interest relations between different departments, between governments at different levels and between the governments and the society have also taken shape, posing challenges to the social security management system. As social security covers a wide range of areas, different links of social security management will inevitably involve coordination among different departments. Presently, the social security administration system is generally decentralized, and the coordination cost is high. As state finance plays the role of securing the basic needs of social security funds, the social security administration departments lack motivation in risk prevention and control and performance improvement, making it impossible to achieve effective governance in social security financing, benefit payment and fund investment supervision. In the case of separate management of health services and medical security, medical insurance agencies can hardly cope with complicated medical insurance frauds and achieve higher health protection goals. Without the participation of the public service administration departments, it is also a daunting task to solve the problems such as institutional fragmentation and income verification in social assistance and social welfare. It is hard to advance the tasks such as fighting poverty through social security, promoting medical reform, establishing an elderly care service system, etc., by relying on the competent departments alone. We should give to play the advantages of socialism with Chinese characteristics and strong leadership of the CPC, establish a sound administration system under which Party committees exercise leadership, government assumes coordination responsibility, competent departments play the leading role, related departments provide assistance, and related parties in society actively get involved. In this way, we will be able to realize scientific decision-making under unified leadership of the Party and government, clearly define the powers and responsibilities of governments at all levels and competent departments, form an efficient and coordinated management system and operation mechanism, establish a sound social security management system, and continuously enhance our capacity for social security management.

22.6 Improving the Legal System for Social Security

Improving the legal system is an inevitable requirement for achieving scientific governance of social security, and an important move to build a high-quality social security system and improve the capacity for governance. We are facing an arduous task in law making and revision in the field of social security. Plans should be made to ensure that social security affairs are governed according to law. First, the *Social Assistance Law* should be formulated. On the basis of summing up the experience

and results from the implementation of *Interim Measures of Social Assistance*, the drafting of the *Social Assistance Law* will be completed. The experience from positive assistance measures, such as targeted poverty alleviation, should be included in the law, “minimum living allowances (subsistence allowances)” should be adjusted to “basic living allowances” and other social assistance measures to social relief measures, recipients of minimum living security allowances should be expanded to include various low-income groups and socially marginalized poverty groups, and the targeting mechanism, income verification mechanism and withdrawal mechanism for minimum living allowances should be improved. Second, the revision of the *Social Insurance Law* will be accelerated. Many new situations have emerged after the *Social Insurance Law* was promulgated in 2011, so relevant provisions should be revised as soon as possible. With regard to the model of “combining social pooling with and personal accounts”, the personal accounts of basic medical insurance for urban employees should be canceled, and the functional design of personal accounts and investment operation management system of the basic old-age insurance for urban employees should be improved. The financing mechanism of medical insurance will be improved, and retired employees should also perform due obligations in medical insurance premium payment. The social insurance attribute of basic old-age insurance and basic medical insurance should be clearly defined, and a rigid constraint mechanism for paying insurance premiums according to the income status should be established. The pooling level of social insurance should be raised to realize urban and rural integration. Efforts should be made to strengthen the integration of social security, and further improve the social insurance premium collection and management system. Third, efforts will be made to accomplish law making or revision for other social security items, including studying and formulating the *Medical Security Law*, the *Security Law for Retired Servicemen*, completing the revision of the *Regulations on Unemployment Insurance*, and the *Regulations on Work-related Injury Insurance*, to promote legislation in social welfare and elderly care services, and actively respond to population aging.

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Chapter 23

Goals and Policy Research for Reform of the Public Service Financial Investment System



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The *Decision of CPC Central Committee on Some Major Issues Concerning How to Uphold and Improve the System of Socialism with Chinese Characteristics and Advance the Modernization of China's System and Capacity for Governance* adopted at the 4th Plenary Session of the 19th CPC Central Committee clearly proposes that we will uphold and improve the livelihood system for protecting both urban and rural residents and work to meet people's ever-increasing needs for a better life. In this chapter, based on analyzing China's economic and social transformation during 2015–2025, we will discuss the issues concerning how to expand and optimize expenditures in improving people's well-being in the coming period, namely, to make estimates on the total amount of government expenditures in improving people's well-being and its benchmark selection adaptable to China's economic and social development; to optimize the structure of government investment based on the goals of government expenditures on improving people's well-being; and to give strategic design and policy suggestions on deepening the reforms concerning people's well-being.

23.1 Estimate on the Total Amount of Government Expenditures on Improving People's Well-Being and Its Benchmark Selection

During 2008–2018, the proportion of expenditures on improving people's well-being in both central government expenditures and total government expenditures increased rapidly, and has become the largest item in central government expenditures. In this

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decade, China was in the process of moving from a middle-income to an upper-middle-income economy. In this process, public welfare expenditures (i.e. expenditures on people's livelihood) continued to increase and gradually became the largest item of public finance expenditure, which is a process that has been experienced by all developed economies.¹ China's development trend fits this empirical law, indicating that this trend will continue in the middle and long run.

23.1.1 Estimate on the Expanding Scale of People's Livelihood Expenditures: Historical Trend Extrapolation and International Comparison

First, the proportion of China's livelihood expenditures to GDP during 2019–2027 was predicted through simple extrapolation based on the actual per capita GDP and government expenditures on people's livelihood during 2010–2018. Government's expenditures on people's livelihood include the following items: employment subsidies, subsidies to vulnerable groups, medical and health expenditures (excluding medical subsidies), social security fund expenditures, and housing security. In order to maintain consistent standards in international comparison, education expenditures are not included in livelihood expenditures. The GDP in 2019–12,027 was predicted based on China's actual GDP growth rate given by IMF, and the population was predicted according to its growth trend in previous years, and the proportion of expenditures on people's livelihood to GDP was predicted through fitting and extrapolation based on the actual per capita GDP and government expenditures on people's livelihood during 2010–2018. The prediction data are shown in Table 23.1.

In his book *Growing Public*, the world-renowned expert on financial history Lindert has summed up the following empirical facts based on the historical data on social transfer or social spending² in the OECD countries since 1780, especially 1880, and in some emerging economies after World War II.³

First, after the national income exceeds a certain threshold, in countries and regions with higher per capita GDP while a smaller income gap, the proportion of social spending to GDP is higher.

Second, the increase in social spending has not harmed economic growth or reduced economic growth and the level of per capita GDP, but on the contrary has

¹ Peter (2004).

² According to the degree of progressive transfer of different expenditure items, the author has defined public welfare expenditure based on two standards. In a broad sense, social Spending is composed of tax-based government expenditures (arranged in descending order of progressiveness): (1) Basic subsidies to poor families; (2) unemployment benefits; (3) public non-contributory pension funds, where funds are not from contributions of individuals and their employers; (4) public health expenditures; (5) housing subsidies; (6) public education expenditures. In a narrow sense, social spending is also known as "social transfer", which means the part of social spending subtracted by public education expenditures, that is, including the above items (1)–(5).

³ Peter (2004).

Table 23.1 Prediction of government expenditures on people's livelihood during 12,019–2027

Year	Actual values										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Proportion of government expenditure on people's livelihood to GDP (%)	5.5	6.4	7.1	7.5	7.9	8.6	9.0	8.9	10.5	10.85	11.36
GDP per capita (10,000 yuan)	3.07	3.62	3.98	4.36	4.69	4.99	5.35	5.90	6.45	6.86	7.25
	Predicted Values										
Year	2021	2022	2023	2024	2025	2026	2027				
Proportion of government expenditure on people's livelihood to GDP (%)	11.92	12.49	13.09	13.70	14.33	14.98	15.66				
GDP per capita (10,000 yuan)	7.66	8.08	8.52	8.98	9.44	9.92	10.42				

Source National General Public Budget Expenditure, Final Accounts of Revenue and Expenditure of Social Security Funds, and *China Statistical Yearbook* for the previous years

promoted economic growth and social prosperity. This promotional relationship is more remarkable when measured by the GDP created by employees' unit work time.

Third, social spending has effectively narrowed the income distribution gap in these countries and regions, and promoted social prosperity and harmony.

Fourth, in countries that adopt the doctrine of separation of powers, the social spending of regions such as the states of the United States meets the above fact listed in Item 1, the social transfer of the central governments, such as the U.S. federal government, has shrunk the gap of social spending among regions and helped to narrow the gap of income among regions. In other words, the social transfer of the central governments has increased the equalization level of public services among regions.

During 2008–2018, China was exactly in the process of moving from a middle-income to upper-middle-income economy, which is similar to the per capita GDP growth stage of the OECD countries and the emerging economies after World War II as analyzed by Lindert. Using his analysis framework and financial expenditure standard, the author has analyzed the corresponding data in the entire country and all the provinces during 2010–2018. During this period of time, China's expenditures on people's livelihood had become the largest category in the financial expenditures of the central government, and its proportion to GDP had also entered a rapid growth stage, which is basically consistent with the above empirical fact. In 2018, this proportion had reached 10.5% in China, equivalent to the median level in the OECD countries in 1960, the proportion in eastern developed regions was roughly equivalent to the level of Germany and Japan in the 1980s, and that in western underdeveloped regions was roughly equivalent to the level of Germany and Japan in the 1960s.

According to the data given by Lindert, when the per capita GDP of the OECD countries (average level) was 16,900 US dollars in 1970 (adjusted according to USD purchasing power parity in 2010), the governments' livelihood expenditures accounted for 14.84% of GDP.⁴ This is basically consistent with the proportion during 2025–2026 in Table 23.1 extrapolated using Chinese historical data alone. This shows that the expanding trend of China's expenditures on people's livelihood follows the empirical law in the developed economies. As Lindert's quantitative analysis is based on the data of all the OECD countries and some emerging economies after World War II for a long time cycle (120 years), this empirical law is relatively convincing and has great inspiration and universality.

In short, in the next 5–10 years, China's government expenditures on improving people's livelihood will enter the rapid growth period. Based on the empirical law, China will join the rank of welfare states in the next decade. If proper policies and reforms are adopted, according to the conclusion drawn by the empirical law mentioned by Lindert, this process will not harm economic growth, but instead it will promote economic growth and social harmony, significantly improve the welfare level and sense of fulfillment for all people, and raise China's innovation capacity and international competitiveness.

⁴ Peter (2004).

23.1.2 Benchmark Selection for Expanding Expenditures on People's Livelihood: Population Flow and Urbanization Process

The above prediction is only a reference-oriented extrapolation simulation based on historical data and international experience. As a large developing country that has achieved rapid development in merely 40 years, China has its own unique national conditions, so it is not suitable to come to any conclusion by simple extrapolation and making reference to the historical data of other countries. Moreover, even in the 30 OECD countries and more listed by Lindert, there are great differences their proportion of social spending to GDP, and their historical processes are not totally consistent. Therefore, reliable analysis and predictions will only be achieved by taking into consideration China's actual conditions.

Based on the previous survey and analysis of some county-level economies,⁵ as well as the analysis methods and conclusions in the reports by Cai Fang et al.,⁶ Du Yang,⁷ Xu Yuan and Tang Ya et al.,⁸ we have analyzed China's population flow and urbanization process during the 13th Five-Year Plan period, analyzed and predicted the corresponding trend in the coming period, and come to the conclusions as follows. In the next 5–10 years, the process of citizenization of migrant workers and their parents and children will accelerate, and the population will further gather in urban areas, especially central cities, and non-agricultural transfer of rural labor forces will gather pace. The increase in internationalization level of the Chinese economy, industry upgrading driven by technological progress and deepening of high-quality economic development will improve the quality and quantity of the Chinese economy and also further expand the gap of economic development and income levels among different regions. This means that the central government will increase transfer payments to narrow the income gap, and face greater pressure in promoting equitable access to basic public service among different regions. It also means that the central government will further strengthen transfer payments for this purpose.

On August 26, 2019, when presiding over the fifth meeting of the Central Committee for Financial and Economic Affairs, President Xi Jinping pointed out that "Central cities and city clusters are becoming the major vessels for development. Under the new situation, to promote coordinated regional development, we must adjust the regional policy system in accordance with the objective economic law, leverage the comparative advantages of various regions, promote rational flows and efficient concentration of production factors, bolster the momentum of innovation-driven development, accelerate to build a power engine driving high-quality development, reinforce the economic and population carrying capacity of central cities,

⁵ Zhu (2018).

⁶ Cai et al. 2019.

⁷ Du (2020).

⁸ Xu and Tang 2019.

city clusters and advantaged areas for economic development, and strengthen other areas' functions for guaranteeing food and ecological security and the safety of border areas. The bottom line for people's livelihood must be ensured while the equalization of basic public services should be promoted.⁹ According to Du Yang's analysis, the urbanization rate of population with household registration in the eastern provinces during the 13th Five-Year Plan period was only less than 1%. The absolute gap between permanent population and population with household registration even increased. In the central and western provinces, the reform of household registration system was proceeding smoothly, and the urbanization rate of population with household registration and the absolute gap between permanent population and population with household registration were both better than those in eastern provinces.¹⁰ This requires that the eastern provinces must accelerate the urbanization rate of permanent population in the next few years. Based on the analysis of Xu Yuan and Tang Ya,¹¹ the citizenization rate of non-native population was greater. The suggestion given by Du Yang is that the restrictions on household registration will be lifted in the next five years, except in certain mega cities.¹² Without doubt, the household registration system is just a result, while the root cause lies in the public service supply system. When the number and structure of public services fail to meet the demands of non-native population, it is difficult to fully lift the restrictions on household registration. In other words, the essence of household registration is not simply to give a household register identity, but to allow all people to have full and equal access to public services, i.e. services in employment, fertility, medical care, education, housing and elderly. This means that the supply capacity of these public services should be significantly improved.

The COVID-19 pandemic in 2020 had hit almost all large cities and caused great impact on the Chinese economy, which is closely related to the huge social costs brought by the urban and rural binary structure. Under the urban and rural binary structure, a large number of flowing populations could hardly come back to cities during the Spring Festival, and enterprises faced difficulties in resume production and operation, which is the direct cause of the huge impact on the economy. Under the urban and rural binary structure, basic public services are in short supply and have low efficiency, which accounted for the difficulties in epidemic prevention. The fundamental way to solve the problem is to retain the in-flowed population in large cities. The key to reform is to improve the level of public services, ensure equal access to public services in large cities and raise the carrying capacity for economy and population in areas that possess economic development advantages, such as central cities and city clusters. As eastern regions have higher levels of per capita income and public service expenditures, the eastern provinces need to further significantly increase their investments in improving people's livelihood. As part of

⁹ "Xi Jinping Chaired the Fifth Meeting of the Central Committee for Financial and Economic Affairs", *Xinhua net*, August 26, 2019, http://www.xinhuanet.com/2019-08/26/C_1124923884.htm.

¹⁰ Du (2020).

¹¹ Xu and Tang (2019).

¹² Du (2020).

expenditures on people's livelihood is borne by the central government, the central government also needs to significantly increase its livelihood expenditures. This is the second basis for judging fiscal expansion is needed in the middle and long run.

Establishing a public service supply system that adapts to the population flow pattern and can timely and accurately respond to market demands involves not only an increase in fiscal investments, but needs fundamental institutional reforms.

The traditional public service supply system originated from the distribution system in the revolutionary period and took shape in the era of planned economy, while the household registration system is in essence an administrative planning and configuration tool for public services. Modern urban planning originated from the examination and study of public health and residential issues, involving a strong atmosphere of social governance. The greatest difference between "management" and "governance" of modern cities lies in that the governance system is no longer a simple top-down government management and control framework but an interwoven structure of the networks of society, market and government regulation integrating management and self management, organization and self organization as well as regulation and self regulation. For the public service sector represented by medical services and education, its spatial layout follows the principle of administrative division. The government can guide the spatial layout of public service resources through infrastructure construction. With regard to basic public service supplies undertaken directly by the government, the administrative ration practice should be abandoned, the principle of "securing the bottom line" should be upheld, but it is not suggested to pursue high standards, otherwise the result will definitely turn out to be just the opposite of our wish. Other public services, including high-standard public services, should be handed over to society and the market, allowing the market to play the decisive role in resource allocation.

23.2 Optimizing the Financial Investment Structure According to the Goals of Government Expenditures on Improving People's Livelihood

The *Decision* of the 3rd Plenary Session of the 18th CPC Central Committee pointed out that finance is the foundation of state governance. The modernization of the state governance system requires the modernization of the financial system. The modernization of the financial system is embodied as the three characteristics of commonality, non-profit-making and rule by law. In other words, the fundamental purpose of the financial system is to meet the public needs and maximize public interests, and financial operation is not for the purpose of profit making and should be ruled by law.¹³

To realize equalization of public services, promote economic growth and narrow income gap through increasing government expenditures on people's livelihood as

¹³ Gao (2014).

proposed by Lindert, China needs to adjust the financial input structure for expenditures on people's livelihood while expanding the scale and strive to achieve the above multiple objectives through optimizing the structure.

Based on empirical analysis, combined with relevant research data, we believe that presently government expenditures on people's livelihood can be structurally adjusted and optimized in the following aspects.¹⁴

23.2.1 Balance Between Supply Side and Demand Side

The outbreak of the Covid-19 pandemic has exposed the extremely weak epidemic prevention and medical service capabilities of community-level medical institutions, and the root cause behind this phenomenon lies in the significant impact of government investment mode on public service resource allocation.

Under the impact of the Covid-19 pandemic, China falls short of medical resources. Can China increase medical and health resources and the epidemic prevention capacity of the medical and health care system through increasing government investment and staff quota to raise the beds, equipment and staff quotas of public hospitals? To answering this question, the previous practical experience should be seriously assessed.

First, since the outbreak of SARS, the practical experience has shown that expansion of public hospitals will community-level siphon medical resources, disintegrate the hierarchical diagnosis and treatment system and the disease prevention and control system.

The key to epidemic prevention is early screening, early discovery and timely intervention. General Secretary Xi Jinping clearly stated that: "Prevention is the most economical and effective strategy in protecting people's health. We must resolutely uphold the medical and health care work policy that puts prevention first, keep to the concept of all-time preparedness, move forward the gateway of prevention to prevent a minor ailment from developing into a serious epidemic. We must improve the public health service system, optimize the investment structure of medical and health resources, strengthen capacity building for community-level prevention and control in rural areas and communities, and build a tight line of defense in epidemic prevention and control."¹⁵

To achieve early discovery, you must strengthen community-level management and make community-level medical institutions become the "health guardians" and outposts for epidemic prevention for residents. If community-level medical institutions closest to residents that bear due responsibility for disease control and public health fail to work effectively and disease prevention and treatment responsibilities

¹⁴ Peter (2004).

¹⁵ Xi Jinping, Comprehensively Strengthening Capacity for Prevention, Control and Governance according to Law and Improving the National Public Health Emergency Management System, *Qiushi Journal*, No. 5, 2020.

are shifted blindly to hospitals, then in normal circumstances this is likely to give rise to the problem of “expensive medical bills and difficult access to quality medical services, while during the outbreak of SARS and the Covid-19 pandemic, this has led to the complete malfunction of the epidemic prevention and control system. In such circumstances, a large number of patients gathered in hospitals, and cross infections were unavoidable, raising hospitals’ pressure in receiving and treating patients, and deteriorating the epidemic prevention and control situation.

The current dilemma is not caused by shortage of medical resources, but a result of not putting in place an effective system of division of labor and collaboration, leading to low epidemic prevention capacity. After more than ten years of strong government investment, China has gotten rid of the state of shortage of medical resources. In 2018, the number of physicians per 1000 persons was 2.6, equivalent to the level in the countries such as United States (2.6), the United Kingdom (2.8), Canada (2.7), and South Korea (2.3); the number of hospital beds per 1000 persons reached 4.7, significantly higher the median level in the OECD countries (3.9), higher than the levels in the 20 countries such as Australia (3.8), Norway (3.6), the United States (2.8), and the United Kingdom (2.5). Wuhan has rich hospital resources, standing in the front rank in China. In 2018, the number of physicians per 1000 persons in Wuhan was 3.6, and the number of hospital beds per 1000 persons reached 7.4 beds and even 8.6 if community-level medical institutions are included, far higher the national average.

Table 23.2 gives the number of inpatients per 100 persons covered by the medical insurance for employees in 2017 in all municipalities directly under the central government, provincial capital cities, and sub-provincial cities. The data in the table reveals the facts that there is supply surplus of hospital beds in these cities. As we all know, Beijing has abundant medical resources. In Beijing, employees have basically been admitted into hospitals when needed. As a large number of non-native patients with serious illnesses are admitted into Grade A tertiary hospitals in Beijing, patients with minor illnesses will not be admitted into hospitals. Moreover, the medical insurance outpatient security level for employees in Beijing is very high, and the insured will not choose to be hospitalized if they only need to receive outpatient treatments. Therefore, Beijing’s hospital admission rate is at a reasonable level. The data in Table 23.2 show that the hospital admission rate for employees covered by medical insurance in other cities is higher than that in Beijing, and in most cities, this rate is even significantly higher than that in Beijing, indicating that there is generally a phenomenon of over hospital admission in many areas, indicating that there is supply surplus of hospital beds in many areas.

The community-level medical and health institutions are unable to act as the health guarders for residents and outposts for epidemic prevention, which is the consequence that the resources China’s medical service system are constantly shifted to high-grade public hospitals. In December 2014, when inspecting the health center of Shiye Town, Zhenjiang City, Jiangsu Province, General Secretary Xi Jinping clearly proposed that we should effectively solve the problem that major hospitals are always in “a state of war” and fully occupied. The root cause for this problem is that in the past decade, high-grade public hospitals have siphoned high-quality medical resources at

Table 23.2 Admission rate of employees covered by medical insurance in municipalities directly under the central government, provincial capital cities, sub-provincial cities in 2017

	Proportion of retired workers	Number of inpatients per 100 persons	Number of inpatients per 100 on-the-job workers	Number of inpatients per 100 retired workers		Proportion of retired workers	Number of inpatients per 100 persons	Number of inpatients per 100 on-the-job workers	Number of inpatients per 100 retired workers
Beijing	18.2	8.6	4.3	28.2	Qingdao	24.2	17.8	8.1	48.1
Haikou	17.9	9.8	3.6	38.1	Chengdu	24.5	18.2	8.5	48.4
Xiamen	7.3	10.4	9.2	26.2	Dalian	27.0	18.5	7.0	49.9
Fuzhou	21.8	10.8	5.3	30.5	Tianjin	36.3	19.1	7.2	40.1
Hefei	19.2	11.6	5.0	39.3	Shijiazhuang	31.7	20.2	11.4	39.2
Guangzhou	16.6	12.5	6.1	44.6	Zhengzhou	16.8	20.8	11.8	65.4
Nanchang Yinchuan	32.3	13.8	5.9	30.5	Changchun	33.2	21.3	12.1	40.0
Yinchuan	24.0	14.4	8.1	34.4	Kunming	27.9	21.6	8.6	55.1
Jinan	22.5	14.7	6.8	41.9	Xi'an	29.8	21.9	8.8	52.8
Shanghai	32.8	15.2	7.4	31.0	Xizang	22.8	22.7	19.1	34.9
Nanjing	24.2	15.4	8.4	37.3	Urumchi	21.9	24.3	18.2	46.4
Hohhot	27.8	15.5	7.7	36.0	Wuhan	29.7	24.4	10.7	56.8
Taiyuan	33.4	16.0	7.8	32.3	Chongqing	28.9	25.5	11.7	59.4
Xining	34.8	16.4	10.0	28.5	Harbin	40.9	28.3	17.2	44.4
Nanning	23.7	17.1	8.1	46.0	Shenyang	40.9	29.3	14.3	51.0
Lanzhou	39.3	17.5	9.3	30.0	Ningbo	17.9	29.8	18.2	83.0
Hangzhou	19.0	17.6	12.7	38.5	Changsha	21.7	31.1	13.4	94.8

Source: Medical insurance incomes, expenditures and supplementary information of employees in different regions in 2017

the community level. This has weakened the service capability and led to shrinkage of business scale of community-level medical institutions. During 2010–2018, the number of tertiary public hospitals increased from 1258 to 2263, and the number of beds and physicians increased at a higher speed, leading to an increase in number of beds per hospital from original 830 to 1008. In the nine years, the number of beds of public medical institutions nationwide increased by 2.19 million, of which about 56.5% of bed growth was caused by the expansion of tertiary public hospitals. The market share of tertiary public hospitals had also increased rapidly by more than 10% in the nine years.

Such high-speed expansion of tertiary public hospitals was achieved through siphoning the high-quality doctor resources of secondary hospitals and community-level medical institutions and thus siphoning patients and medical revenue. The reason for this is very simple. Due to the relatively stable number of skilled physicians in a region, to achieve rapid expansion, high-grade public hospitals generally scramble for mature physicians from local low-grade medical institutions or medical institutions in underdeveloped regions. After expansion in scale, tertiary hospitals have always chosen to poach outstanding doctors from local secondary hospitals or those in underdeveloped areas, and then secondary hospitals further poach outstanding doctors from community-level medical institutions. Against the backdrop that hospitals are put under different administrative levels, skilled doctors cultivated by community-level medical institutions will soon be poached away, and it is even hard for some community-level medical institutions to retain university graduates.

This can be shown by some concrete cases. Taking Qingdao City, Shandong Province as an example, a tertiary hospital with 1500 beds was built in the West Coast area in 2014 and put under the trusteeship of the Affiliated Hospital of Qingdao University (provincial comprehensive tertiary hospital). After the West Coastal Branch of the Affiliated Hospital of Qingdao University was put into operation, the service capability of Huangdao District People's Hospital (secondary) with largest number of patients in the district region (secondary) has begun to decline. In 2017, the surgical caseload of Huangdao District People's Hospital was only 9505 in the whole year, which was lower than that in 2009.

With the expansion of the high-grade public hospitals, the inverted pyramid structure for doctors of public medical institutions is more evident. Figure 23.1 shows that in 2012, only 29.6% doctors of the national public medical system worked at tertiary hospitals. By 2018, this proportion rose to 39.7%. In the same period, the proportion of doctors at community-level medical institutions dropped from 33.7% to 29.9%. Moreover, in community-level public medical institutions, 37% of doctors are assistant physicians without prescription eligibility, this ratio was only 1.3% in tertiary hospitals, and the gap in doctors' actual service capability was even greater.

Under the siphon effect of high-grade public hospitals, the capability of community-level medical and health institutions have been weakened, leading to the collapse of the hierarchical diagnosis and treatment system, becoming an obstacle to the development of Chinese public health and disease control system.

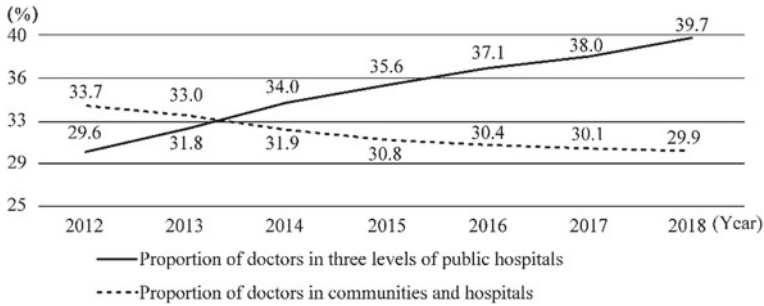


Fig. 23.1 Distribution of (Assistant) physicians at tertiary hospitals and community-level medical institutions during 2012–2018. *Source* *China Health Statistics Yearbook* for the previous years; the number of physicians at tertiary public hospital were calculated by the author

This time, this kind of problem was fully exposed in Wuhan, as the frontline city to combat the COVID-19. During 2009–2018, the number of tertiary hospitals in Wuhan increased from 30 to 61, of which the number of tertiary hospitals increased from 22 to 28 and the number of hospitals directly under the Ministry of Health or the provincial government increased from 8 to 13. Under siphon effect of tertiary hospitals, the community-level medical institutions medical and health institutions in Wuhan have basically lost service capabilities covering communities and towns. In 2018, only 13.9% of doctors worked at community-level medical institutions and hospitals, with beds accounting for only 11.8%. In the whole year, only 17.8% of outpatients and 7% of inpatients sought medical treatments at community-level medical institutions. This was also a part of the reason why Wuhan still faced shortage of medical resources when coping with the epidemic in the case of owning such abundant medical resources.

This kind of practice that “great trees keep down the little ones” has seriously squeezed the survival space of community-level medical institutions and disintegrated the original hierarchical diagnosis and treatment pattern. The huge government investment in community-level medical institutions has also come down to expenditures on “supporting people and institutions”, community-level medical institutions are unable to retain high-quality medical talents, let alone provide effective medical and public services for community residents, naturally are unable to retain patients.

Second, since the outbreak of SARS, especially since the new round of medical reform, government investments in medical and health care have significantly increased and prioritized towards community-level public medical and health institutions, but this can hardly reverse the tendency that community-level medical institutions’ service capability and business scale are shrinking. The policy goal of establishing a hierarchical diagnosis and treatment system is increasingly difficult to achieve.

Since the outbreak of SARS in 2003, the policy has gradually returned to the public service supply model of “supporting community-level institutions”. In 2010, this policy reached the peak. Starting from Anhui, the system of separation of

revenue and expenditure budgets was quickly promoted in the community-level health service centers in cities and township health centers throughout the country. Regular employees were included in the staffing quota system for public institutions, the salaries and institutional operating costs were all borne by the governments, and the incomes of institutions were all handed over to the competent departments. This means that the systems of “iron rice bowl (job for life)” and communal pot practicing before the reform and opening-up had been resumed. With the fiscal support, “stable yields were ensured despite drought or excessive rain,” which had significantly weakened the enthusiasm of service of community-level medical institutions, and their job priority had also shifted from providing medical services to patients to filling in the performance appraisal forms that should be submitted to the higher-level authorities. Their work has gradually become a mere formality. The phenomena of over-staffing and buck-passing were common, and the business capabilities and workload of community-level medical institutions had fallen rapidly. In 2014, Anhui Province took the initiative to cancel the system of separation of revenue and expenditure budgets. The relevant ministries also agreed to cancel this system nationwide, but the model of “supporting people and institutions” has been formed, and the policy inertia and interest pattern are difficult to reverse.

Government health investments have been prioritized to community medical institutions by year by year. The proportion of investments in community-level medical and health institutions to government subsidies to the supply side has risen from 29.2% in 2008 to 42.2% in 2018. The per capita input of the government for staff within the quota (permanent staff) in community-level medical institutions was significantly higher than that in public hospitals in 2008, and the ratio of former to the latter increased from 0.88 in 2008 to 1.67 in 2017. Among them, the government subsidies to urban community health service centers were greatest, and the basic subsidy levels even exceeded the levels of government subsidies to public hospitals. In the same period, the basic subsidy to every staff member of community health service centers in cities increased from 23,000 yuan to 120,000 yuan, an average annual increase of 21.2%; the basic subsidy to every permanent staff member of township health service centers increased from 9,000 yuan to 90,000 yuan, an average annual increase of 28.8%. The corresponding data are shown in Fig. 23.2.

Taking Pingdu City (county-level city), Qingdao, Shandong Province, as an example, among the total revenue of 29 health centers in Pingdu in 2018, there are 170 million yuan of government zero-margin subsidies (including basic subsidies for labor costs), more than 70 million yuan of subsidies for costs of public health services, and about 85 million yuan paid by the basic medical insurance for employees and the basic medical insurance for urban and rural residents. Excluding the part paid to village doctors, only two items of government zero-margin subsidies and subsidies for costs of on public health services can guarantee that every staff member of these health centers have the government investment of 140,000 yuan. Every permanent staff member of these health centers has an annual pre-tax income of 150,000 yuan.

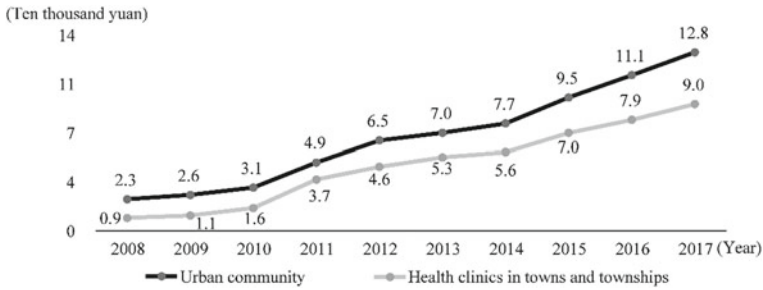


Fig. 23.2 Basic subsidy to every permanent staff member of community health centers in cities and township health centers during 2008–2017. *Source National Health Financial Annual Report for the previous years*

In terms of public health costs, in 2014, government’s subsidies for basic public health services to community-level public medical institutions amounted to 30.09 billion yuan, and government subsidies for public health projects amounted to 4.82 billion yuan, totaling 34.91 billion yuan. By the end of 2017, government’s subsidies for basic public health services to community-level public medical institutions amounted to 49.23 billion yuan, and government subsidies for public health projects reached 8.11 billion yuan, totaling 57.34 billion yuan. Government public health inputs in community-level medical institutions grew at an average of 18% per year, far exceeding the growth rate of all public medical and health institutions (11.5%).

Fiscal security for community-level medical institutions in impoverished areas could also be in place in time. Taking Haiyuan County, Zhongwei City, Ningxia Hui Autonomous Region as an example, the per capita government subsidies for all employees of township health centers were more than 100,000 yuan in 2016, and the per capita government subsidies for permanent staff were over 140,000 yuan, among which basic public health service subsidies (excluding subsidies for labor costs) and special public health service subsidies accounted for 40%. There were enough inputs, and some facilities and devices are even left unused. There also exists the problem that local medical and health personnel do not know how to use some devices that have been put in place.

The income distribution system of “securing stable yields despite drought or excessive rain” has led to the problem of over-staffing rather than the improvement of services. The continuous increase in government investment has failed to reverse the situation of weakening of service capabilities of community-level health institutions and gradual shrinkage of business scale. In fact, while government investments have increased year by year, the diagnosis and treatment person-times of community medical institutions have declined year by year. In 2010, 30.4% of outpatient and emergency services and 29.2% of inpatient services were provided by community public health care centers in the vicinity; but in 2017, only 26.5% of outpatients and emergency patients and 18.3% of inpatients sought medical treatments in public community medical and health centers, declining by 4% and 11% respectively in

8 years. This fact is deviating increasingly further away from the policy goal of establishing a hierarchical diagnosis and treatment system.

By comparing data in different cities, we may notice a fact that in areas with higher government subsidies to medical institutions (with higher proportion of government supply-side subsidies in the total income of medical institutions), there is a greater proportion of patients who want to seek medical treats in high-grade hospitals, and this fact is deviating increasingly further away from the policy goal of establishing a hierarchical diagnosis and treatment system. Huge government investments have not effectively improved the service capabilities of community-level medical institutions. In the competition with high-grade hospitals, it is difficult for community-level medical institutions to retain patients, but instead presenting a situation that the higher the government inputs, and the higher government inputs at the community level, then the weaker the hierarchical diagnosis and treatment system.

The above facts show that we will not be able to establish a sound hierarchical diagnosis and treatment system and improve community medical service and disease control capabilities by promoting the development of public hospitals and community health service centers through increasing fiscal investments and staff quota.

Obviously, the critical point lies in the institutional arrangement of the community medical and health service system and the corresponding fiscal input mechanism rather than fiscal investment and staffing. The model of “supporting people and institutions” cannot form an effective public service supply system. Through comparison with international experience, China may get more enlightenment.

Taking the experience of Singapore’s community medical system in case screening and intervention in during the outbreak of the COVID-19 pandemic as an example, based on the experience in fighting SARS and H1N1 epidemic, the Singapore government appropriated funds to support more than 880 out of more than 2200 private clinics to simultaneously undertake the function of public health preparation clinics (PHPC, similar to China’s fever clinics) and serve as infectious disease monitoring points, forming a joint defense system consisting of public hospitals, community hospitals and private clinics. In January 2020, after Singapore received the warning of the COVID-19 outbreak from Wuhan, China, these 880 clinics and more began to make preparations for the epidemic. In contrast, in late January, Shanghai and Beijing successively initiated the first-level response, and 110 and 101 fever clinics started to join in, less than 1/8 of private clinics in Singapore, while the land area of Singapore is only equivalent to Daxing District, Beijing, and smaller than Pudong District, Shanghai.

The number of PHPCs in Singapore is equivalent to the number of private clinics in China. In epidemic prevention, their duties are to identify suspected patients, make diagnosis, carry out treatments and report the cases in accordance with unified standards, and arrange transfer treatments and quarantine. While minimizing missed diagnosis, they should try to avoid panic squeezing of public health resources. Meanwhile, the PHPC system shares medical information, providing a reliable basis for tracing the sources of infectious cases.

These private clinics can function effectively because they are usually community health “guarders” in Singapore. Family doctor clinics in Singapore must join the

local Chronic Disease Management Programme (CDMP) and the Community Health Assist Scheme (CHAS). Only by doing so, they can be qualified for applying to join the PHPC system. The logic behind this is also very simple. Only those clinics that have been providing health management services in the routine work and get the trust of residents can better achieve risk monitoring and disease prevention and control functions in the event of emergency public health incidents. In addition, it is worth mentioning that in addition to public health training, the support of government finance to PHPCs is mainly reflected in providing materials necessary to respond to public health incidents (such as personal protective materials, drugs, vaccines, etc.). In their routine work, these clinics get service income primarily the CDMP and the CHAS, and the sources of payment are the medical insurance savings accounts and patients' out of pocket payments.

If broadening our field of vision and examining small- and medium-sized medical institutions, including community medical institutions centering on serving community residents, we will find that the structure and layout problems of the medical and health service system are more evident. Japan is a typical case for reference. Japan's medical service and security systems are at international advanced level in terms of accessibility, affordability and patient trust. One of most notable feature is that Japan has a large number of medical institutions, with a relatively balanced structure, layout and patient flow. In 2017, in Japan, the number of hospitals per 100,000 persons was 6.6, and if excluding mental hospitals, this figure was 5.8; the number of clinics per 100,000 persons (excluding dental clinics) was 80.1. The number of hospitals with more than 500 beds accounted for only 4.9%, those with 900 beds or more only accounted for 0.6%, and those with 300 beds and below accounted for 82.1%, among which those with 50–99 beds accounted for the highest proportion of 24.8%.

Japan's population density is much higher than that in China, and medical institutions are densely distributed, which obviously can greatly improve the accessibility of medical and health services. Meanwhile, the extensive and dense distribution of overwhelming small- and medium-sized hospitals also means that Japan has formed a sound hierarchical diagnosis and treatment pattern. In 2017, 77.3% of outpatient services occurred at clinics in Japan.

Compared with the popular pyramidal structure of medical service system in the world, China's medical service system presents a inverted pyramidal structure. Hospitals are commonly large in size, there are a slew of tertiary hospitals, but the number of small- and medium-sized medical institutions serving community residents is small, and especially the density of clinics is low. The proportion of caseload of tertiary hospitals is too high (their outpatient visits account for 22.3% of the total of medical institutions nationwide, accounting for 36.5% of inpatient number), and the caseload of community-level medical institutions makes up only a small proportion. This pattern is not conducive to enhancing the accessibility of medical services; the service system led by medical specialists lay emphasis ontreatment but ignores prevention, which is not conducive to enhancing the risk prevention ability of the medical service system; large-size hospitals have lower flexibility and adaptability

than small- and medium-sized medical institutions in response to market demands, and can hardly adapt to the normal state of large-scale population flow.

In addition to the structural layout, the operating mechanism of the medical service system is also critical. Whether in countries where public hospitals dominate, such as the United Kingdom and Singapore, or in countries where private hospitals dominate or there are an equal number of private and public hospitals, such as the United States, Canada, Germany, Japan, etc., around 90% of community medical institutions which serve as medical and health “guarders” are private clinics, and most of residents’ emergency needs are met by them. Under the dual function of the competition mechanism and the medical insurance payment system, these private clinics have the ability and full enthusiasm to retain patients within the communities, and have obtained full trust of community residents. After having worked at hospitals for several years, most medical graduates will leave the hospitals to start their own clinics or engage in multi-site practicing between hospitals and clinics. In this way, the community-level service capacity is strengthened to form a benign circulation.

The above analysis shows that when medical resources are not scarce, continual expansion of public hospitals does not help improve the level of medical supply, but instead will further widen the gap between hospitals and community-level medical institutions, causing greater hidden risks in disease prevention. China must earnestly sum up the structural problems in medical and health work, accurately identify areas of weakness, and adopt targeted policies. We should not resort to expansion or investment when encounter any problem because this is not a sustainable pathway. To solve the imbalance in allocation of medical resources, we should improve the community health care service network, and establishing a hierarchical diagnosis and treatment system is the key to improving the ability of epidemic prevention. The way to solve this problem is to adjust the financial investment system rather than increase fiscal input and staffing quotas, and change the service supply model of “supporting people and institutions”..

Finally, we should start to change the fiscal input model as soon as possible, and fiscal subsidies should turn from “a balance between the supply side and the demand side” to the demand side. Providing subsidies to the demand side can give better play to the role of the government, and the supply side should follow the principle of neutrality in competition. We should enable the market to play a decisive role in resource allocation, form a new social governance pattern based on extensive consultation, joint contribution and shared benefits, give full play to the strategic purchase function of medical insurance, and make it a key policy starting point for reasonably allocating medical resources and building a sound medical service and epidemic prevention and control system.

As long as there still are direct fiscal subsidies for public service institutions, we should take into consideration a series of issues such as establishing relevant institutions and a sound assessment system. Particularly, those should be linked to the scale, structure and mechanism of fiscal investment, etc. The management costs in these aspects very high, but the assessment effect is quite limited. Providing subsidies to the demand side is much simpler. For example, when fiscal subsidies are provided to replenish the medical insurance funds, only an indicator, i.e. per capita

fiscal subsidy level for medical insurance for residents, needs to be considered. This is simple and feasible, and it is possible to make best efforts within the limits of the available resources. In addition, few departmental conflicts will occur. Such are the facts. In the status quo of fiscal subsidies being provided to both the supply and demand sides, there are many controversies over the scale, structure of the supply side and division of responsibilities and implementation of the government, and there is dissatisfaction from many sides. In contrast, for the fundraising levels of medical insurance for urban and rural residents and corresponding fiscal subsidies, the State Council clearly release guiding data every year. For example, during 2016–2019, the fiscal subsidy bottom line standards were 420 yuan, 450 yuan, 490 yuan and 520 yuan respectively, and local governments will complete the tasks based on the standards, and the subsidies of the governments at all levels can be provided in time. For over 10 years after the system was established, there are rare controversies and rare criticism from various sides.

Prioritizing subsidies to the demand side also has greater institutional advantages. The medical insurance funds directly determine the medical burdens of residents. On the one hand, the benefits actually go to the residents. On the other hand, residents determine the flow direction of medical insurance funds based on the service level, service attitudes and medical fees of medical institutions. This not only follows the positive incentive principle of “more pay for more work, and better merit pay” for medical institutions and their medical staff, but also has achieved the institutional advantage of handing over the supervisory right, appraisal right and choices to the people. It reflects the goal of establishing a new social governance pattern based on extensive consultation, joint contribution and shared benefits, which has greatly reduced the costs of administrative supervision and improved the effectiveness of supervision.

It should be noted that China’s medical resources have reached the median level of the OECD countries in terms of hardware facilities such as beds, equipment, etc., but there is still a large gap between China and these countries in soft power such as quality of medical practitioners. Small- and medium-sized medical institutions such as community clinics are still in severe short supply, so medical resources in this regard need to be significantly increased. However, the key to increase supply is to solve the contradiction between the supply potential and the binding of the medical system rather than to increase fiscal investment to further expand tertiary hospitals. In fact, China’s human resources in this regard are not in short supply. This can be shown by the fact that less than 40% of medical and health professional graduates can enter the medical industry to engage in medical and health work. Institutional binding is a critical factor in hindering the development of human resources. To solve this contradiction, on the basis of implementing the *Opinions on Further Deepening the Reform of the Personnel System of Public Institutions* (ZF No. (2011) 28) jointly issued by the General Office of the CPC Central Committee and the General Office of the State Council, the *Personnel Management Regulations for Public Institutions* issued by the State Council issued in 2014 and the *Decision of the State Councils on the Reform of the Old-age Insurance system for Staff of Government Agencies and Public Institutions* issued in 2015, we should cancel the system of staffing of

public institutions in the medical industry to achieve free practicing of physicians, eliminate the entry barriers of human resources in the medical industry and realize the improvement of physicians in both quantity and quality.

We should insist that public hospitals should take an overwhelming proportion of large-scale comprehensive hospitals. Community medical institutions that are large in number and cover a wide range of areas are currently mainly invested and operated by the governments, which involves high operation costs and makes it difficult to promote the elite and phase out the inferior. Community medical institutions should be mainly run by social forces, and only in this way can we give full play to its advantages such as flexibility in operation mechanism, closeness to the people and strong ability to respond to changes in urban and rural residents' demands. If they are incorporated into the national medical and health system and disease control system, we can promote the front movement of the gateway and save costs, which is the practice that are in line with China's medical traditions, the medical law and the international experience.

23.2.2 Structural Imbalances in Fiscal Investment in areas with Different Administrative Levels are Not Conducive to Realizing the Equalization of Public Services

The current fiscal investment models are unable to better promote the equalization of public service resources, but instead will exacerbate the imbalance to a certain extent. Taking basic education as an example, we will illustrate how structural imbalance of fiscal input will lead to the imbalance in public service resource allocation.

In China, the responsibility of education expenditure of the Central Government and provincial governments mainly focus on higher education, the Central Government and provincial governments do not directly assume the responsibility for basic education, and most of the responsibility for running schools other than higher education is borne by the governments at prefecture and county levels. Therefore, the allocation of basic education resources is significantly affected by the fiscal relationship and division of administrative power between the governments at prefecture and county levels and their expenditure preference. The analysis by Tian Zilei et al. about the differences in the basic education investment behaviors of the governments at prefecture and county levels shows that in the context of responsibility isomorphism and financial power decentralization of the governments at prefecture and county levels, due to the different attributes of public education services, there are significant differences in the tendency of education expenditure of the governments at prefecture and county levels.¹⁶ The county-level government is mainly responsible for basic education and secondary vocational education targeted at the general

¹⁶ Tian et al. (2015).

public, the main part of which has no competitiveness and exclusiveness, that is, has the obvious characteristics of pure public goods. Therefore, the marginal education expenditure tendency of the county-level governments has decreasing features. Before educational opportunities have not yet been met, local governments (mainly county-level governments) have pressure to increase supply of education resources through building new school buildings, increasing staffing quotas for teachers, and appropriating public funds. However, once this universal educational opportunity is met, local governments will lack the driving force for further increasing investment. The basic education services provided by the prefecture-level governments are usually key schools, which have higher education quality and involve fierce competitions and higher entrance thresholds, and their service objects largely have higher income and social statuses. In other words, prefecture-level governments have greater enthusiasm in investing in the educational services that belong to private goods or club goods so as to improve their quality and expand their supply. Their conclusion is that the prefecture-level governments provide a variety of unequal support policies to support the development of schools affiliated to the prefecture-level governments, and use public resources to provide excessive public education that lacks commonality, and their public education spending deviates from the applicable service objects, and provides a space for growth of corruption. This kind of phenomenon is particularly evident in ordinary high schools.

This kind of phenomenon is also very common in the medical field. In institutional design, medical institutions are divided into three levels: primary, secondary and tertiary (in each level, they are further divided into three grades: A, B and C according to quality standards). Medical institutions at the three levels have different functional positioning. For example, there are obvious differences in policy function positioning for tertiary and secondary hospitals. The former are responsible for diagnosis and treatment of intractable diseases and patients in severe conditions as well as medical training and research, while the latter are responsible for hospitalization and treatment of common diseases and frequently-occurring diseases. However, in fact, there is no such clear boundary between the two, and tertiary hospitals (including Grade A tertiary hospitals with best medical resources) actually carry out all the businesses undertaken by Grade A secondary hospitals. As China allocates medical resources in accordance with administrative levels, the medical resources of Grade A tertiary hospitals are top-notch. As ordinary medical services do not have the characteristics of non-competitiveness and non-excludability, for common diseases and frequently-occurring diseases or most medical services, the difference between secondary hospitals (under the management of county-level governments) and tertiary hospitals (under the management of prefecture- or provincial-level governments) is only that the former provides medical services with ordinary quality while the latter provides high-quality services. This is similar to the division between ordinary high schools and key high schools as proposed by Tian Zhilei et al.¹⁷ From

¹⁷ Tian et al. (2015).

the perspective of livelihood services, the former are public goods¹⁸ in the modern sense, while the latter have the characteristics of private goods or club goods.

As there is a significant difference in financial strength among the governments at different levels, public hospitals at different administrative levels and in different regions have acquired significantly different fiscal inputs. Public hospitals at a higher administrative level have acquired more financial resources. Taking general hospitals directly under the National Health and Family Planning Commission and provincial general hospitals as an example, although both are tertiary hospitals and mostly distributed in municipalities or provincial capitals, general hospitals directly under the National Health and Family Planning Commission have received far more financial subsidies than provincial hospitals. In 2018, the average financial subsidies received by general hospitals directly under the National Health and Family Planning Commission amounted to 230 million yuan, and financial subsidies received by provincial comprehensive hospital amounted 130 million yuan.¹⁹ Within the same region, the financial support received by hospitals directly under the city-level governments is higher than those directly under the county-level governments. In 2017, public hospitals under the city-level governments received a total of 70,000 yuan of financial support per bed, and the public hospitals directly under the county-level governments received a total of 47,000 yuan of financial support per bed.²⁰

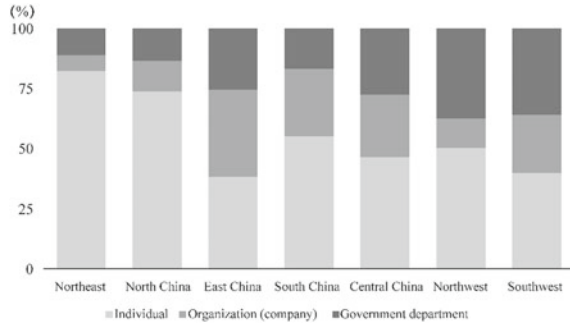
The above education and medical cases show that the structural imbalance of fiscal input will lead to unbalanced allocation of public service resources. Elderly care service cases show that the supply of resources dominated by social forces helps balance supply and demand. The elderly care service industry is mainly run by social forces, and the socialization of elderly care service institutions is high (see Fig. 23.3). As to who should provide, how to provide and where to provide elderly care services, there is less administrative regulation, and only the minimum threshold set by the civil affairs departments should be met. Moreover, the scale of fiscal inputs of the governments at all levels is small. For example, in 2016, the financial subsidies to elderly care service institutions nationwide amounted to only 26 billion yuan, while the financial subsidies to public medical institutions in the same year reached 468.4 billion yuan. An empirical analysis of relevant data of 29 provinces (autonomous regions and municipalities) during 2002–201 shows that the scale of fiscal input has a significant impact on the number of hospital beds and the number of doctors, and it has become an important cause for the imbalance of medical resources. The distribution of elderly care beds is not decided by fiscal input, but only depends on the local economic development level, and compared to medical services, the degree of equalization of elderly care services is higher.

¹⁸ This is the method for dividing modern public finance theories, i.e., dividing public and non-public goods according to social beliefs, rather than the division standards of traditional new classical economics, i.e., dividing according to natural attributes of products: non-exclusiveness and non-competitiveness.

¹⁹ The National Health Commission (2019).

²⁰ The data come from the National Sanitation and Health Financial Statement 2017 (annual report).

Fig. 23.3 Geographical distribution of elderly care service institutions run by different entities. *Source* Data of the Survey on “Elder Care Service Institutions” by the research team of the Institute of Economics of the Chinese Academy of Social Sciences



Less financial inputs have not led to the shortage of elderly beds or a severe imbalance between supply and demand among different regions or at different administrative levels. With the number of elderly care institutions per person and the number of employees per person etc. as the supply indicators and the number of days of admission and rate of admission to elderly care service institutions per person as the demand indicators, we have found that elderly care services were only slightly oversupplied in some regions such as Qinghai and Gansu, but slightly under-supplied in Anhui and Chongqing and in a balanced state in other regions.

The analysis of equalization of basic education services by Tian Zhilei et al.²¹ and the analysis of equalization of ordinary medical services mentioned previously involve the issue that the division of administrative and financial powers based on counties or fiscal decentralization is not conducive to achieving the equalization of public services. The policy suggestions given by Tian Zhilei et al. are very rough: implementing new budgetary measures, improving the commonality of public education expenditures and clarifying the division of administrative power for education (school-running responsibilities, investment responsibilities, policy making, etc.) between the governments at the prefecture and county levels. However, the study provides two empirical analysis conclusions. First, with regard to increasing education spending, transfer payments play a greater role than local fiscal revenues. Second, at the prefecture and county levels, decentralization of fiscal expenditure rather than centralization is conducive to local education supply.²² Based on this, we can give concrete feasible suggestions on improvement. First, the central and provincial governments should be responsible for expenditures on compulsory education and support the governments at prefecture and county levels to materialize their inputs in education through special transfer payments. Second, the governments at the prefecture level should fully replace the governments at the county level to be responsible for ensuring equalization of basic education services through equalization of per-student appropriations in the whole cities (prefecture-cities), while curbing the tendency that the above-mentioned governments at the prefecture level

²¹ Tian et al. (2015).

²² Tian et al. (2015).

(including sub-provincial level) prefer to support the development of key schools directly under the prefecture-level governments, especially key senior high schools.

The reason why the responsibility for equalization is upgraded to the prefecture-level governments is that it is still hard to achieve provincial equalization of public services. To achieve equalization of public services with prefectures as basic units, the necessary condition is that the central and provincial governments should guarantee that the prefecture-level governments have the corresponding financial strength through transfer payments.

More importantly, the fiscal system needs to be adjusted accordingly. The investigation and analysis of the behaviors of different prefecture-level cities nationwide while integrating the new rural cooperative medical system and the medical insurance for urban residents during 2012 have provided empirical support for this.²³ On the basis of the previous survey reports, Gao Qiuming and Du Chuang have systematically compared the behavioral differences among different prefecture-level cities nationwide (including those at the sub-provincial level) while integrating the new rural cooperative medical system and the medical insurance for urban residents.²⁴ Their empirical analysis shows that fiscal revenue raising capacity helps raise the probability of prefecture-level cities to implement unified contribution and benefit standards (equalization of medical insurance benefits) while integrating the medical insurance for urban and rural residents, but whether they will implement unified standards or not depends on the fiscal system. Cities with a higher proportion of counties directly under the provincial government tend not to adopt such integration, which is more prominent in the regions where there is a large strength gap between prefecture-level cities and counties. This empirical result shows that while advancing equalization of basic public services, local governments' fiscal strength is important, but the division of fiscal responsibility is more critical. If the fiscal expenditure responsibility for equalization of basic public services in a prefecture-level city (or a sub-provincial city) should be divided between the city and counties under its jurisdiction or among different counties, the issue concerning policies and management coordination between each other becomes very critical, and the coordination costs even decide whether integration is possible. Even if integration is selected, cities with a higher proportion of counties with finances directly under the provincial government tend to retain the fund management model of county-level pooling, that is, pooling is only a mere formality, and city-level pooling has not been realized.

The inspiration of the empirical analysis by Gao Qiuming and Du Chuang is that as the decentralized fiscal system affects the division of fiscal responsibility between cities and counties, if the pooling or coordination between cities and counties is too costly, it may affect the equalization of basic public services including medical insurance integration. Therefore, in the process of promoting equalization of basic public services, the central and provincial governments need to commit to making a

²³ Zhu and Du (2017), pp. 42–127.

²⁴ Gao Qiuming, and Du Chuang, The System of Direction Provincial Supervision of County Finance and Equalization of Basic Public Services—Taking the Integration of Medical Insurance for Rural and Urban Residents as an Example, *China Economics (Quarterly)*, 2019, No. 18.

difference more positively in the context of a large-scale promotion of the system of direct provincial supervision of county finance.

The case of medical reform in Sanming City, Fujian Province, has more pertinently explained this. Before the medical reform in 2012, the medical insurance for urban employees, the medical insurance for urban residents and the new rural cooperative medical insurance only achieved county-level pooling/overall planning, without great differences between different areas, and an overall deficit soon occurred. In 2012, the city's medical insurance fund had no surplus, but instead there was a hard deficit of approximately 120 million yuan, so it had to start the reform. The core of the medical reform in Sanming City is to raise medical insurance from county-level pooling to city-level pooling, integrate the new rural cooperative medical insurance and the medical insurance for urban residents, put the medical insurance for employees under the fiscal jurisdiction of the city, and increase fiscal inputs. After the reform, the medical insurance had achieved a balance between revenue and expenditure with a slight surplus, and urban and rural residents enjoyed the same medical insurance treatment within the city, achieving the equalization of medical insurance services, and enhancing the sense of fulfillment of urban and rural residents. However, as an underdeveloped area with the lowest GDP and medical resources ranking near the bottom in Fujian Province, Sanming City's reform encountered the dilemma that after the increase in benefits had stimulated a rising trend in urban and rural residents' getting medical treatments and the equalization of public services was achieved within the city, urban and rural residents began to pursue the equalization of public services at a higher level, that is, the equalization of public services within the province. Before the reform, getting medical treatments outside the county was seen as site-off medical treatment which was strictly restricted and had a lower level of medical insurance benefits. After the reform, getting medical treatments at city-level hospitals is seen as getting medical treatments within the city, and enjoys the same benefits. In such case, patients naturally flocked to the high-level hospitals, and the percentage of patients getting medical treatments outside the city (Fuzhou or Xiamen) was also increasing, which posed a great over-spending pressure on the medical insurance funds of Sanming City. Sanming City had to raise the threshold for medical treatments outside the city and reduce the reimbursement ratio of medical treatments outside the city. This has increased the medical burdens of urban and rural residents to a certain extent. But Sanming City has no other choice.

This involves another question, that is, can we upgrade the pooling level of medical insurance to the provincial level. At present, due to the high complexity of medical insurance funding and expenditures, provincial-level pooling/overall planning can hardly ensure stable and sustainable funding and effectively control the expenditures. Taking Fujian Province as an example, in 2014, based on the medical reform experience of Sanming City, Fujian was making overall planning for medical insurance at the provincial level, and all areas began to adjust their own policies based on this expectation. The dependency ratio of the medical insurance for urban employees was up to 12.5 (the national average only 2.7). Previously, Xiamen City where the medical insurance fund had a huge surplus each year quickly reduced the fund-raising level of the medical insurance for urban employees (currently the actual contribution ratio

Table 23.3 Coverage rate of medical insurance for permanent population in some cities in 2017 (unit:%)

(Unit:%)					
Cities	Coverage rate	Cities	Coverage rate	Cities	Coverage rate
Shanghai	78.6	Dongguan	67.9	Shijiazhuang	85.9
Tianjin	74.1	Foshan	67.6	Fuzhou	85.5
Guangzhou	88.1	Kunming	79.7	Quanzhou	83.9
Suzhou	82.2	Wenzhou	84.9	Harbin	70.6

Note The coverage rates are calculated according to the permanent population

Source Medical insurance statistic data of various regions and statistical communiqués of different cities

is only 4%, second only to Shenzhen, ranking the second nationwide) and increased medical insurance expenditures, resulting in continuous deficit of the medical insurance for employees for three years during 2015–2018. Therefore, overall planning of basic medical insurance should be made at the prefecture level (including sub-provincial cities), which is an active and firm goal in the middle and long run. It is the indispensable part of this goal to realize intra-city equalization of funding level and financial subsidies level for medical insurance for urban residents, to strengthen the local governments' responsibility to attract non-native population to participate in local medical insurance, and to improve the actual coverage rate in areas with large population inflow (Table 23.3 indicates that the actual coverage rate in some cities with large population inflow is much lower than the average level of 95% nationwide). Medical insurance handling management should also be synchronized to the prefecture level. Meanwhile, all provinces and cities should be encouraged to explore provincial-level overall planning and unified provincial-level handling.

The complexity of management of pension funds is significantly lower than that of medical insurance funds. Given that there are great regional differences in income and expenditure gaps, the central government started to implement the central adjustment system in 2018, and proposed to start pooling of basic pensions funds at the provincial level and accelerate the reform to achieve goal of nationwide pooling of basic pension funds. In order to achieve this goal, relevant institutional arrangements will still be required in the future.

Based on the previous analysis, to reduce the costs of coordination between cities and counties, the central and provincial governments should bear a greater proportion of the fiscal funds required to promote equalization of public services in prefecture-level cities, and improve the transfer payment methods. A key technical measure is to identify the targeted population for transfer payments more accurately. In other words, based on the policy targets of realizing targeted matching of people's livelihood inputs and fulfilling the requirements for equalization of public services, it is very necessary to select more accurate and objective population data indicators immune to any outside interference as the cardinal numbers for determining transfer payments. This is also the basis for improving China's capacity for governance. To

improve the accuracy in identifying the targeted population for receiving the central government's transfer payments, on the one hand we should promote fairness and economic growth, give to play urban agglomeration effects, and optimize population and industrial layout; on the other hand, the central government should assume greater responsibility in expenditures on people's livelihood, which can significantly improve the central government's capacity of control and governance over the whole country, increase the cohesion of the Chinese nation, and build a national community of common destiny based on the support of modern public finance.

Starting from 2019, China is committed to increasing the levels and accuracy of individual income tax collection, which means that a more accurate personal income and personal information registration system will be put in place, which can be used as a policy starting point to achieve accurate statistics of the actual population in various regions. This technical tool is also needed to increase the coverage rate and pooling of old-age insurance and medical insurance. Combined with the policy widely adopted by all localities that housing purchase is premised on the number of years of social security contribution, these tasks can be mutually collaborated and promoted to ultimately realize the accurate matching in expenditures on people's livelihood.

23.2.3 Providing Fiscal Subsidies to the Supply Side Does Not Fully Meet the “Public Good” and “Non-profit” Principle²⁵ and Fails to Effectively Reduce the Economic Burdens of Urban and Rural Residents to Receive Public Services

Based on the empirical analysis of the data nationwide and the data on some regions surveyed, the amount of fiscal inputs in public medical institutions is not closely correlated with medical expense burdens of residents. We have selected the eight cities of Shenzhen, Qingdao, Suzhou, Lianyungang, Suqian, Sanming, Liuzhou and Guilin as sample cities in the eastern, central and western regions and analyzed their health and medical insurance data. We found that the correlation coefficient between proportion of fiscal subsidies to the supply side to total income of medical institutions and proportion of residents' health expenditure to consumer expenditure (reflecting the medical burden of local residents) is -0.13 , and the correlation coefficient between proportion of fiscal subsidies to the supply side to total income of medical institutions and actual proportion of reimbursement of patients covered by the two medical insurance schemes is -0.01 (patients covered by medical insurance for urban residents) and -0.44 (patients covered by the medical insurance for urban employees). This means more fiscal inputs in public medical institutions have not effectively reduced the burdens of patients, but instead have even aggravated the

²⁵ Gao (2014).

employees' medical insurance burdens. In addition, in terms of internal operation of public hospitals, fiscal inputs should promote benign operation of hospitals, and medical institutions that have received more fiscal investment should have suffered relatively less financial losses, but health financial data shows that there is no significant difference in the rate and range of deficits of public hospitals in regions with high fiscal inputs and those in regions with low fiscal input. Regardless of amount of fiscal input, public hospitals in various regions have basically achieved a balance in income and expenditure. In some regions, the correlation coefficient between fiscal subsidies to public hospitals and surplus rates of hospitals is only -0.15 , which has explained this. This is also the legacy and manifestation of the inherent problem of soft budget constraints in public finance and state-owned departments in the field of public services.²⁶

This requires that institutional reform should be carried out in the middle and long run to address the problems in two aspects. First, the employee incentive and restraint mechanism of public medical institutions should be improved. Under the present system, compared with control of irrational growth of medical expenditures, medical institutions are more likely to expand revenues to continuously increase the salaries of their employees. In terms of equipment procurement, there is generally a phenomenon of "arms race" among public hospitals to compete to purchase large medical equipment, and this has further increased medical expenses, and aggravated the burdens of medical insurance and even the governments. Second, the corresponding institutional design should be improved to link appraisal with fiscal inputs, hospitals' expenditures and financial conditions, and other indicators. From the perspective of public finance, the core institutional design is to link fiscal inputs with residents' sense of fulfillment in public services. Fiscal inputs should help effectively reduce residents' health care and education burdens and improve their sense of fulfillment in livelihood services. With regard to concrete reform recommendations, it is imperative to move away from supply side subsidies towards demand side subsidies.

23.3 Policy Suggestions on Promoting the Improvement of People's Livelihood in the Middle and Long Term with the Public Finance Reform as the Starting Point

On the basis of empirical analysis and review of related data, with regard to improving people's livelihood in the middle and long term, we suggest promoting the modernization of public finance system in three aspects: scale expansion, structural adjustment and institutional transformation. The expansion of people's livelihood expenditure has been described in details in Sect. 1 and thus is not being repeated here. Only structural adjustment and institutional transformation for improving people's livelihood are briefly summarized and related policy suggestions are given below.

²⁶ Kornai (1979).

23.3.1 Structural Adjustment

Some ideas of structure adjustment analyzed in the previous sections will be realized in the next few years, while some will only be initiated when the adjustment direction has been identified, and finally realizing the structural adjustment goals will take a longer period of time.

First, we should adjust the calculation benchmark for the transfer payments from the central government for improving people's livelihood, select more accurate and objective demographic data as the basis for transfer payments, establish a mechanism for accurate identifying the targeted population for livelihood expenditures, and enhance our country's capacity for governance. Such adjustment is expected to complete in five years.

Second, we should raise the overall planning level of people's livelihood expenditure and coordinate the financial and administrative powers of governments at different levels. All funds for compulsory education, vocational education and residents' health insurance subsidies should be borne by the central and provincial governments. The transfer payments from the central government should be increased to promote the equalization level of public services, and compulsory education, vocational education and medical insurance.

Third, we should reform the financial investment system, control and gradually reduce the size of direct financial appropriation to public service institutions, and shift fiscal expenditures on people's livelihood to the demand side, increase the proportion of per student appropriation in education expenditures and the proportion medical insurance subsidies in medical expenditures.

Fourth, in the coming period, public finance investment should vigorously promote the process of citizenization of migrant workers, and strive to realize equalization and full coverage of all kinds of public services of social security, including public health services, and effectively address all weaknesses in preventing major public health epidemics and economic and social risks. This should be one of the key points of future medium and long-term fiscal investment structural adjustment.

According to the preliminary conclusion based on the current international data, the Singapore government acted quite timely and efficiently in response to the Covid-19 pandemic in the early stage. However, due to neglecting the fact that foreign workers might bring a serious infection risk, the pandemic broke out in large scale in areas where foreign laborers gathered in April 2020. This mainly exposes the problem of Singapore's social economic structure and social governance system rather than its health service system.

Singapore's case shows that even if the government responds rapidly and efficiently in emergency event, the structural problems of the society itself will become a crucial point vulnerable to virus attack. The specific enlightenment of Singapore's lesson is that in epidemic prevention and control, the epidemic prevention capacity of marginal groups determines the safety of the epidemic prevention system. These groups have a greater probability of being exposed to the epidemic risks. On the one hand, they tend to be excluded from the local social security system. On the other

hand, their residential and working environments are poorer, and it is more difficult for them to get equal access to equal health care services and epidemic prevention materials. As these groups have long been out of the field of vision of the mainstream societies, the risks they face are more likely to be ignored, thus turning into a breakthrough point for virus attack in the disease prevention and control system, spreading the virus to other people in society. This means how to master and improve the health conditions of these marginal groups, and provide more medical and health support is the key to controlling the health risks of the whole society.

In China, large-scale population flow has been a normal state. A large number of migrant workers also face the poor health care conditions and have no access to all kinds of public services in the construction sites, lack personal protective supplies, and live in a congested space, making it impossible to realize effective community isolation. These are all potential epidemic prevention and control risk points.

Therefore, in the face of the epidemic crisis, we should have a “fragmented” understanding of public health, but should view it as a chain that is interrelated. In the long term, through promoting the citizenization of migrant workers, enhancing equalization of public services, including medical and health services, and solving the weak links on the chain are the key to preventing overall risks in society. The ability of the service system should adapt to the scale and current situation of population flow is key to improving all kinds of public service systems.

The principles for achieving the above four structural adjustments should be established as soon as possible, and the corresponding adjustment process should be adjusted in time.

23.3.2 Changing the Fiscal Input Mechanism

First, we should strengthen the principle of service purchase”, and reduce the government’s direct supply of public services in public financial expenditure budget, that is, proportion of expenditures on “supporting people and institutions”, increase the proportion of purchasing services, and reflect the requirement that “the market plays a decisive role in resource allocation”. We should raise the proportion of subsidies to the demand side, service purchase can better adapt to the population flow trend, break make a breakthrough in the rigid system of public services divided in accordance with administrative districts, and make better use of market governance mechanisms to improve the state’s capacity for governance.

Second, we will establish an information disclosure mechanism. The public service institutions supported by government finance should establish an information disclosure mechanism similar to those of listed companies. For example, in 2015, the General Office of the State Council issued the guidance requiring public hospitals to establish a regular information disclosure system, use information systems to collect data, and focus on disclosing information such as financial conditions, performance appraisal, quality and safety, prices and medical costs. However, public

hospitals generally do not implement this document requirement, and even the financial department, as the funder and subsidizer of public hospitals, cannot grasp the true data of hospital operation in real time and systematically, resulting in weak supervision over public hospitals. Therefore, we should put in place such a system in the field of public services as soon as possible.

Third, financial investment should meet the requirements of “public good” and “non-profit-seeking”, reduce the proportion of financial investment in private products of public service institutions, and increase the proportion of investment in public goods, such as increasing financial investment in human resources training such as residency training, general practitioner training, and teacher training.

Fourth, the supply of livelihood services should not totally rely on government finance, let alone rely entirely on public institutions. We need not mainly rely on public institutions to provide those livelihood services, such as preschool education, general medical services, community medical services, and elderly care services. Therefore, the public financial input mechanism should conform to the principle of “competitive neutrality” and should not become a tool for some public service institutions to seek administrative monopoly privileges. We should establish a free-flowing market-based human resources allocation mechanism to ensure the equal market status of public and private public service institutions in acquisition of human resources. In these areas of livelihood services, institutions and mechanisms should ensure that the market mechanism plays a decisive role in resource allocation and service supply, give full play to the flexibility advantages of the market mechanism, better adapt to the reality of large-scale population flows, establish a sustainable public service supply mechanism, and avoid forming unnecessary financial burdens. We should ensure that fiscal fund are used in areas where it is needed most to provide public infrastructure and public services that can hardly be provided by the market.

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Chapter 24

Middle- and Long-Term Goals and Strategies for Advancing the Rule of Law



Jihong Mo, Zhong Li, Guoqiang Zhai, and Xiaomei Liu

“There must be laws to go by, the laws must be observed and strictly enforced, and law-breakers must be prosecuted.” This is the fundamental principle for building a socialist system of laws in the new era proposed at the 3rd Plenary Session of the 11th CPC Central Committee. Since then it was proposed, institutions, standards and procedures have been defined for building a socialist system of laws with Chinese characteristics to meet the needs of the reform and opening-up and socialist modernization. Major issues such as the goals of development of the legal system have gradually been incorporated into the national development strategies and plans, and promoting the development of the legal system based on these strategies and plans has become a significant feature in our endeavors to explore various tasks for building the socialist rule of law with Chinese characteristics in the new era. In 1997, the report to the 15th CPC National Congress officially proposed the statecraft that “we must govern the country according to law and build a socialist country ruled by law”, and proposed to basically form a socialist system of laws with Chinese characteristics by the end of 2010. In 2012, to meet the requirement for advancing the rule of law in the new era, the 18th CPC National Congress established the rule of law as the basic approach for “governing the country”, and clearly proposed the fundamental principle for building a socialist system of laws with Chinese characteristics in the new era, that is, “we must take a well-conceived approach to law-making, and ensure that law is strictly enforced, justice is administered impartially, and the law is observed by all.” On October 23, 2014, *the Decision of the Central Committee of the Communist Party of China on Some Major Issues concerning Comprehensively Advancing Law-based Governance* adopted at the 4th Plenary Session of the 18th CPC Central Committee responded for the first time in the form of a document of

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the Party regarding the theory of socialist rule of law with Chinese characteristics and major issues in advancing the rule of law, and proposed that the overall goal of comprehensively promoting law-based governance is to build the system of socialist rule of law with Chinese characteristics and build a socialist country under rule of law. In 2017, the 19th CPC National Congress affirmed the above the overall goal of comprehensively promoting law-based governance, and proposed based on the two-stage strategy to realize the rule of law for the country, the government, and society by 2035. Arguably, the next 15 years are critical years for building the system of socialist rule of law with Chinese characteristics and building a socialist country ruled by law. We must, based on overall goal of comprehensively promoting law-based governance, constantly improve the strategy for the development of rule of law, establish and improve the system of laws, and continuously enhance the level and capacity for the CPC and the government to pursue law-based governance, law-based exercise of State power, and law-based government administration.

24.1 Middle- and Long-Term Strategies for Advancing the Rule of Law and Key Policy Points

The report to the 19th CPC National Congress emphasized that “The period between the 19th and the 20th National Congress is the period in which the timeframes of the two centenary goals converge. In this period, not only must we finish building a moderately prosperous society in all respects and achieve the first centenary goal; we must also build on this achievement to embark on a new journey toward the second centenary goal of fully building a modern socialist country.” Based on a comprehensive analysis of the international and domestic environments and the conditions for China’s development, the report to the 19th CPC National Congress has drawn up a two-stage development plan for the period from 2020 to the middle of this century. In the first stage from 2020 to 2035, we will build on the foundation created by the moderately prosperous society with a further 15 years of hard work to see that socialist modernization is basically realized. The goal of the development of the rule of law in the first stage is “The rule of law for the country, the government, and society is basically in place.”¹ Therefore, the development strategy of building the socialist rule of law with Chinese characteristics is to basically realize the integrated development of rule of law for the country, the government, and society by 2035.

“Realizing the integrated development of rule of law for the country, the government, and society” comes from “promoting the integrated development of rule of law for the country, the government, and society” first proposed by General Secretary Xi Jinping on December 4, 2012 in his Speech at the Meeting of the People from All Walks of Life in Beijing to Commemorate the 30th Anniversary of the Promulgation and Implementation of the Current Constitution. In his speech, General Secretary Xi Jinping stated that “The whole Party and the people of all ethnic groups must rally

¹ Xi (2017).

closely around the Party Central Committee, uphold socialism with Chinese characteristics, follow the guidance of Deng Xiaoping Theory, the important thought of the Three Represents and the Scientific Outlook on Development, promote the rule of law and law-based governance and administration, build a law-based country, government and society, and conscientiously implement the guiding principles of the 18th CPC National Congress in all their work for the goals of building a moderately prosperous society in all respects and ushering in a new stage of socialism with Chinese characteristics.”² In the above speech, General Secretary Xi Jinping employed Marx’s ideas on dialectical materialism and the thought of systematology to effectively integrate a series of important thoughts of the Party on advancing the rule of law since the 3rd Plenary Session of the 11th CPC Central Committee, summed up the tasks and goals of advancing the rule of law, and proposed new ideas, new thinking, and new strategies to pursue coordinated progress in law-based governance, law-based exercise of state power, and law-based government administration, and promote the integrated development of rule of law for the country, the government, and society, identifying the direction for advancing the rule of law in all fields, and setting the medium- and long-term development targets and strategies for advancing the rule of law.

After the policy requirement for “promoting the integrated development of rule of law for the country, the government, and society” was proposed, it was officially confirmed in the *Decision of the CPC Central Committee on Some Major Issues Concerning Comprehensively Deepening the Reform* adopted at the 3rd Plenary Session of the 18th CPC Central Committee on November 23, 2013. According to the *Decision*, to build a China under the rule of law, we must uphold the unity of law-based governance, law-based exercise of state power and law-based government administration, and the integrated development of a law-based country, government and society as a whole.³ The above provisions confirm the important statements of General Secretary of Xi Jinping on comprehensively advancing law-based governance at the policy level and lay the policy foundation for “promoting law-based governance, law-based exercise of State power, and law-based government administration” and “realizing the integrated development of rule of law for the country, the government, and society” as the targets and strategies for advancing the rule of law.

The *Decision of the CPC Central Committee on Some Major Issues Concerning Comprehensively Advancing the Law-based Governance of China* (hereinafter referred to as “the *Decision on Comprehensively the Law-based Governance*”) adopted at the 4th Plenary Session of the 18th CPC Central Committee on October 23, 2014 has not only affirmed the policy propositions for pursuing coordinated progress in law-based governance, law-based exercise of state power, and law-based government administration, and promoting the integrated development of rule of law for the country, the government, and society, but also established the comprehensive and systematic provisions on the guiding ideology, overall goals, basic principles and concrete reform measures for comprehensively advancing law-based governance.

² Xi (2014b).

³ Party Building Books Publishing House (2014b).

It clearly specifies that the overall goal of comprehensively advancing law-based governance is to develop a system of socialist rule of law with Chinese characteristics and build a socialist country under the rule of law. Meanwhile, the *Decision on Comprehensively Advancing the Law-based Governance* has proposed 190 concrete reform measures for comprehensively advancing the rule of law.⁴ General Secretary Xi Jinping emphasized that in the instructions to the *Decision on the Law-based Governance* that developing a system of socialist rule of law with Chinese characteristics should be the focus of our efforts in comprehensively advancing law-based governance, which identifies the strategic direction and program of action for comprehensively advancing law-based governance in the future.⁵

The report to the 19th CPC National Congress makes clear that the overall goal of comprehensively advancing law-based governance is to establish a system of socialist rule of law with Chinese characteristics and build a socialist country under the rule of law. For the “two-stage” targets and strategies for comprehensively advancing law-based governance, the report to the 19th CPC National Congress states that “In the first stage from 2020 to 2035, we will build on the foundation created by the moderately prosperous society with a further 15 years of hard work to see that socialist modernization is basically realized. The vision is that by the end of this stage, the following goals will have been met: The rights of the people to participate and to develop as equals are adequately protected. The rule of law for the country, the government, and society is basically in place. Institutions in all fields are further improved; the modernization of China’s system and capacity for governance is basically achieved. In the second stage from 2035 to the middle of the twenty-first century, we will, building on having basically achieved modernization, work hard for a further 15 years and develop China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful.”⁶ According to the arrangements of the 19th CPC National Congress for comprehensively advancing law-based governance, the “two-stage” goals and strategy mainly focus on the first stage, that is, by 2035, “The rule of law for the country, the government, and society is basically in place.” The goal by 2050 is to basically realize socialist modernization. Therefore, the first stage focuses on achieving the basic tasks, while the second stage aims to achieve a comprehensive improvement in quality and efficiency. By then, the strategic transition from “promoting the integrated development of rule of law for the country, the government, and society” to “realizing the integrated development of rule of law for the country, the government, and society” as a middle- and long-term development goal for advancing the rule of law will be basically achieved.

The *Decision of the CPC Central Committee on Major Issues Concerning Upholding and Improving the System of Socialism with Chinese Characteristics and Advancing the Modernization of China’s System and Capacity for Governance* (hereinafter referred to as “the Decision”) adopted at the 4th Plenary Session of the 19th CPC Central Committee on October 31, 2019 states that we should uphold

⁴ Party Building Books Publishing House (2014c).

⁵ Xi (2014c).

⁶ Xi (2017).

and improve the system of socialist rule of law with Chinese characteristics and improve the Party's capacity for law-based governance and law-based exercising of state power. The *Decision* makes clear that building the system of socialist rule of law with Chinese characteristics should be the focus of our efforts in comprehensively advancing law-based governance. It puts forward the concrete requirements for accomplishing the four major tasks in comprehensively advancing law-based governance: improving the mechanisms and institutions that ensure the full enforcement of the Constitution; improving legislative systems and mechanisms; improving the legal assurance for social fairness and justice; and intensifying oversight over the implementation of laws.⁷ The above requirements are the top priority in implementing the middle- and long-term targets and strategy for promoting the rule of law, the key tasks for building the system of socialist rule of law with Chinese characteristics, the important indicators for judging the efficiency of building the system of socialist rule of law with Chinese characteristics, and the important criteria and scale for judging the accomplishment of the integrated development of rule of law for the country, the government, and society is realized. We must ensure that these tasks are fully accomplished. The *Decision* identifies the principled direction for accomplishing the above-mentioned tasks, and makes clear that "Establishing a system of socialist rule of law with Chinese characteristics and building a socialist country under the rule of law are the intrinsic requirements for upholding and developing socialism with Chinese characteristics." Therefore, we should keep to the path of socialist rule of law with Chinese characteristics, comprehensively advance law-based governance, and insist on pursuing coordinated progress in law-based governance, law-based exercise of state power, and law-based government administration and promoting the integrated development of rule of law for the country, the government, and society.

The policy positions for comprehensively advancing law-based governance after the 18th CPC National Congress are incorporated in a slew of important documents, including the report to the 18th CPC National Congress of the Communist, the Decision of the 3rd Plenary Session of the 18th CPC Central Committee, the Decision of the 4th Plenary Session of the 18th CPC Central Committee, the report to the 19th CPC National Congress, and the Decision of the 4th Plenary Session of the 19th CPC Central Committee, forming the specific timetable, road map and construction drawing for comprehensively advancing law-based governance, providing the policy basis for setting "realizing the integrated development of rule of law for the country, the government, and society" as the middle- and long-term development goal and strategy for advancing the rule of law. Therefore, when establishing the middle- and long-term goal and strategy for advancing the rule of law in the next stage, we must seriously sum up the successful experience in the arrangements for advancing the rule of law in the previous five-year plan periods, especially from the 13th Five-Year Plan period to the 13th Five-Year Plan period. On the basis of the experience, we must rationally design the concrete tasks and requirements for advancing the rule of law in the next stage according to the two-stage goal and strategic arrangements proposed at the 19th CPC National Congress. Only in this way can we make use of

⁷ People's Publishing House (2019, pp. 14–16).

the results of implementing the goal and strategy for advancing the rule of law during the 13th Five-Year Plan period, and build a solid foundation of institutional practice for formulating the development plans for the future and even for the 1th Five-Year Plan period and lay a solid for realizing the goals of the first stage ending in 2035 through reasonable allocation of specific objectives and tasks for advancing the rule of law in various development plan periods in the future.

24.2 Contents and Characteristics of the Targets and Strategies for Advancing the Rule of Law from the 9th Five-Year Plan Period to the 13th Five-Year Plan Period

The 1th Five-Year Plan starting in 1953 deeply reflected the characteristics of the socialist system, and promoting coordinated political, economic, cultural and social development through formulating the five-year development plans has become a great institutional advantage of the socialist system with Chinese characteristics. However, affected by the traditional management system under the plan economy dominated by administrative orders, coupled with the fact that the rule of law as the basic way for running the country had not aroused due attention for a long time, the goal and strategy for advancing the rule of law were not included in the 1st to 8th Five-Year Plans. Advancing the rule of law was included as an important content for the first time in the 9th Five-Year Plan starting in 1996, and gradually improved in the 10th to 13th Five-Year Plans. The targets and strategic tasks regarding the rule of law were roughly similar and even completely consistent on macro scale in the 9th to 13th Five-Year Plans, but in general they have actually been affected by the major policies of the Party and the state on advancing the rule of law in different historical stages and have distinctive characteristics of the times.

24.2.1 Objectives and Strategic Arrangements for Advancing the Rule of Law in the 9th Five-Year Plan (1995–2000)

On September 28, 1995, the 5th Plenary Session of the 14th CPC Central Committee adopted the *Proposal of the CPC Central Committee for the 9th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives to the Year 2010*. It was the first medium-length plan made under a socialist market economy, and a cross-century development strategy. The major economic and social development targets for the 9th Five-Year Plan period are as follows: complete the second phase of the strategic plan for the modernization drive and quadruple the per capita gross national product of 1980 under condition that the population in 2000 will have increased by 300 million over that in 1980; raise the people's living standards

to that of a fairly comfortable life with poverty practically eradicated; and expedite the formulation of a modern enterprise system and establish preliminarily a socialist market economy. The gross national product in the year 2010 will be double that of the year 2000; the people will enjoy an even more comfortable life and a more or less ideal socialist market economy will have come into being. In March 1996, the 4th meeting of the 8th National People's Congress was held in Beijing. Li Peng, premier of the State Council, delivered the *Report on the Outline of the 9th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives to the Year 2010*. The report proposed the major objectives for our endeavors over the next 15 years.

The requirements of the 9th Five-Year Plan for advancing the rule of law lay emphasis on accelerating economic legislation, with the aim of creating a necessary, sound legal and institutional environment for establishing and improving the socialist market economic system. The 9th Five-Year Plan puts forward the following requirements for accelerating economic legislation: uphold the unity of reform and opening-up and legal system construction, closely integrate reform decisions, development decisions and legislation decisions, place economic legislation in an important position, and guide, promote and guarantee healthy development of the socialist market economy through laws; continue to formulate and improve the laws for regulating market entities and market behaviors, maintaining the market order, improving and strengthening macroeconomic regulation, establishing and improving social security systems, and promoting opening up to the outside world; and formulate and improve the laws for revitalizing the basic industries and pillar industries, regulating government behaviors, protecting environment and resources, protecting intellectual property rights, etc. Meanwhile, the 9th Five-Year Plan also proposed the objectives, tasks and strategic arrangements for strengthening democracy and the legal system and emphasized that we will govern the country according to law and build a socialist country under the rule of law. We will strengthen our efforts in legislation, administration of justice, law enforcement, and law popularization. We will adhere to close integration of reform, development and legal system construction, and continue to formulate laws and statutes that adapt to economic and social development; strengthen and improve administration of justice, administrative law enforcement and law enforcement supervision; resolutely rectify the phenomena of non-compliance with laws, lax law enforcement, failure to prosecute violations of the law, and abuse of power, etc., and establish the accountability system and compensation system for violations in law enforcement. We need to improve the overall quality of judicial and law enforcement personnel with focus on building an incorruptible government, rectifying disciplinary misconducts and exercising strict law enforcement to comprehensively improve political and business quality. We need to step up the education campaign to enhance the legal awareness and idea of the public, especially the level and capacity of the majority of officials to exercise administration according to law. Governments at all levels and civil servants must manage economic and social affairs according to law.

24.2.2 Objectives and Strategic Arrangements for Advancing the Rule of Law in the 10th Five-Year Plan (2000–2005)

The *Outline of the 10th Five-Year Plan for the National Economic and Social Development of the People's Republic of China* adopted at the 4th Session of the 9th National People's Congress on March 15, 2001 was formulated after the content that "The People's Republic of China practices ruling the country in accordance with the law and building a socialist country of law" was added the current Constitution in its third amendment in 1999. The fundamental principle of "ruling the country in accordance with the law" was enshrined in the Constitution, which provides sufficient policy basis for establishing the objectives and strategies for advancing the rule of law during the 10th Five-Year Plan period. Compared with the 9th Five-Year Plan, the 10th Five-Year Plan replaces "the legal system" with "the rule of law", and the implementation of the fundamental principle of "running the country in accordance with the law" pays more attention to the requirement of the rule of law. Therefore, the 10th Five-Year Plan dedicates a chapter, i.e. Chap. 23 "Ruling the Country in accordance with the Law and Building a Socialist Country of Law", to specify the objectives, tasks and strategic arrangements for advancing the rule of law in the 10th Five-Year Plan period.

The objectives, tasks and strategic arrangements for advancing the rule of law in Chap. 23 of the 10th Five-Year Plan are as follows:

We will uphold the principle that there must be laws to go by, the laws must be observed and strictly enforced, and law-breakers must be prosecuted, and fully improve the legal system in aspects of legislation, administration of justice, administrative law enforcement, legal supervision, legal services, and popularization of legal knowledge, etc.

We will improve the quality and efficiency of legislation, focus on establishing and improving the system of laws adaptable to the socialist market economic system, and standardize property relations, credit relations and contractual relations under the market economy. We will improve the laws and statues for operation of state power, social security and social intermediary organizations. We will promote judicial reform, improve the judicial system, improve the systems for investigation, procuratorial, trial, execution, etc., strengthen judicial guarantee and legal supervision, and support independent exercise of adjudicative and procuratorial powers within the framework of the law. We should handle cases according to law, object to local protectionism, and ensure strict law enforcement and impartial administration of justice. We will promote legalization of government work, follow the law and be strict in performing our official duties. We will move faster to put in place a law enforcement responsibility system and review and assessment system, and improve the level of administrative law enforcement. We will improve the mechanism for exercising power according to law, strengthen democratic supervision, mass supervision and public opinion supervision over the exercise of operation. We will promote legalization in building an honest and clean government, strengthen our efforts in fighting

corruption, and strictly investigate and prosecute all cases that contravene laws and regulations. We need to step up the education campaign to increase public awareness of law to strengthen the awareness of law and the rule of law in all members of society, especially leading officials at all levels. We will establish a legal assistance system, and strengthen investment in construction of political and legal infrastructure, and improve the overall quality of judicial, procuratorial and public security personnel.

We will seriously study new situations in social stability, correctly handle the contradiction between the people in the new era, to ensure social stability. Combating national split activities, religious extreme forces, violent terrorist activities, cults and use of religions for illegal activities. Effectively implement social security comprehensive governance measures to the grassroots level, severely crack down on criminal activities and various evil spirits such as national security and social security, and sweep away from gambling poisonous society. Strengthen the prevention of public security and improve the rapid response and processing capabilities of sudden events.

24.2.3 Objectives and Strategic Arrangements for Advancing the Rule of Law in the 11th Five-Year Plan (2005–2010) and the 12th Five-Year Plan (2010–2015)

The Outline of the 11th Five-Year Plan for the National Economic and Social Development of the People's Republic of China dedicates a section to specifying the objectives and tasks for comprehensively advancing the rule of law: effectively implement the rule of law as a fundamental principle, carry out lawmaking in a well-conceived and democratic way, and form a socialist law system with Chinese characteristics. We will improve the laws and regulations on market entities, market transactions, market supervision, social management, and sustainable development. We will promote the reform of judicial system and working mechanism, standardize judicial behaviors, strengthen judicial supervision, promote judicial impartiality, and maintain social justice and judicial authority. We will implement the 5th Five-year plan for law popularization, step up the education campaign to increase public awareness of law, and foster a social atmosphere of law-abiding.

The Outline of the 12th Five-Year Plan for the National Economic and Social Development of the People's Republic of China dedicates Chap. 55 to specify the basic tasks and major objectives for comprehensively advancing the rule of law, during the 12th Five-Year Plan period. We will comprehensively implement the rule of law as a fundamental principle, must persist in scientific and democratic legislation to improve the socialist law system with Chinese characteristics. We will focus on significantly accelerating the transformation of the development patterns, and improve the laws in aspects such as people's livelihood, development of social undertakings, and government self-construction. We will strengthen enforcement of the Constitution and other laws and safeguard the consistency, sanctity and authority

of the socialist legal system. We will improve the mechanism to link up administrative law enforcement and criminal justice, and promote law-based administration and impartial and honest law enforcement. We need to deepen the reform of the judiciary system, optimize the distribution of judicial functions and powers, standardize judicial practices, and build a fair, efficient and authoritative socialist judiciary system. We will implement the 6th Five-Year Plan for law popularization, step up the education campaign to increase public awareness of law, adopt the socialist concept of law-based governance, promote the spirit of the rule of law, and create a social environment in which people study, abide by and apply laws of their own accord. We will strengthen legal aid, enhance human rights protection and promote comprehensive development of human rights.

24.2.4 Objectives and Strategic Arrangements for Advancing the Rule of Law in the 13th Five-Year Plan (2015–2020)

The 13th Five-Year Plan is the first five-year plan released after the 18th CPC National Congress, which fully and systematically reflect the requirements for comprehensively advancing the rule of law of the report to the 18th CPC National Congress and the decisions of the 3rd and 4th Plenary Sessions of the 18th CPC Central Committee. The *Outline of the 13th Five-Year Plan for the National Economic and Social Development of the People's Republic of China* dedicates a chapter, i.e. Chapter 75, on comprehensively advancing the rule of law, and four sections on “Improving the Chinese Socialist System of Laws with the Constitution at the Core”, “Accelerating the Building of a Rule of Law Government”, “Promoting Judicial Impartiality”, and “Comprehensively Promoting the Building of a Society Ruled by Law”. The objectives and strategic arrangements for advancing the rule of law in the 13th Five-Year Plan that combines the macroability of the plan and the effectiveness of the specific strategic deployments has become a guide to fully promote various tasks of comprehensively advancing the rule of law. The 13th Five-Year Plan first requires that we must pursue coordinated progress in law-based governance, law-based exercise of state power, and law-based government administration, and promote the integrated development of rule of law for the country, the government, and society as so to establish a system of socialist rule of law with Chinese characteristics and build a socialist country under the rule of law.

Section 1 of Chap. 75 “Improving the Chinese Socialist System of Laws with the Constitution at the Core” proposes the requirements and tasks during the 13th Five-Year Plan period. We will safeguard the sanctity and authority of the Constitution and improve our systems for enforcing the Constitution and providing oversight over its enforcement. In improving the legislative system, we will strengthen the Party’s leadership over legislative work, improve the systems and mechanisms under which legislative work is led by people’s congresses that have legislative power,

improve the government legislative system, and clearly define the boundaries of legislative power. We will work hard to legislate more effectively and democratically; ensure that people's congresses better organize and coordinate legislative work; refine mechanisms for drafting, debating, coordinating, and deliberating on legislation; and improve channels and methods through which legislative bodies lead legislation while other sectors of society also participate in a systematic way. We will work faster to see that a complete system of laws and regulations takes shape by speeding up legislation in key areas, working at once to enact, revise, abolish, and interpret laws, and improving laws for the socialist market economy and social governance.

Section 2 of Chap. 75 "Accelerating the Building of a Rule of Law Government", "Promoting Judicial Impartiality" proposes the following requirements and tasks. We will implement, both to the letter and in spirit, the Plan for Building Rule of Law Government (2015–2020) released by the CPC Central Committee and the State Council, thoroughly advance law-based administration, and ensure that power is defined, exercised, held in check, and overseen in accordance with the law and that all government activities are in line with the rule of law. We will see that government functions are fully carried out in accordance with the law, improve legislation on administrative organization and procedures, and define governmental institutions, functions, powers, procedures, and responsibilities by law. We will refine procedures for making government decisions and improve law-based decision-making mechanisms. We will deepen the structural reform of administrative law enforcement, advance coordinated law enforcement, and better coordinate administrative law enforcement with the administration of criminal justice. We will ensure that law is enforced in a strict, procedure-based, impartial, and civil manner, and narrow the scope of discretionary powers to the greatest extent possible. We will improve law enforcement assessment and evaluation systems. We will improve the auditing system and make sure that auditing-based oversight is exercised independently in accordance with the law.

Section 3 of Chap. 75 "Promoting Judicial Impartiality" proposes the following requirements and tasks. We will deepen judicial structural reform, provide better judicial protection of rights, and ensure stronger judicial oversight over authority, so as to build a more just, efficient, and authoritative socialist judiciary. We will improve the mechanism under which judicial power and responsibilities are divided among judicial bodies that both complement and place a check on each other, and refine the trial instance system, the judicial organization system, and the case jurisdiction system. We will explore the establishment of people's courts and procuratorates with jurisdictions over multiple administrative divisions. We will strengthen occupational safeguards for judicial officers and improve systems for ensuring the law-based, independent, and impartial exercise of judicial and procuratorial powers. We will take comprehensive measures to ensure transparency in court proceedings and in procuratorial, police, and prison affairs, and strengthen judicial protection of human rights. We will tighten oversight over judicial activities and ensure that judicial bodies build more robust mechanisms for internal oversight and power constraints. We will work to see that judicial bodies improve case handling accountability systems, ensuring that those in charge of a case take due responsibility. We will improve

facilities development in respect to prisons, mandatory drug treatment, community corrections, resettlement assistance for released inmates, forensic examinations, and other areas and programs.

Section 4 of Chap. 75 “Comprehensively Promoting the Building of a Society Ruled by Law” proposes the following requirements and tasks. We will advance law-based governance at all levels and in all fields and increase the level of rule of law in social governance. We will strengthen efforts to foster a rule of law culture, advocate socialist rule of law, and strengthen the awareness of all members of society, especially public sector workers, of the need to respect, study, abide by, and apply the law, so that the rule of law permeates and takes root throughout the whole of society. We will intensify efforts to spread legal knowledge in accordance with the 7th Five-year Plan for increasing public knowledge of the law, incorporate education on the rule of law in the national education system, and improve the recording of citizens’ and organizations’ credit in terms of legal compliance. We will ensure legal service systems are improved by strengthening the training of lawyers and other legal professionals as well as legal service personnel, promoting the development of public legal service systems covering all citizens, and improving the legal aid and judicial assistance systems.

In general, our endeavors to advance the rule of law were included in the 9th Five-Year Plan to the 13th Five-Year Plan, especially the 13th Five-Year Plan. According to the concrete requirements for comprehensively advancing the rule of law in the report to the 18th CPC National Congress, these five-year plans specify overall goals, major tasks and strategic goals for advancing the rule of law, and elaborate on the contents of these tasks and goals. Through these five-year plans, we have achieved the “expected” value of the rule of law. These five-year plans have identified the direction for comprehensively advancing the rule of law and thus serve as a program of action for implementing various tasks of comprehensively advancing the rule of law. General Secretary Xi Jinping gave a clear and incisive presentation of the new development philosophies in the *Explanation on the Recommendations of the Central Committee of the Communist Party of China for Formulating the 13th Five-Year Plan for Economic and Social Development*. He pointed out that “Development actions are driven by development philosophies. Development philosophies involve arrangements for fundamental issues of overall significance, as well as direction and long-term goals of development, so they are concentrated expressions of development direction and development focus. Only after we have established correct development philosophies can we fix our objectives, tasks and policy measures.”⁸ Thus it can be seen that establishing the goals and strategies through the five-year plans has fundamental guiding significance for fulfilling various tasks of comprehensively advancing the rule of law.

⁸ Xi (2015).

24.3 Implementation of Overall Goals and Strategies for Advancing the Rule of Law During the 13th Five-Year Plan Period and Issues of Great Concern

During the 13th Five-Year Plan period, according to the arrangements and requirements for advancing the rule of law in the 13th Five-Year Plan, namely “Improving the Chinese Socialist System of Laws with the Constitution at the Core”, “Accelerating the Building of a Rule of Law Government”, “Promoting Judicial Impartiality”, and “Comprehensively Promoting the Building of a Society Ruled by Law”, in various aspects such as legislation, law enforcement, justice and law-abiding, we have adhered to the rule of law as a fundamental principle, actively promoted the reform in rule of law, continuously improved the system of socialist rule of law with Chinese characteristics, and achieved remarkable results, providing valuable experience for setting the goals and strategies for advancing the rule of law in the next step.

In promoting the enforcement of the Constitution, on March 12, 2018, the 1st Session of the 13th National People’s Congress conducted the 5th revision of the current Constitution, and enshrined Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the country’s guiding ideology in the preamble of the Constitution to further enrich the Constitutional guidance system; renamed the Law Committee of the National People’s Congress as the Constitution and the Law Committee of the National People’s Congress to further strengthen the function of the National People’s Congress and its Standing Committee to supervise constitutional implementation. According to the requirement for advancing constitutionality review in the report to the 19th CPC National Congress, on June 22, 2018, the 3rd Session of the NPC Standing Committee deliberated and approved the *Decision of the Standing Committee of the National People’s Congress on Matters concerning the Duties of the Constitution and Law Committee of the National People’s Congress*.⁹ The Decision specifies the duties of the Constitution and Law Committee of the National People’s Congress, including promoting constitutional implementation, carrying out constitutional interpretation, advancing constitutionality review, strengthening constitutional supervision, and cooperation with constitutional propaganda, thereby further improving the constitutional implementation system and mechanism institutionally.

We have strengthened legislation work, especially the legislation work in key areas, and further improved the Chinese socialist system of laws, at the heart of which is the Constitution. On July 1, 2015, the *National Security Law of the Peoples Republic of China* was deliberated and adopted at the 15th Session of the 12th NPC Standing Committee. Guided by “a holistic approach to national security” first proposed by General Secretary of Xi Jinping at the 1st Plenary Meeting of the Central National Security Committee, the *National Security Law* provides the national security policy to ensure both internal and external security, homeland and public security, traditional and non-traditional security, and comprehensively and

⁹ NPC (2018).

systematically establishes the legal system of national security covering political security, homeland security, military security, economic security, cultural security, social security, and ecological security etc. Subsequently, guided by the Constitution and the *National Security Law of the People's Republic of China*, the NPC Standing Committee has introduced a series of laws on safeguarding national security, such as *Anti-Espionage Law of the People's Republic of China*, *Anti-Terrorism Law of the People's Republic of China*, *Network Security Law of the People's Republic of China*, *Law of the People's Republic of China on Administration of Activities of Overseas Nongovernmental Organizations in the Mainland of China*, and *National Intelligence Law of the People's Republic of China*, initially forming the legal system of national security with the Constitution at the core. In addition, as the legal weapon for citizens to take the government to court, the newly revised *Administrative Procedure Law of the People's Republic of China*, which began to officially enforce in 2015, has also revised part of the *Legislation Law of People's Republic of China* which serve as the legal basis for legislation work, and it provides a strong legislative guarantee for formulating sound laws and regulations. During the 13th Five-Year Plan period, the National People's Congress and its Standing Committee actively took the initiative to exercise the national legislative power, and promulgated more than 30 laws, laying a solid legislation foundation for improving the Chinese socialist system of laws, at the heart of which is the Constitution.

It is especially noteworthy that one of the most significant achievements in the realm of legislation during the 13th Five-Year Plan period is the compilation of the *Civil Code of the People's Republic of China*. The *Civil Code* is the first law named after the "Code" since the founding of the Peoples Republic of China, which has created a precedent in code compilation and legislation in China and is of milestone significance. Since the 18th CPC National Congress, the CPC Central Committee with Comrade Xi Jinping at the core has attached great importance to the compilation the Civil Code, put the compilation of the Civil Code in a central place on the work agenda of the CPC Central Committee, and made overall arrangements for the compilation the Civil Code. The Standing Committee of the 12th and 13th National People's Congress attached great importance to this legislation task, and included the compilation of the Civil Code in the Annual Legislation Work Plan of the NPC Standing Committee, and listed it as the top priority of the legislation work of the NPC Standing Committee. In order to smoothly complete the compilation of the Civil Code, the leading Party group of the NPC Standing Committee has repeatedly submitted reports for instructions to the CPC Central Committee to introduce major matters concerning the compilation of the Civil Code, such as overall consideration, work procedures, and style and structure. In June 2016, August 2018 and December 2019, General Secretary Xi Jinping chaired 3 meetings of the Standing Committee of the Political Bureau of the CPC Central Committee, listened to and agreed in principle to the report for instructions of the leading Party group of the NPC Standing Committee on the compilation of the Civil Code, and gave important instructions on the compilation of the Civil Code, providing basic guidelines for accomplishing the task. In March 2015, the Legislative Affairs Commission of the NPC Standing Committee initiated the compilation of the Civil Code, and started to

formulate the *General Provisions of Civil Law* as the first step of the legislative task. On the basis of the *General Principles of Civil Law* adopted in 1986, the Legislative Affairs Commission summarized the practical experience in enforcement of related civil laws, absorbed the rules of universal applicability in the system of civil laws, and formed the draft of the *General Provisions of Civil Law*, which was reviewed three times by the 12th NPC Standing Committee in 2016 and reviewed and adopted at the 5th Session of the 12th National People's Congress in March 2017. Formulating the *General Provisions of Civil Law* is the first step in the compilation of the Civil Code, and laid a solid foundation for the compilation of the Civil Code. After the *General Provisions of Civil Law* was adopted, the 12th and the 3rd NPC Standing Committee continued to compile each part of the Civil Code as the second step of the legislative task. The Legislative Affairs Commission and all units participating in the compilation of the Civil Code have made every effort to promote the compilation of all parts of the Civil Code, systematically sorted out and studied the opinions and suggestions raised by all parties concerned in the previous years, and carried out legislative investigation and extensively solicited opinions and suggestions from society. Based on the prevailing *Real Right Law*, *Contract Law*, *Guaranty Law*, *Marriage Law*, *Adoption Law*, *Inheritance Law*, *Tort Liability Law*, etc., as well as the new demands for the civil law generated in national economic and social development, the drafts of 6 parts of the Civil Law were compiled, including property rights, contract, personality rights, marriage and family, inheritance, tort liability, etc., and were submitted for review to the 3rd Session of the 13th NPC Standing Committee held in August 2018. On May 28, 2020, the *Civil Code of the People's Republic of China* was adopted at the 3rd Session of the 13th National People's Congress. It was enacted on January 1, 2021. The *Civil Code of the People's Republic of China* consists of seven parts on general provisions, property rights, contracts, personality rights, marriage and family, inheritance, tort liabilities and supplementary provisions, totaling 1260 articles. Through concerted efforts of all parties during the 13th Five-year Plan period, the *Civil Code of the People's Republic of China* that adjusts property relationships and personal relationships between civil subjects with equal status, that is, between natural persons, legal persons and non-incorporated organizations, finally came into being. On May 29, 2020, the Political Bureau of the 18th CPC Central Committee held the 20th Group Study Session on the Practical Implementation of the Civil Code. Xi Jinping, General Secretary of the CPC Central Committee, emphasized when chairing the meeting that the Civil Code has an important position in the socialist law system with Chinese characteristics. It is a fundamental law that consolidates foundations, ensures stable expectations, and delivers long-term benefits. It is of great significance in comprehensively advancing law-based governance, speeding up the building of a socialist country under the rule of law, developing the socialist market economy, consolidating the basic socialist economic system, continuing commitment to our people-centered philosophy of development, safeguarding the human rights and interests according to law, promoting the development of human rights, and modernizing our country's system and capacity for governance. All Party members must effectively promote the implementation of the Civil Code so as to

better advance law-based governance, build a socialist country under the rule of law, build a socialist country, and safeguard people's rights and interests.

During the 13th Five-Year Plan period, administrative bodies at all levels exercised government administration according to law and achieved solid achievements in building a rule of law government. Taking the summary on building a rule of law government in the Government Work Report delivered by Li Keqiang at the 2nd Session of the 13th National People's Congress in 2019 as an example,¹⁰ Prime Minister Li Keqiang pointed out that in the past few years, especially in 2018, according to the requirements for building a rule of law government in the report to the 19th CPC National Congress, administrative bodies at all levels actively promoted the building of a rule of law government, developed new ways of conducting governance, and maintained social harmony and stability. In 2018 alone, 18 motions were submitted for review at the NPC Standing Committee, and 37 administrative regulations were formulated or revised. The setup of Party and government institutions and designation of functions was reformed and adjusted. State Council accountability inspections were carried out, and the implementation of reform and development policies was arranged and promoted. Audit-based oversight was vigorously conducted. Primary-level governance in urban and rural areas was enhanced. New approaches were adopted to address public complaints. We reformed and strengthened emergency management, responded swiftly and effectively to major natural disasters, and achieved a continued reduction in both the total number of workplace accidents and the number of serious and major accidents. We strengthened oversight over food and drug safety and severely investigated Changsheng Company in Changchun, etc. We improved the national security system. We strengthened comprehensive measures to maintain law and order, launched a campaign to combat organized crime and root out local mafia, and cracked down on crime and other legal violations in accordance with law. Further headway was made in carrying out the Peaceful China initiative.

In the realm of promoting judicial impartiality, during the 13th Five-Year Plan period, the Supreme People's Court and the Supreme People's Procuratorate have promulgated the opinions on deepening the reform of the adjudication system and the procuratorial system, further clarifying the basic duties for advancing judicial impartiality of the people's courts at all levels and the people's procuratorates at all levels. For example, the *Opinions of the Supreme People's Court on Deepening the Reform of People's Courts in All Respects—the Outline of the Fourth Five-Year Reform Plan of the People's Courts (2014–2018)* (No. 3 [2015] of the Supreme People's Court)¹¹ promulgated in February 2015 clearly specifies that the general guideline on deepening the reform of the people's courts in all respects is: By sticking to the goal of making the people feel impartiality and justice in each and every judicial case and consistently adhering to the main line of judiciary for the people and the work of judicial fairness, to work hard to resolve the underlying issues affecting judicial fairness and restricting judicial capabilities, and ensure that people's courts exercise their jurisdiction independently and impartially in accordance with the law,

¹⁰ Li (2019).

¹¹ Beijing Court Network (2018).

continuously improve the judicial credibility, and promote the modernization of the country's governance system and capabilities. By 2018, we will initially establish a socialist judiciary power operating system with Chinese characteristics, making it an important part of the socialist rule of law system with Chinese characteristics. In February 2015, the Supreme People's Procuratorate issued the *Opinions on Deepening Procuratorial Reform (Work Plan for 2013–2017)* (No. 5 [2015] of the Supreme People's Procuratorate), which also clearly specifies the overall goal of deepening the procuratorial reform. First, we will further improve the systems and mechanisms for guaranteeing that the people's procuratorates exercise procuratorial power independently and impartially in accordance with the law, strengthen and improve the Party's leadership over procuratorial work, and further enhance the constitutional position of the procuratorates. Second, we will further improve the systems and mechanisms for mutual cooperation and check between the procuratorates and judicial and public security organs in accordance with the law. The scope, procedures and measures of law supervision will be further improved, and its role in the system for checks on and oversight over the exercise of power is fully exerted. Third, the mechanism for exercise of procuratorial power and its own supervision and check mechanism will be further improved, legal supervision will be made better targeted and more standard, impartial, and authoritative, and the judicial credibility will be further improved. Fourth, the judicial guarantee mechanism for human rights and law enforcement for the people will be further improved, the legitimate rights and interests of the people will be effectively safeguarded, and the affinity of procuratorial work and the people's satisfaction with procuratorial work will be further enhanced. Fifth, the system for management of procuratorial personnel complying with procuratorial professional characteristics will be further improved, the political quality and professional competence of procuratorial personnel and fair law enforcement levels will be improved significantly, and basic work at the primary level will be significantly strengthened. In specific trials and procuratorial work, the people's courts at all levels and the people's procuratorates at all levels will effectively promote judicial impartiality through reforming their respective judicial systems. In the *Report on the Work of the Supreme People's Court*, delivered at the 2nd Session of the 13th National People's Congress, president Zhou Qiang said that taking the work on promoting judicial transparency alone as an example, in 2018, the courts at all levels continued to deepen judicial openness, issued 31 measures for deepening judicial openness, strengthened the construction of four platforms for trial process disclosure, court trial disclosure, disclosure of judgments, verdicts and conciliation statements, and disclosure of enforcement information, and expanded the depth and breadth of judicial openness. The *Report on the Work of the Supreme People's Procuratorate* delivered at the 2nd Session of the 13th National People's Congress, Procurator-general Zhang Jun also revealed that in December 2018, the Supreme People's Procuratorate started to reform of its internal organization, and local procuratorial organs carried out the reform simultaneously.¹² The general layout of "four major prosecutions" for legal supervision on criminal, civil, administrative

¹² Supreme People's Procuratorate (2019).

and public interest litigation have been initially formed, and the procuratorial reform has promoted judicial impartiality and enhanced the satisfaction of the public.

The 13th Five-Year Plan period overlapped with the period of 7th Five-year Plan for law popularization. The 7th Five-year Plan for law popularization fully reflect the requirement of “Comprehensively Promoting the Building of a Society Ruled by Law” in the 13th Five-Year Plan, and makes clear that the basic task of building of a society ruled by law is to advocate the spirit of the rule of law, fostered the ideas of rule of law, establish a sense of rule of law, and vigorously promote the ideas of rule of law that the Constitution and laws are supreme, all people are equal before the law, the legal is equal, power should be decided by law and exercised according to law, and discard the wrong understandings that “The law does not punish numerous offenders” and “Human relationship is overshadowing to the law”, and guide the general public to consciously abide by the law, turn to the law when they need assistance, and rely on the law to solve their problems. In general, “Improving the Chinese Socialist System of Laws with the Constitution at the Core”, “Accelerating the Building of a Rule of Law Government”, “Promoting Judicial Impartiality”, and “Comprehensively Promoting the Building of a Society Ruled by Law” proposed in the 13th Five-Year Plan are the basic tasks of advancing the rule of law and well-promoted in the practice of legislation, law enforcement, judicial practice, and law abidance, not only marking a satisfactory ending for the implementation of the 13th Five-Year Plan, but also providing valuable experience for formulating long-term goals and strategies for advancing the rule of law.

On the basis of summarizing the experience in implementing the goals and strategies for advancing the rule of law in the 13th Five-Year Plan, we should also fully identify some institutional loopholes and areas of weaknesses in the process of advancing the rule of law in China. In his speech at the 3rd Meeting of the Commission for Law-based Governance under the CPC Central Committee held on February 5, 2020, General Secretary Xi Jinping pointed out that we must improve the legislation related to epidemic prevention and control, strengthen the construction of the supporting system, improve the punishment process, strengthen public safety, and build a system of laws for effective epidemic prevention and control that are well conceived, fully built, procedure based, and efficiently functioning.¹³ General Secretary Xi Jinping clearly stated that in the above speech that there are still areas of weakness in institutional building in the field of epidemic prevention and control in China. In the important speech at the 12th meeting of the Commission for Further Reform under the CPC Central Committee on February 14, 2020, General Secretary Xi Jinping stressed that safeguarding the safety and health of the people is a major task of the Party to advance law-based governance. Immediate, science-based and targeted measures must be taken to stamp out the virus. Experience and lessons must be drawn to enhance preparedness in the future. Swift actions must be taken to address problems, plug loopholes, and reinforce weak links. He also emphasized the need to improve both the mechanism for preventing and controlling major epidemics

¹³ People's Daily (2020).

and the national public health emergency response system.¹⁴ Therefore, to summarize the pain points in the implementation of the 13th Five-Year Plan, at present, the most urgent task is to establish and improve the legal mechanism for response to public health emergencies as the focus of various tasks for advancing the rule of law while establishing the middle- and long-term goals and strategies for advancing the rule of law in the next step. We must strengthen the rule of law for public health, and comprehensively strengthen and improve relevant laws and regulations in public health sector, such as *Law of the People's Republic of China on the Prevention and Treatment of Infections Diseases*, *Law of the People's Republic of China on the Protection of Wildlife* etc. In order to safeguard people's health and national security and ensure long-term stability of the country, we must incorporate biosafety into the national security system, and carry out systematic planning for the establishment of a national biosafety risk prevention and control and governance system to comprehensively improve the country's biosafety governance capabilities. We must introduce the biosafety law as soon as possible and accelerate the construction of a national biosafety law and regulation system and an institutional guarantee system.

24.4 Work Priorities in Middle- and Long-Term Goals and Strategies for Advancing the Rule of Law

To realize integrated development of rule of law for the country, the government, and society as the middle- and long-term development goal and strategy for advancing the rule of law in the first stage by 2035, we must earnestly break down the middle- and long-term goals for advancing the rule of law. The *Decision of the CPC Central Committee on Major Issues Concerning Upholding and Improving the System of Socialism with Chinese Characteristics and Advancing the Modernization of China's System and Capacity for Governance* adopted the 4th Plenary Session of the 19th CPC Central Committee proposed that "We should uphold and improve the system of socialist rule of law with Chinese characteristics and improve the Party's capacity for law-based governance and law-based exercising of state power. Establishing a system of socialist rule of law with Chinese characteristics and building a socialist country under the rule of law are the intrinsic requirements for upholding and developing socialism with Chinese characteristics. We should keep to the path of socialist rule of law with Chinese characteristics, comprehensively advance law-based governance, and insist on pursuing coordinated progress in law-based governance, law-based exercise of state power, and law-based government administration and promoting the integrated development of rule of law for the country, the government, and society. We need to improve the mechanisms and institutions that ensure the full enforcement of the Constitution, improve legislative systems and mechanisms, improve the legal

¹⁴ Central People's Government (2020).

assurance for social fairness and justice; and intensifying oversight over the enforcement of laws.”¹⁵ To establish science-based and effective long-term goals and strategies for advancing the rule of law according to the above new tasks and requirements for comprehensively advancing the rule of law on the basis of earnestly summarizing the experience in implementation of the goals and strategic tasks for advancing the rule of law in the 13th Five-Year Plan, the key is to take into consideration all future development plans as a whole, especially the timetables, road maps and construction drawings of our drive to comprehensively advance the rule of law in the first stage by 2035, follow the guidance of General Secretary Xi Jinping’s important remarks on law-based governance and work to ensure sound lawmaking, strict law enforcement, impartial administration of justice, observance of law by everyone, law-based emergency response, law-based supervision, application of laws in matters involving foreign elements, and strengthening the rule of law through talent cultivation. With establishing the system of socialist rule of law with Chinese characteristics as the concrete goal, we will establish concrete goals and strategies for comprehensively advancing law-based governance. We must take the “rule of institutions” as the basic connotation of the rule of law, highlight the “institutional logic” of development of rule of law, shore up the weaknesses in the construction of legal system, and convert the advantages of rule of law as a fundamental way of law-based governance into the governance efficiency in the State’s governance capacity.

24.4.1 Major Objectives

We must follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly apply General Secretary Xi Jinping’s important discourses on comprehensively advancing law-based governance, exercise Party leadership at every point in the process and over every dimension of law-based governance, and be fully committed to promoting socialist rule of law with Chinese characteristics. We must pursue coordinated progress in law-based governance, law-based exercise of state power, and law-based government administration, and promote the integrated development of rule of law for the country, the government, and society. We must establish a Chinese system of socialist rule of law, and build a socialist country under the rule of law. We must focus on the overall goal of comprehensively advancing law-based governance, take establishing a system of socialist rule of law with Chinese characteristics as the concrete institutional path and action plan for building a socialist country under the rule of law, take building a socialist country under the rule of law as the policy direction and institutional requirement for establishing a system of socialist rule of law with Chinese characteristics, scientifically and effectively handle the dialectical relationship between establishing a Chinese system of socialist rule of law, and building a socialist country under the rule of law, promote the building of a socialist country based on the rule of

¹⁵ People’s Publishing House (2019, p. 14).

law through establishing a system of socialist rule of law, and promote the improvement of a system of socialist rule of law through building a socialist country based on the rule of law, to form a good pattern for law-based governance. By 2025, the overall framework of a system of socialist rule of law with Chinese characteristics will basically take shape, by 2035, a system of socialist rule of law with Chinese characteristics with a sound structure and more coordinated functions will be in place, and all basic institutions for comprehensively advancing law-based governance will be more mature and stable. On the basis of realizing the goal of building a law-based government by 2020, we will further improve the system of laws and regulations with Chinese characteristics, further improve the level and capacity for law-based government administration, strengthen institutional arrangements and systemization of rule of law, strengthen the construction of the rule of law supervision system, and form the synergy between various forms of rule of law supervision, initially establish a fair, efficient and convenient socialist judicial system, continuously strengthen the construction of the guarantee system for advancing the rule of law, and improve the effectiveness of the implementation of rule of law. The awareness of the rule of law of functionaries of state organs will be raised generally, a good rule of law environment and atmosphere will be basically formed in the whole society, and a culture of socialist rule of law will be initially fostered. The system of intra-Party rules and regulations will be improved, and a mechanism for coordinated operation and mutual promotion between the intra-Party rules and regulations and the Constitution and laws will be established to further promote the law-based and Constitution-based exercise of state power. The institutions and mechanisms for emergency response and supervision according to law will be formed, and the initiative, consciousness and enthusiasm of addressing major and complicated problems through thinking patterns of and approaches to the rule of law will be enhanced. The team of legal professionals will continue to expand, the training mechanism for personnel for enforcing the rule of law in matters involving foreign parties will be initially formed, great importance will be attached to the establishment of a legal system for extraterritorial application of Chinese laws, and the concept of application of laws to matters involving foreign elements will prevail among the people. China's legal service institutions cooperate with each other to provide more effective legal services and assistance to overseas Chinese institutions, enterprises, and citizens, and efforts will be stepped up to establish a legal affairs system for work involving foreign elements. The legal cooperation mechanism for the countries along the Belt and Road will gradually be established, and our efforts in actively exploring the path of rule of law for building a community of shared future for mankind will be highly valued by the whole society and attract extensive attention worldwide. We will step up efforts to establish a legal system for emergency response, foster the rule of law concepts in the state of emergency such as "disaster prevention according to law", "epidemic prevention and control according to law" and "emergency response according to law", continuously improve the ability of leading officials of Party and government organs at all levels to think and act under the guidance of the rule of law as they work to respond to risks, and further improve the level of emergency management of the Party and the government. We will advance the publicity and education of the *Civil Code of the*

People's Republic of China (hereinafter referred to as the “Civil Code”), making the main contents and basic spirit of the Civil Code be known to all people, and effectively safeguard personal rights and property rights of citizens according to the Civil Code. We will strengthen institutional building in special administrative regions, strengthen the construction of a legal system of national security for Hong Kong and Macau special administrative regions, effectively integrate the legal resources in the Guangdong-Hong Kong-Macao Greater Bay Area, and eliminate various barriers in the legal system to improve the unity of legal system. We will strengthen the legislative work in counter-terrorism and anti-division, learn to use legal means in our struggles against the enemy, and take blocking, **counter-measures** and other legal means to resolutely safeguard China's sovereignty, security and development interests, and enhance China's international discourse power in the practice of rule of law in the world.

24.4.2 Concrete Tasks

- (1) Building the system of socialist rule of law with Chinese characteristics on the premise of Constitutional implementation

Law-based governance and law-based exercise of state power begin with compliance with the Constitution. The Constitution defines the basic system and basic tasks of the state; and it is the fundamental law of the state and has supreme legal authority. To implement the basic principle of governing the country by law, it is first of all necessary to implement the Constitution in an all-round and thorough way. We must always make sure that the Constitution must serve as the legal basis for building the system of socialist rule of law with Chinese characteristics, establish the idea of the rule of law that upholds Constitution-based legislation, exercise of state power, exercise of judicial power, and supervision, incorporate the core role and basic status of the Constitution into all aspects of building the system of socialist rule of law with Chinese characteristics, and improve the institutions and mechanisms for comprehensive implementation of the Constitution.

We will establish and improve institutions and mechanisms for ensuring the Party's leadership over the implementation of the Constitution, and strengthen the unified leadership over comprehensive enforcement of the Constitution. The Commission for Law-based Governance under the CPC Central Committee is fully committed to advancing constitutionality review, ensuring that Party organizations at all levels and all Party members must act under the Constitution and laws, and coordinating the relationship between the Party's policies, rules and regulations and the Constitution and laws of the State to uphold the authority of the Constitution and laws. It promotes the establishment of a full-fledged legal system, will gradually carry out research on systemization of the Party's policies and the State's policies, and incorporates the

policy system into the scope of the system of socialist rule of law with Chinese characteristics to ensure the comprehensiveness and integrity of the system of socialist rule of law with Chinese characteristics.

We will strengthen oversight to ensure compliance with the Constitution, and uphold the authority of the Constitution. The National People's Congress and its Standing Committee must assume the responsibility for overseeing the Constitution and other laws, and strengthen the oversight and inspection to ensure compliance with the Constitution and laws. The NPC Standing Committee should include Constitutional enforcement as an important item in its annual work report. All sessions of the National People's Congress should review the report of the NPC Standing Committee on Constitutional enforcement and adopt a dedicated resolution on Constitutional enforcement. The Constitution and Law Committee of the National People's Congress should play an important role in advancing constitutionality review.

The Constitution should serve as the guiding principle for establishing a theoretical system for departmental laws and drafting and formulating regulatory documents. The basic rights and interests of citizens and the basic system of the state specified by the Constitution must be materialized through legislation so as to clearly specify the legal responsibilities of state organs in safeguarding the basic rights and interests of citizens and practically uphold the authority of the Constitution. Legal responsibility, effectively and effectively maintain the fundamental law of the Constitution as the fundamental law. We will establish a complete and logically uniform socialist system of laws with Chinese characteristics with the Constitution at the core, make clear the relationship between the Constitution and the Basic Law, further promote enforcement of the Constitution as the fundamental law in Hong Kong and Macau special administrative regions, safeguard China's sovereignty and security interests, and maintain the enduring stability of Hong Kong and Macau special administrative regions.

We will improve supervision mechanisms and procedures, and resolutely correct the acts that seriously violate the Constitution or other laws. The NPC Standing Committee should timely initiate the review mechanism for Constitutional violations and make the handling decisions openly. Local people's congresses and their standing committees should exercise corresponding powers and functions as prescribed by the law, and ensure compliance with the Constitution and other laws within the administrative regions. For acts that violate the Constitution, they must dare to make handling decisions with legally binding effect. When the State Council, the Supreme People's Court, the Supreme People's Procuratorate, or the standing committee of the people's congress at the provincial level finds that it is necessary to conduct constitutionality review of any law, regulation or rule under implementation while exercising their functions and powers endowed by the Constitution and laws, it should timely submit a request for constitutionality review to the NPC Standing Committee according to the relevant provisions of the Legislation Law, and the State Council, the Supreme People's Court, the Supreme People's Procuratorate, and the standing committee of the people's congress at the provincial level should incorporate the matter concerning submitting a request for constitutionality review to the NPC Standing Committee into

its annual work report, give full play its role in ensuring Constitutional enforcement and upholding the authority of the Constitution.

The Standing Committee and the Constitution and Law Committee of NPC as the supreme organ of state power, as well as related organs and departments, should thoroughly implement the deployments of the Party on advancing law-based governance and strengthening efforts to ensure and oversee the enforcement of the Constitution since the 18th CPC National Congress, especially those proposed at the 19th CPC National Congress, implement the mechanism of procedures for the interpretation of the Constitution, choose typical cases, initiate Constitutional interpretation, disclose causes for interpretation, respond to the practice of rule of law, solve constitutional controversies, and promote public education to uphold the authority of the Constitution. The NPC Standing Committee should, in the process of promoting systematization and institutionalization of Constitutional interpretation, step up efforts to distinguish the institutional functions between Constitutional interpretation and legal interpretation, and formulate the annual plan for interpreting the Constitution and laws to ensure effective exercise of its power in Constitutional interpretation and legal interpretation.

We will comprehensively advance constitutionality review. Constitutionality review is a key system that guarantees the effective enforcement of the Constitution. We must strictly implement the provisions of the Constitution, improve the mechanism for Constitutionality review with Chinese characteristics, and combine the constitutionality review in the legislation process and the constitutionality review after the enactment of a law to ensure that the acts that violate the legal provisions are corrected and investigated in time. We should seriously implement the guiding documents of the CPC Central Committee on advancing constitutionality review, and ensure that laws, administrative regulations, supervisory regulations, local regulations, judicial interpretations and other normative documents comply with the provisions, principles and spirit of the Constitution to ensure the unity of the legal system.¹⁶ We will improve the systems for documenting and reviewing regulations, rules, and other normative documents, incorporate all normative documents into the scope of recording and review, and resolutely abrogate or correct the normative documents that violate the Constitution or laws. On the basis of improving the mechanism for

¹⁶ “The Legislation Work Plan of the NPC Standing Committee for 2020” adopted in principle at the 44th Chairman Meeting of the 13th NPC Standing Committee on December 16, 2019, and revised at the 58th Chairman Meeting of the 13th NPC Standing Committee on June 1, 2020, clearly stipulates that supervisory regulations must be subject to constitutionality review. The work plan stipulates that we must conscientiously implement the guiding documents of the CPC Central Committee on advancing constitutionality review, and ensure that laws, administrative regulations, supervisory regulations, local regulations, judicial interpretations and other normative documents comply with the provisions, principles and spirit of the Constitution to ensure the unity of the legal system. Thus it can be seen that the work plan places supervisory regulations in a position parallel to administrative regulations, local regulations and other legal forms and lists it after administrative regulations but before local regulations, which fully reflects that supervisory regulations as an independent legal form have been included in the scope of constitutional review objects.

constitutionality review, we must properly handle the relationship between legitimacy and constitutionality, and continuously promote the work for constitutionality review.

We will further improve the system of pledging allegiance to the Constitution. We must conscientiously implement the Constitution, and improve the relevant legal system of pledging allegiance to Constitution, and incorporate all state functionaries appointed according to law into the scope of pledging allegiance to Constitution. We will improve the procedures for pledging allegiance to the Constitution, and uphold the solemnity and normalization of pledging allegiance to the Constitution. For the acts of pledging allegiance to the Constitution that do not meet the relevant provisions of the Constitution, we will formulate corresponding handling measures to pledge allegiance to the Constitution for the second time or cancel the qualifications. After pledging allegiance to the Constitution, the collective educational activities should be carried out to raise constitutional awareness among all state functionaries, urge them to abide by the principles of the Constitution, carry forward the spirit of the Constitution, perform the mission of the Constitution, and encourage and educate state functionaries to be loyal to the Constitution, comply with the Constitution, uphold the dignity of the Constitution, and ensure its enforcement. We will gradually advance the system of pledging allegiance to the Constitution for citizens, and establish a system of regular patriotic education for overseas Chinese.

We will enrich the forms of activities in the National Constitutional Day. We will launch the Constitution publicity week campaign, give full play to the extension effect of the National Constitutional Day on Constitution publicity, and ensure that Constitution publicity is deeply rooted among the people. We will prepare to build the National Constitution Memorial Hall, and promote the establishment of a variety of memorial halls, museums and cultural centers with the theme of the Constitution. We will expand means and space for Constitutional education and publicity activities, and promote the construction of venues and facilities for Constitutional education favored by the people, such as Constitutional libraries, Constitutional squares, and Constitutional tea halls.

We will strengthen Constitutional publicity and education in the whole society, raise Constitutional awareness among all the people, especially leading officials and state functionaries, promote the spirit of the Constitution, make the Constitution known to all, and foster a favorable atmosphere that all members of society respect, study, abide by, and apply the law. We should regard Constitutional education as an important part of our efforts in education and training of Party members and officials, and Party committees (leading Party members groups) at all levels should regard Constitutional education as a content of their regular educational activities so that leading officials and state functionaries can grasp the basic knowledge about the Constitution, and foster the consciousness of upholding the Constitution, abiding by the Constitution, and safeguarding the Constitution. Constitutional education will be included in the national education curriculum as a required course on the rule of law.

(2) Establishing a complete system of laws and regulations with Chinese characteristics

A complete and highly effective system of laws and regulations is an important symbol of rule of law in China, an institutional premise of comprehensively advancing law-based governance, and an important part of the system of socialist rule of law with Chinese characteristics. The socialist system of laws with Chinese characteristics is the core content of a complete system of laws and regulations, and we must accelerate to improve the Chinese socialist system of laws, at the heart of which is the Constitution. According to the principle of national sovereignty, we will establish unified principles and standards applicable to laws and regulations within all regions over which China has sovereignty and jurisdiction to ensure the smooth enforcement of the Constitution and Basic Law in Hong Kong and Macau special administrative regions, establish the coordination mechanism of solving the contradictions between the legal systems of the mainland and Hong Kong, Macao and Taiwan, and work out a framework for dialogue and interaction between both sides of the Straits. We will establish and improve the system to transform the international treaties and agreements into domestic laws upon approval by the NPC Standing Committee, clarify our compliance responsibilities as a signatory state to the international treaties and agreements, establish a legal mechanism for domestic enforcement of international laws, include the international treaties and agreements which China has joined into the system of laws and regulations with Chinese characteristics. For international treaties or agreements that China has approved and joined, we should timely formulate domestic laws to promote their implementation. For international treaties or agreements that have been approved and enacted but not been effectively reflected in domestic laws, they can be applicable directly in judicial adjudication procedures on the premise of being not incompatible with the Constitution and other laws. We will establish a system of laws and regulations with the socialist law system with Chinese characteristics at the core, supplemented by international treaties and agreements, and integrating the laws of Hong Kong and Macau special administrative regions that run parallel but not counter to the principle of national sovereignty, so as to provide the State with laws to go by in various tasks of comprehensively advancing the rule of law, and forming a complete system of laws and regulations.

We will further improve the socialist law system with Chinese characteristics, accelerate to make key departmental laws, introduce important laws to adapt to changes in the new situation, and ensure legislation and reform to go hand in hand. We will accelerate legislation in key fields, such as social construction, ecological protection, and national security, revise the organic laws of national legislature and administrative organs, and amend the *Supervision Law* and the *Legislation Law* to clarify the National Supervision Commission's legislative power to formulate supervisory regulations and ensure that supervision is carried out according to law. In addition, the supervisory regulations are effectively included in the socialist law system with Chinese characteristics to ensure the unity of the legal system. We uphold the principle of law-based taxation and will speed up tax legislation, introduce the real

estate tax law and its supporting implementation rules, and accelerate the establishment of a taxpayers' rights protection system adaptable to the personal income tax payment system. We have attached equal importance to work regarding the enactment, revision, abolition, and interpretation of laws, improved the legal system of the socialist market economy and social governance, conducted comprehensive and systematic cleanup work after the *Civil Code* was enacted to guarantee the unity of the system of civil laws, and promoted the judicial interpretation of the *Civil Code* in its implementation. We will move faster to put in place a complete system of laws and regulations, introduce the first *Capital Law* and the regulations on celebration activities during the National Day as soon as possible, to ensure proper exercise of important legal functions such as political functions, cultural functions, and international functions of the capital. We will further strengthen the legislation in the field of national biosafety, introduce the national biosafety law as soon as possible, and establish a system of national biosafety laws and regulations to strengthening institutional guarantees. We will step up efforts to formulate the emergency law, improve the regulations on emergency responses and infectious disease prevention and control, and regulate the exercise of the government's emergency power to safeguard citizens' legitimate rights and interests in emergency state and provide effective institutional guarantees for emergency work through the rule of law.

In the process of establishing a complete system of laws and regulations, we must carry out lawmaking in a well-conceived and democratic way and in accordance with the Constitution and laws, improve legislative procedures and mechanisms, raise quality of legislation, scientifically distribute the legislative powers between the central and local governments, and form a complete system of laws and regulations to lay a solid legal basis for building a system of socialist rule of law with Chinese characteristics.

With Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the guidance, we must instill core socialist values into the whole process of enactment, revision, abolition, and interpretation of laws and regulations to ensure that the legislative orientation is more explicit, the requirements are more specific, and the measures are more powerful so as to fully integrate core socialist values into the socialist law system with Chinese characteristics, and build a common ideological and moral foundation for the concerted endeavor of the people of all ethnic groups.

We will improve the legislation system, strengthen the leadership of the Party over legislative work, and establish a system for the local Party committees of cities with subordinate districts to formulate intra-Party regulations, and match the legislative powers of cities with subordinate districts to ensure the coordination and unity between local regulations and local intra-Party regulations. We will improve institutions and mechanisms for the people's congresses that have the legislative power to lead the legislative work, strengthen and improve institutional building for government legislation, clarify the boundary of legislative power, and further strengthen the review and supervision over legitimacy and compliance of local regulations.

We will appropriately reduce the laws and regulations to be formulated under authorization of the State Council. Local legislative powers should be further delegated to counties and cities without subordinate districts. We should explore to

establish a mechanism for work liaison between of the Party committees and the people's congress, and a mechanism for linkage review of intra-Party regulations and the country's laws and regulations. After the local legislative powers are delegated to lower levels, it is necessary to prevent local regulations to become shelters for regional blockade and local protection. The system that local governments' rules should come into effect after filing should be gradually replaced by the system local governments' rules should come into effect upon approval by the people's congresses at the corresponding level and its Standing Committees.

We will establish a system for the standing committees of people's congresses to review the controversial provisions of draft laws and local regulations and vote article by article. We will improve the law and regulation cleanup and revision system and the law compilation system. We will establish a reporting system to explain the reasons and constitutional basis for law amendment, and try to avoid the practice that laws are bundled up for amendment. The number of amendments to the legal provisions that should be improved through legal interpretation should be reduced as much as possible. Amendments to laws should be re-released in conjunction with the texts. Amendments to concrete contents in the decision on a law must be reflected in the text of the law. We will standardize the system for issuance and release of laws and regulations, and improve the legislation formality system to ensure that the people can get easy access to laws and regulations and understand laws and regulations. The working bodies of the NPC Standing Committee should establish a data and information system to timely release the changes in the number of laws, and the State Council, local people's congresses that have the legislative powers and their standing committees, as well as the ministries and commissions under the State Council, should timely release to the public the information on the number of administrative regulations, local regulations, rules of the ministries and commissions under the State Council, and local governments' rules, to accept necessary supervision of the public.

We will improve the system of requesting instructions and submitting reports for the major issues of principle on legislation. The major issues of principle concerning the drafts of important laws made by the relevant departments of the National People's Congress and drafts of local regulations should be reported by the leading Party members group of the people's congress to the Party committee at the corresponding level or to the leading Party members group of the people's congress at a higher level. While drafting laws and regulations, for the major issues concerning administration systems, principles, and policies, the relevant departments should report them to the government for decision making. Among them, the major principles and policies that should be decided by the Party committee at the corresponding level should be reported by the government to the Party committee at the corresponding level or to the leading Party members group of the government at a higher level for decision making. We will establish a legislative coordination system. For the controversial legislative issues, comments and recommendations should be proposed by the legislative review bodies, and reported to the legislature for decision making. Where a legislative dispute arises on division of functions and powers between state organs at the same level or at different levels, a request for constitutional or legal interpretation should be submitted by the organ superior to disputing organs to the NPC Standing Committee.

To improve the system of laws and regulations, we must pay attention to comprehensively improving the operability of laws, formulate basic laws in the field of departmental laws, and strengthen the formulation of other laws to materialize the basic laws to gradually form the subsystems of laws and regulations in different fields. We should pay special attention to the operability of local regulations, and strive to upgrade our country's laws and regulations. Through revising the *Legislation Law*, we will gradually clarify the special and shares local legislative powers as well as the functions and powers that local legislative bodies should not exercise, and further straighten out the relationship between the central and local governments in legislative authority.

We will give overall consideration to enactment, revision, abolition, and interpretation of laws, and establish a mechanism for self-improvement and timely updating of the legal system, and strive to realize the institutionalization and normalization of legislative cleaning-up. We will establish a system for real-time dynamic statistics and release of number of laws.

We will formulate national unified technical specifications on legislation, design and promote legislative technical software, and ensure that the technical level of legislative texts in structural layout, logical structure, language and characters, syntax, punctuation marks are continuously improved. We will establish national standard spoken and written Chinese language and a system for translation of texts in foreign languages, and publish those texts by publishers designated by the NPC Standing Committee. We will support the publication, distribution and promotion of terms in science and technology and terms in jurisprudence, and expand the communication-supporting role of jurisprudential terms in promoting the Chinese culture to go global.

We will establish an argumentation and technical support system for big data process projects of legislative data and information, and a legislative information, law enforcement information and judicial information sharing system. We will gradually develop an AI legislative service system to comprehensively improve legislative efficiency. We must regard the Constitution as an overall basis for making all laws, and promote the enforcement of the Constitution and laws through a complete system of laws and regulations. Where laws and regulations should be formulated according to the Constitution, the specific provisions or principled basis from the Constitution should be clarified. Nobody is allowed to formulate or promulgate any normative document with legal effect without the authorization by Constitution.

We will give full play to the role of the systems for recording review, legitimacy review, and abolition of laws to ensure the dynamic harmony of the system of laws and regulations from the perspective legislative institutions and mechanisms. The NPC Standing Committee will further strengthen the interpretation of laws, focusing on coordination with constitutional interpretation, and improve the legal interpretation mechanism and procedures. We will establish a mechanism for evaluation before and after legislation in which legislature, law enforcement agencies, experts, scholars, and the public will participate in evaluation to timely improve and amend the relevant laws and regulations and ensure the adaptability of laws.

We will put in place an action forcing mechanism to evaluate the legislative quality mainly based on law enforcement, law applicability and law use, and specify the obligations and responsibilities of administrative organs, supervisory organs, judicial organs and procuratorial organs to report to legislative issues in the process of enforcement and use of laws and regulations each year to the people's congresses at the corresponding level so as to continuously improve of the system of laws and regulations.

We will gradually improve the legislative judgment mechanism that lower-level laws must obey higher-level laws, unify the legislative basis for laws, regulations and rules, and put in place a system for degrees of legislative effect of lower- and higher-level laws in which legislative effect is judged based on the legislative basis. We will establish and improve the authorization mechanism for making laws and regulations, clarify the boundaries between legislation authorized by the legislature and laws and delegated legislation of provisions of laws and regulations, scientifically distinguish the relation between legal authorization and legal entrustment, and establish a legislative authorization system with explicit terms of authorization.

We will strengthen the legal guarantees for the enforcement the Constitution and the Basic Law in the special administrative regions, and further expand the scope of laws directly applicable in the special administrative regions. We will take the promulgation of the *Law of the People's Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region* as an opportunity to urge the Hong Kong Special Administrative Region to complete the task of formulating and implementing the law of the Hong Kong Special Administrative Region according to Article 23 of the *Basic Law of the Hong Kong Special Administrative Region*, put in place a legal cooperation system to address the conflicts between the laws of Hong Kong and Macau special administrative regions, establish a system for linking the provincial local regulations in the mainland and the laws of the special administrative regions, and urge Hong Kong and Macau to "govern Hong Kong and Macau according to law".

We will accelerate the construction of a database of laws related to the countries along the Belt and Road, launch a national program to translate the laws of major countries in the world in which jurisprudential elites and scholars will participate in translation, apply for special support from national fiscal budgets, and complete the translation of the current effective laws in major countries in the world so as to promote the comprehensive and accurate services concerning the laws in countries where Chinese enterprises have invested so as to help China to advance the "Belt and Road" Initiative and Chinese enterprises to go global. We will deepen the research on and introduction to foreign laws, actively and effectively respond to the various legal issues concerning extraterritorial application of foreign laws and Chinese laws, strengthen cooperation in the legal field, and advance the practice in international rule of law.

- (3) Establishing an efficient system for enforcing the rule of law to effectively combine law enforcement, judicial practice and law abidance

The key to building a system of socialist rule of law with Chinese characteristics lies in law enforcement. The life of the Constitution and laws lies in their enforcement.

The building of a full-fledged legal system should be guaranteed by an efficient law enforcement system. “Laws can’t enforce themselves.” If laws and regulations are not effectively enforced and fail to become rules of conducts for people in practice or tools for solving people’s interest disputes, they will have no practical significance. To establish a highly effective system of rule of law, state organs, such as administrative, supervisory, judicial and procuratorial organs, are earnestly fulfilling the powers and functions specified by the Constitution and laws to ensure the effective implementation of the principles of law-based and Constitution-based governance. Law-based and Constitution-based government administration and judiciary aim to ensure an efficient connection between law enforcement and judiciary and between supervisory and procuratorial work, strengthen cooperation in judicial and procuratorial areas, maintain an orderly interaction between different links of enforcement of rule of law, and ensure simultaneous advancement of various activities for enforcing the rule of law to maximize the efficiency of enforcement of rule of law, and ensure efficient government administration and judiciary.

The system for enforcing the rule of law is an important part of the system of socialist rule of law with Chinese characteristics. It is the systematization and theoretical sublimation of law enforcement. Compared with law enforcement, the system for enforcing the rule of law lays more emphasis on the quality of law enforcement activities and the building of institutions and mechanisms for law enforcement, and pays more attention to the role of the spirit of rule of law in law enforcement. The system for enforcing the rule of law can be expressed as an organic integrity of institutions and mechanisms for enforcing laws through thinking and acting under the guidance of the rule of law. The system for enforcing the rule of law emphasizes the need to raise China’s overall capacity of law-based governance the joint efforts of the legislature, law enforcement agencies, the judiciary and the public. Coordinated progress has been made in advancing the development of the system of laws and regulations, the system for enforcing the rule of law, the system for overseeing the rule of law, and the system for guaranteeing the rule of law.

To establish and improve the system for enforcing the rule of law, we must step up efforts to ensure that the requirements on law enforcement, judicial practice and law abidance proposed at the 18th CPC National Congress, the 3rd, 4th and 5th Plenary Sessions of the 18th CPC Central Committee, the 19th CPC National Congress, and 2nd, 3rd and 4th Plenary Sessions of the 19th CPC Central Committee. In terms of law enforcement, all law enforcement activities should have a legal basis and a Constitutional basis, and efforts should be stepped up to avoid the problem of conflicting laws and policies from different departments. Efforts should be stepped up to prevent any abuse or overstepping of power, enforce laws in accordance with the legal procedures, and pay attention to the unity of rationality and legality as well as motivation and effect of law enforcement. In terms of judicial practice, we must improve the system to ensure that the judicial and procuratorial organs exercise adjudicative and procuratorial powers independently and impartially in accordance with the law, optimize the distribution of judicial power, promote strict administration of justice, implement dynamic management under the quota system, ensure public participation in judicial practice, and strengthen judicial protection of human rights

and oversight over judicial activities so as to ensure that the people can see in every judicial case that justice is served. In terms of law abidance, we must view efforts to promote universal understanding and observance of the law as long-term and foundation initiatives for enforcing the rule of law, intensify publicity and education to raise public awareness of the law, launch a national month of action for publicity and education on the *Civil Code*, carry out extensive activities to raise public awareness on main contents and basic spirit of the *Civil Code*, and raise the public's capacity and level to actively and effectively safeguard their legitimate rights and interests according to the *Civil Code*. Through efforts to raise public awareness of the law, we will spread the spirit of socialist rule of law throughout our society, develop a socialist culture of rule of law, enhance the enthusiasm and initiative of all members of society to act in strict accordance with law, give to play the "head goose effect" in law abidance, guide the general public to consciously abide by the law, turn to the law when they need assistance, and rely on the law to solve their problems so as to create a social atmosphere in which people feel that it is honorable to abide by the law and disgraceful to break it and see that all people show respect for the law and act consciously to observe it.

According to the policy requirements for completing the building of a government under the rule of law by 2020, we will promote the integrated development of rule of law for the country, the government and the society, and take effective measures to accomplish this medium- and long-term goal of advancing the rule of law. The level and capacity of law-based government administration will be generally improved, and a sound index system for building a government under the rule of law will be in place. The recognition of citizens, legal persons, and other administrative counterparts for the rule of law will be improved year by year, efforts will be made to maintain a value balance between perception of state organs on the government under the rule of law and recognition of the public for the government under the rule of law to promote the integrated development of rule of law for the country, the government and the society.

We will boost development of a government based on the rule of law, improve the mechanism for decision-making according to law, deepen the reform of the administrative law enforcement system, and improve the constraint mechanism for leading officials of the Party and government for fulfilling their responsibilities in advancing the rule of law as first responsible persons.

Government functions and positioning will be further clarified, and the negative list governance mode will be gradually promoted. The service concept of limited government will be established, and safeguarding citizens' rights should serve a reasonable boundary of duty performance of the government to improve the efficiency of reforms to streamline administration and delegate power, improve regulation, and upgrade services. Governments and civil servants' willful exercise of power will be effectively contained.

We will promote the building of a law-based government, and focus on identifying institutional barriers, promoting innovation in governance modes, adopting unified administrative procedures, and effectively solving administrative disputes. We will

further deepen the reform of the administrative legislation system; ensure the connection between laws made by the people's congresses and those by the governments, properly handle the relationship among the Party's leadership, democratic decision-making and administrative decision-making; improve the level of rule of law for administrative organs, continuously promote the rule of law for establishment and staffing of administrative organs, and build a sound legal system for administrative organs; make innovations in supervision methods, adapt to new economic models such as a sharing economy, formulate administrative regulations on data safety and government information regulations for the purpose of credit management, integrate the effective supervision system, and establish a government-led block chain development mode combining power and function endowment; strengthen the role of AI technology in promoting law-based government administration and improving administrative efficiency, and continuously optimize administration methods and means; strengthen the rule of law for administrative procedures, promulgate administrative rules and unified administrative procedures; ensure transparency in all government affairs; ensure effective connection between administrative reconsideration and administrative litigation, and establish a dispute resolution system with administrative reconsideration as main approach, supplemented by administrative litigation, administrative mediation and other dispute resolution approaches to effectively resolves social disputes; constantly improve the capacity of public participation, and promote vigorous development of social organizations to promote the building of a law-based society; cultivate a power team of people who have a full understanding of laws, and strengthen the quality of grassroots legal services; further deepen civil servant classification reforms, fully implement the requirements of the *Law of the People's Republic of China on Administrative Disciplinary Actions for Public Officials*, and strive to improve the mechanism for job security, supervision and accountability of civil servants so as to improve the administrative service capabilities of civil servants as a whole.

We will establish procedures and mechanisms for strict law enforcement. Laws must be strictly enforced, and law enforcement must be strengthen in key sectors such as ecological and environmental protection, Internet crime, data security, AI security, etc. as well as areas vital to the immediate interests of the people such as food and drugs, land acquisition and demolition, endowment security, medical insurance, education reform, health protection, etc. We will strengthen law enforcement, and foster a powerful law enforcement force to ensure law-based government administration. We will focus on addressing administrative monopoly, eliminate administrative hindrance to the fair market competition order, strive to establish an administrative dispute resolution, and strengthen public participation and rule of law in petitions.

We will strengthen Internet supervision, maintain a good order in cyberspace, strengthen rule of law in network management, and safeguard citizens' rights in cyberspace and enterprises' rights to online operations. We will respect cyber sovereignty and data sovereignty, protect personal data information from being infringed on, prevent lopsided development of data ecology and excessive monopoly data form, create an efficient and secure online government, establish a scientific data opening and sharing system, and continuously promote technology progress.

We will strengthen consular protection for overseas interests, establish a “global one-hour legal service network” integrating various resources such as government, universities and enterprises, establish a system of legal counselors for embassies and consulates abroad, further protect the legitimate rights and interests of overseas Chinese citizens, and overseas Chinese, and raise the legal awareness in application of laws in matters involving foreign elements, improve the legal protection mechanism for diplomatic activities and consular protection according to law, and safeguard marine rights and outer space security.

Judicial trial is the most important and last link in advancing the rule of law. We should improve the efficiency of judicial trial, uphold a unified dialectical relationship between judicial impartiality and high efficiency, and establish a judicial system commensurate with the full-fledged system of laws and regulations. We will give to play the important role of mediation, arbitration and other mechanisms in resolving social contradictions and social disputes, focus on pre-pleading and pleading mediation, fully respect the wills of the parties concerned, strictly crack down on all kinds of fraud litigation, and ensure that cases should be filed as long as they are in existence, and the suits in them should be processed as long as they are in existence so as to ensure that the parties concerned enjoy complete sufficient rights or remedies provided by law and the right to accept fair trials or referees.

During 2020–2035, to realize the integrated development of rule of law for the country, the government, and society, we should give to play the important institutional functions of judiciary in advancing the rule of law. The judicial reform should shift from reform of institutions and organizational forms to change of distribution of judicial powers and responsibilities and judicial functions. The judicial reform aims to accomplish the following tasks. We will continue to fulfill the basic tasks of judicial reform proposed at the 18th CPC National Congress, the 3rd and 4th Plenary Sessions of the 18th CPC Central Committee, the 19th CPC National Congress, and the 2nd, 3rd and 4th Plenary Sessions of 19th CPC Central Committee, and pay close attention to the implementation of reform measures with the judicial responsibility system as the core. In the judicial reform, new measures should be adopted to step onto a new stage, the reform of staffing quota should be further deepened to ensure effective operation of the dynamic selection mechanism to select those who are superior. To meet the requirements of judicial reform, we will timely revise relevant laws, and formulate the law on legal supervision by the people’s procuratorates to ensure the smooth implementation of judicial functions. To meet the requirements for reforming the national supervisory system, we will coordinate the relationship between the supervisory system and the judicial system, establish and improve the relevant legal system, strengthen the supervision role of the NPC on the supervisory committees, promote effective cooperation and check among the supervisory committees, public security organs, procurators and courts, and strengthen oversight over the legality of detention measures of supervisory committees and investigation of duty-related crimes and duty-related illegal acts to realize the rule of law for supervisory committees’ investigation of duty-related crimes and duty-related illegal acts. We will abolish trial supervision procedures, launch a pilot program for the third instance as the final or the fourth instance as the final, implement a system of “final

after two trials”, establish the systems of “final after three trials” and “final after four trials”, gradually link the trail of law system with legality review and constitutionality review mechanisms, strengthen the role of local courts in the application of local regulations, ensure the accuracy, scientificity, legality, and constitutionality of the application of laws in judicial procedures, and establish unified standards for the application of laws.

We will continue to deepen the judicial reform, improve the political position of the judiciary, further strengthen the core role of Party committees and CPC political and legislative affair committees in unified leadership over political and legal work, give full play to the important role of judicial organs in safeguarding national political security, cracking down against organized crimes, deepening the comprehensive reform in the political and legal field, and safeguarding the people’s lives and properties, and establish a system of parallel administrative ranks for chief leaders of supervisory organs, judicial organs and procuratorial organs and chief leaders of administrative organs in the national institution system. Through standardizing law enforcement and impartial administration of justice, we will improve the efficacy of laws and regulations, enhance the people’s confidence in judiciary, and improve the people’s sense of fulfillment in law-abiding. On the basis of reforming the trial-centered litigation system, we will further optimize the distribution of judicial powers with focus on the adjudication power. Among public security organs, procuratorates, courts, judicial organs and supervisory organs, the important position of courts’ adjudication power should be highlighted, and a mechanism for determining legal facts based on the evidentiary standards of judicial organs should be established.

Based on the judicial law and litigation characteristics of the big data era, cyber courts at different levels should be established. AI legal services should be introduced in judicial trials to continuously improve the efficiency of judicial activities. The judicial jurisdiction system for out-of-domain data should be established gradually to safeguard judicial sovereignty.

We will establish a new mechanism with parity of authority and responsibility for the exercise of judicial power. We will establish a system for unified flow and exchange of judicial and procuratorial personnel, unify the base salaries of judges and prosecutors, establish a research and visit system integrating paid leave, training, and professional promotion for judges and procurators, and further promote and improve mechanisms for exchange and appointment of judges and procurators with teaching staff and researchers from higher law schools. We will improve the mechanisms for division, cooperation and check on judicial power, and improve the systems of instance levels, judicial organization, and case jurisdiction. We will explore the establishment of people’s courts and people’s procuratorates that cross administrative divisions. We will strengthen job protection for judicial personnel, and improve the system for ensuring the independent and impartial exercise of adjudication and procuratorial powers in accordance with law. We will comprehensively advance the openness of adjudicative, procuratorial, police and prison affairs, establish a system of procuratorial hearings, and strengthen judicial security for human rights. We will strengthen supervision of judicial activities, and improve internal supervision

and check mechanisms for judicial organs. We will improve judicial organs' case-handling responsibility system to ensure that those who have handled a case assume full responsibility for it. We will strengthen the construction of facilities such as prisons and facilities for compulsory drug rehabilitation, community corrections, resettlement assistance and education, and judicial authentication.

We will accelerate the building of institutions and mechanisms involving law enforcement, judicial practice, and law abidance. The system for enforcing the rule of law is an important embodiment of law enforcement, and it mainly involves the requirements for building institutions and mechanisms for the implementation of the Constitution, law enforcement, judicial practice, and law abidance, and aims to establish institutions and mechanisms for law enforcement, judicial practice, and law abidance so as to ensure that law is enforced strictly, justice is administered impartially, and the law is observed by all.

The system for enforcing the rule of law aims to accelerate the building of systems and mechanisms involving the implementation of the Constitution, law enforcement, judicial practice, and law abidance. To enforce the rule of law smoothly, we should work to ensure all policies and orders are effectively implemented. Besides building systems and mechanisms for law enforcement, judicial practice, and law abidance, we should also coordinate our efforts for law enforcement, judicial practice, and law abidance to form a sound system for enforcing the rule of law. We will further clarify the legal boundaries between administrative law enforcement and criminal judicature activities, establish mechanism for integrating the legal responsibilities for administrative penalties and criminal punishment, combine conscious law abidance with law enforcement and judicial practice to promote law enforcement and judicial practice to step onto a new stage. We will establish coordination and resolution mechanisms for contradictions and disputes between law enforcement and judicial practice, strengthen oversight over civil procuratorial and administrative procuratorial work and general legal supervision, and maintain organic coordination and synergy between law enforcement and judicial work.

(4) Establishing a stringent system to oversee the practice of the rule of law

The system for overseeing the practice of the rule of law is an important part of the system of socialist rule of law with Chinese characteristics. It covers the supervision in the political sense of ensuring the people's position as masters of the country, and the supervision prescribed by the Constitution and other laws by specific supervisory subjects to perform supervision duties on specific supervised objects in accordance with statutory authorization. In a broad sense, the ruling Party's internal political supervision is also an important factor in the system for overseeing the practice of the rule of law. Through the political supervision within the Party, the Party's political building is promoted, and the Party's effective leadership over all aspects of the work of comprehensively advancing the rule of law according to law is ensured. The system for overseeing the practice of the rule of law is based on all undertakings of comprehensively advancing the rule of law. It is not confined to the level of the legal supervision system, and its connotation and extension are far greater than the legal supervision system, and are not merely limited to the supervision over law enforcement.

The system for overseeing the practice of the rule of law consists of intra-Party supervision, supervision by people's congresses, democratic supervision, administrative supervision, judicial supervision, supervision through auditing, social supervision, and supervision through public opinion. The above eight aspects of supervision cover in essence both political supervision and legal supervision. Among them, intra-Party supervision, democratic supervision, social supervision, and supervision through public opinion mainly belong to supervision in the political sense, and supervision by people's congresses, administrative supervision, judicial supervision, and supervision through auditing belong to the authorized supervision prescribed by the Constitution and other laws. Supervision duties must be strictly performed in accordance with the supervisory powers, supervision matters, and supervision procedures prescribed by the Constitution and other laws. Procuratorial organs, as specialized legal supervision organs prescribed by the Constitution, should exercise supervision over civil, criminal, and administrative cases, safeguard the authority of the Constitution and the law, urge to formulate a law on legal supervision to ensure procuratorial organs to exercise their legal supervision powers, and strengthen institution building for "supervision according to law".

The system for overseeing the practice of the rule of law, as an important part of the system of socialist rule of law with Chinese characteristics, has its own characteristics. First, the system for overseeing the practice of the rule of law regards all aspects of comprehensively advancing law-based governance as a systematic program, involves supervision over the whole process and all aspects of comprehensively advancing law-based governance. The scope of supervision includes legislation, law enforcement, judicial practice, law abidance, etc., as well as intra-party supervision and supervision by the people over all aspects of comprehensively advancing law-based governance through democratic channels. Second, the system for overseeing the practice of the rule of law emphasizes mutual cooperation and formation of synergy between various forms of supervision. Regardless of supervision in the political sense or supervision in the legal sense, in essence, all aspects of supervision must be centralized and unified to the Party's leadership over all aspects of comprehensively advancing law-based governance, and all forms of supervision must reinforce each other and should not diminish each other, and must fulfill their own duties and responsibilities. Third, the core work of the system for overseeing the practice of the rule of law is to ensure the establishment and effective operation of the system of socialist rule of law with Chinese characteristics. In various forms of supervision, the people's congresses at all levels and their standing committees, as organs of state power, exercise supervision over the implementation of the Constitution and legal activities by the people's governments, the supervisory committees, the people's courts, and the people's procuratorates in accordance with the Constitution and other laws. This is the most important link in the system for overseeing the practice of the rule of law, and it is necessary to give full play to the role of the people's congresses as the commander-in-chief. Fourth, the construction and systematization of the system for overseeing the practice of the rule of law should be included in all aspects of work for advancing the rule of law to prevent acts of privilege seeking. The supervision organs of Party committees and discipline inspection commissions at all

levels should strengthen self-supervision, prevent the phenomenon of “dark under lights”, and effectively institutionally solve the theoretical and practical difficulties of “supervisors being supervised”.

We will further give play to the institutional functions of supervisory commissions at all levels as anti-corruption organs of the Party and the state, constantly improve the work mechanisms for co-working of Party and government organs and join case handling by discipline inspection and supervisory organs, highlight the characteristics of “personnel supervision” of supervision by supervisory organs. Supervisory organs at all levels should closely cooperate with the organizational and personnel departments of work affiliations of objects of supervision, and adopt an official supervision mechanism that combines general supervision with targeted supervision, and personnel supervision of organs and supervision of disciplinary inspection commissions and supervisory organs complement and cooperate with each other. We will further give play to the institutional functions of disciplinary inspection commissions and supervisory organs as anti-corruption organs of the Party and the state, effectively combine political supervision, legal supervision with official and personnel supervision, move faster to formulate supervision laws and regulations, gradually form a system of supervision laws and regulations, further coordinate the relationship between supervisory organs and people’s procuratorates, relationship between supervisory organs and people’s courts, and relationship between people’s procuratorates and people’s courts, pay attention to the coordination and cooperation between procuratorates and supervisory organs in overseas fugitive repatriation and asset recovery, and strengthen legal supervision and power check for discipline inspection, supervision, and anti-corruption work. We will institute a strict rule of law supervision system in which supervision over organs and supervision over personnel cooperate with and complement each other, straighten out the relationship between various forms of supervision in the system to oversee the practice of rule of law, pay attention to strengthening the constitutionality and legality review of supervision laws and regulations, highlight the core position of the Party in supervision over all undertakings, further improve the effectiveness of rule of law supervision, and comprehensively advances the implementation of the Constitution and laws through rule of law supervision.

- (5) Establishing a robust system to guarantee the rule of law with focus on building a rule of law society and a rule of law culture

The system to guarantee the rule of law is mainly aimed at the efficiency and effectiveness of rule of law. From the perspective of all links of comprehensively advancing the rule of law, guaranteeing the rule of law is a supplementary factor, but it also has its own independent function. First of all, the work of guaranteeing the rule of law should serve the overall situation of advancing rule of law. To establish a sound system of laws and ensure its effective operation in practice, a country must create an institutional atmosphere and social environment and foster a legal culture for safeguarding the enforcement of the Constitution and other laws from different aspects such as policies, leadership system, organizational management mode, rule of law

environment, and public legal awareness. Guaranteeing the rule of law is the institutional prerequisite for effectively carrying out all initiatives to comprehensively advance the rule of law, and through establishing a sound system to guarantee the rule of law, we can ensure that the goals of comprehensively advancing the rule of law are attained as scheduled. Building a system to guarantee the rule of law is an important task of building a system of socialist rule of law with Chinese characteristics. Second, the goal of guaranteeing the rule of law is clarified. That is, to provide necessary conditions, including human, financial and material resources, institutions and mechanisms, for all initiatives to advance the rule of law so as to promote the smooth and effective development of rule of law. The rule of law guarantee for legislative work includes providing funds for legislative research, hiring legislative experts to participate in legislative consultation, Party committees at all levels attaching importance to legislation and giving necessary support to legislative work, establishing scientific and standardized legislative procedures to improve the quality of legislation, the legislature gradually increasing the service of public legal advisers, strengthening the role of external legislative forces in supporting the legislative organs to improve their legislative capacity, and so on. To do a good job in advancing the rule of law, it is not enough to rely solely on the efforts of the judicial organs themselves, and it is necessary to provide full and effective guarantee conditions for rule of law activities in many aspects. Finally, the system for guaranteeing the rule of law can condense the functions of various rules of law guarantees, and form a guarantee synergy to improve efficiency and efficiency.

The constituent elements of the system to guarantee the rule of law can be understood from different perspectives. In terms of modes and contents of rule of law guarantee, the system involves guarantee of objective conditions such as human, financial and material resources, guarantee of institutional norms, guarantee of organizational system, guarantee of social environment and rule of law culture, and so on. In terms of concrete areas of rule of law guarantee, the system involves guarantee in areas such as legislation, law enforcement, judicial practice, law abidance, talent cultivation, application of laws in matters involving foreign elements, emergency response, supervision, legal education, rule of law publicity, international legal exchanges, and so on. In terms of connection between rule of law guarantee conditions and objects of guarantee, the system covers rule of law guarantee of necessary conditions, rule of law guarantee of sufficient conditions, rule of law guarantee of sufficient and necessary conditions, and so on. In short, the system to guarantee the rule of law aims to increase the efficiency and effectiveness of comprehensively advancing law-based governance through systematization of rule of law guarantees.

At present, China's rule of law guarantee work is in the exploratory stage. In order to improve the role of rule of law guarantees in comprehensively advancing law-based governance, and to raise the ability and level of rule of law guarantees through systematization, we must focus on improving the system to guarantee the rule of law from the following four aspects. First, Party committees at all levels must earnestly improve their ability and level of law-based governance to provide robust political and organizational guarantee for comprehensively advancing law-based governance. Second, we must build a special contingent of personnel for enforcing the rule of

law and a contingent of legal service personnel, and strengthen institutional building and funding guarantees to provide solid talent guarantees and material conditions for comprehensively advancing law-based governance. Third, we must reform and improve institutional mechanisms that do not conform to the law of rule of law and are not conducive to advancing law-based governance, and provide a sound institutional guarantee for comprehensively advancing law-based governance. Fourth, we must strive to foster a sound social atmosphere in which members of society conduct their business according to the law, turn to the law when they require assistance, and rely on the law to solve their problems and resolve contradictions, improve mechanisms to reward people for good faith when they abide by the law and punish them for bad faith when they break it, so that respecting, believing in and abiding by the law will become the shared pursuit and conscientious actions of the whole society of all the people.

Rule of law guarantees should be rooted in the building of a rule of law society and help to form a sustainable rule of law atmosphere and rule of law culture conducive to comprehensively advancing law-based governance. We must advance the building of a society ruled by law, prevent risks, resolve contradictions, safeguard rights and interests in accordance with the law, act faster to establish a social governance model based on collaboration, participation, and common interests, and develop a socialist culture of rule of law.

We will promote multi-tiered law-based governance in all respects, and improve the level of rule of law in social governance. We will step up efforts to foster a culture of rule of law, promote the spirit of the socialist rule of law, raise awareness of respecting, studying, abiding by and applying laws of their own accord in the whole society, especially public servants, create a good atmosphere for the rule of law, and cultivate rule of law customs in the whole society. In the next stage, we will strengthen efforts to accomplish the remaining tasks proposed in the 7th Five-Year Plan for law popularization, conscientiously evaluate and sum up the achievements and experiences made in the 7th Five-Year Plan for law popularization, further improve the quality of the work in the 8th Five-Year Plan for law popularization, incorporate publicity and education on the rule of law into the national education system, keep adequate credit records regarding citizens and organizations' compliance with the law, and give full play to the leading role of the critical minority in studying, abiding by and applying laws of their own accord. We will introduce a robot system with legal service functions to improve the efficiency of publicity and education on rule of law and law popularization. We will improve the legal service system, strengthen the training of legal personnel and legal service personnel with lawyers at the core, gradually give play to the core role of Chinese lawyers in application of laws in matters involving foreign elements, advance the building of a public legal service system covering urban and rural residents, and improve the legal aid and judicial aid systems.

Efforts should be made to create a favorable atmosphere for the rule of law in the whole society where people turn to the law when they need assistance, and rely on the law to solve their problems.

To build a society ruled by law, the people should be encouraged to actively participate in social governance in accordance with the law; promote governance and autonomy according to law; promote the development of social organizations and expand the rights of social subjects. We should give full play to the core role of the *Civil Code* in building a rule of law society, increase public knowledge of the *Civil Code*, and make the civil relations between equal civil subjects established by the *Civil Code* the basis for the rule of law to coordinate various social relations. We will establish residents' legal service stations based on rural and urban communities, and strive to realize a free sharing mechanism for legal consultations and legal services for residents using intelligent service systems. The self-governance function of villagers' committees and residents' committees will be strengthened in primary-level governance. We will promote the development of mass organizations, and constantly improve the rights of members of mass organizations and the legal protection system for them.

- (6) Instituting a linkage review mechanism for Party's regulations and State laws and regulations based on the Party Constitution and the Constitution

The 4th Plenary Session of the 18th CPC Central Committee proposed that we should step up efforts to establish a well-defined system of rules and regulations within the CPC. Party rules and regulations are a general term for the rules and regulations issued by the Party's central organizations, the Central Commission for Discipline Inspection of the CPC, Party committees of departments under the CPC Central Committee and the State Council, and Party committees of provinces, autonomous regions and municipalities directly under the central government to regulate the work and activities of Party organizations and behaviors of Party members. Party rules and regulations should only be formulated by the Party's central organizations, the Central Commission for Discipline Inspection of the CPC, Party committees of departments under the CPC Central Committee and the State Council, and Party committees of provinces, autonomous regions and municipalities directly under the central government, and no Party organization below the provincial level has the right to formulate Party rules or regulations. Party rules and regulations should be universally and repeatedly applicable within the Party. Party documents that are not universally and repeatedly applicable should not be regarded as Party rules or regulations. Party rules or regulations are secured by the Party discipline and mandatory and binding on the work and activities of Party organizations and behaviors of Party members.

The system of Party rules and regulations refers to the organic whole of all rules and regulations of the Party that are classified into several categories based on certain principles and standards as well as different adjustment objects and modes. The system of Party rules and regulations has three basic characteristics of unity, hierarchy and relative stability. Unity is the most prominent feature of the system. All Party rules and regulations follow the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, and are consistent in purposes, goals, values, principles and other aspects. The system of Party rules and regulations consist of rules and regulations at different hierarchical levels within the Party and has a distinct

hierarchical structure. The system of Party rules and regulations has relative stability within a certain period of time.

Since the founding of the People's Republic of China, especially since the reform and opening-up, to meet the needs of Party building in different historical periods, the CPC Central Committee has formulated and promulgated a series of Party rules and regulations, and initially put in place a system of Party rules and regulations with the Party constitution as the core, ensuring that there are rules and regulations to go by and basically realized that there are rules to follow in intra-Party conducts.

In the system of Party rules and regulations, the Party Constitution has the highest status and supreme efficacy, and is the basis for formulating other Party rules and regulations. Codes of conduct are important basic Party regulations in the system second only to the Party Constitution. Regulations are Party regulations specify comprehensive requirements on important relations in a certain field or important work in a certain aspect within the Party. Rules, measures, and detailed provisions specify concrete requirements on a certain aspect of the Party's work or matters. Rules mainly regulate the deliberative procedures and working methods of the Party's leading organs, and are usually divided into two categories: procedural rules and work rules. Measures mainly stipulate the methods and steps for carrying out a specific task.

In recent years, remarkable achievements have been made in building the system of Party laws and regulations. Meanwhile, we must also see that due to various reasons, there are still some prominent problems in building the system of Party laws and regulations. First, we still need to strengthen overall planning and coordination, and a relatively sound system has basically put in place in organizational building and enhancing the Party's capacity to fight corruption and uphold integrity, while the work in aspects such as Party's leadership, ideology and style of work is relatively lagging behind. Second, there are no fundamental regulations in some major areas, such as the work concerning the Party's leadership over people's congresses, the governments, judicial, procuratorial and public security affairs, and mass organizations, and the Party's publicity and organizational work. After some comprehensive Party regulations with high hierarchical levels were promulgated, supporting regulations have not been issued in a timely manner. Some Party regulations that are urgently needed in practice, such as Party regulations on oversight over chief leaders, prevention of decision-making mistakes, and increase of transparency in Party affairs, which are pressing concerns of Party members and the masses, have not yet been formulated, and the implementation, supervision, and guarantee system for Party rules and regulations still needs to be improved. Third, Party regulations and Party policies overlap from form to adjustment objects, and the problem of emphasizing policies while neglecting regulations has not been fundamentally resolved in practice, and it has not been effectively distinguished in jurisprudence, resulting in mixing of policies and regulations in practice.

Therefore, from the perspective of the medium- and long-term development goals and strategies for advancing the rule of law, we must move faster to put in place a system of Party rules and regulations and ensure that the goals and tasks of building the system of Party rules and regulations are achieved as scheduled.

We will strengthen overall planning and coordination. We will promote the development of the system of Party rules and regulations through systematic thinking, idea of overall planning, and scientific methods, properly handle the relationship between Party regulations and State laws, properly handle the relationship between quantity and quality, the part and the whole, adaptability and foresightedness, stability and flexibility of Party regulations, attach importance to both individual regulations and comprehensive planning; attach equal importance to formulation, revision and abolition; attach equal importance to basic regulations and supporting regulations; and attach equal importance to substantive regulations and procedural guarantee regulations. We should take into consideration China's basic conditions and draw on the good experience of other countries to ensure that the system of Party rules and regulations is full-fledged and covers all aspects of Party leadership and Party building, and create a powerful synergy for all Party rules and regulations.

We will act faster to promulgate basic regulations covering all aspects of Party building. We will revise the *Several Opinions of the CPC Central Committee on Strengthening the Leadership of the CPC over State Legislative Work* to standardize the work procedures for the Party's leadership over state legislation; revise and improve the *Regulations on Protection of the Rights of Party Members*, with focus on safeguarding Party Members' rights to be informed, to participate, to vote, and to oversee; revise the *Regulations on the Work of Rural Primary-level Organizations of the Communist Party of China* and the *Regulations on the Work of Primary-level Organizations of the Communist Party of China in State-owned Enterprises (SOEs)* (for Trial Implementation) to improve the work system for primary-level Party organizations; study and formulate regulations on talent work, and speed up the reform of the institutional mechanism and policy innovation for talent development; revise the *Regulations of the Communist Party of China on Intra-Party Supervision*, further improve the supervision mechanism, broaden the channels of supervision, and pool forces of oversight from all sides to make it more effective; study and formulate the *Regulations on the Institutional Guarantee for Ensuring Officials Do Not Dare, Cannot and Have No Desire to Engage in Corrupt Practices*, and further improve the systems and mechanisms to fight corruption; study and formulate the *Regulations of the Communist Party of China on the Handling of Cases by the Disciplinary Inspection Organs*, to further improve case-handling procedures, standardize case-handling measures, and improve the quality of case-handling.

We will act faster to put in place supporting regulations. While formulating basic regulations, we should promulgate supporting regulations as soon as possible to ensure the implementation of relevant Party regulations.

We will improve mechanisms for implementation of Party rules and regulations. First, we will formulate the *Measures for the Evaluation of Party Rules and Regulations after Implementation*, which stipulates the subjects, contents, methods, standards and steps for post-implementation evaluation of Party rules and regulations. This is conducive to timely grasping the implementation effects and existing problems of Party rules and regulations, and improving the quality of formulation work. Second, we will establish a system for synchronous abolition of Party regulations and

normative documents, and when formulating Party regulations and normative documents, we will comprehensively abolish the previous relevant provisions to maintain the harmony and unity of the system of Party rules and regulations.

We will improve the filing system for Party regulations and normative documents. In view of the problems existing in the filing work, we will improve the assessment and evaluation system for the filing work, increase the frequency of filing review and notification, increase the intensity of reminders to the filing organs, and strengthen the rigid constraints on the filing work. We will issue specific and operational filing and review standards, and promote the scientific and standardized filing and review work.

We will improve the system for guaranteeing Party rules and regulations. We will establish and improve the work organs of Party committees for Party rules and regulations, and maintain the relative stability of the team. We will strengthen training for Party rules and regulations, and improve the competence and level of personnel responsible for Party rules and regulations. We will guarantee the funds needed to carry out the work concerning Party rules and regulations.

In the process of continuously improving the system of Party rules and regulations, we should not only strengthen the coordination between Party regulations, but also pay close attention to the coordination between Party regulations and Party policies. We should study the contents, characteristics and institutional functions of the Party's policy system, pay attention to handling the relationship between Party regulations and State laws and regulations in accordance with the Party Constitution and the Constitution, and establish a linkage review mechanism for the compliance of Party regulations and the constitutionality and legality of State laws and regulations. We should clarify the relevance of Party policies with Party regulations and State laws and regulations, properly handle the interrelationship between Party internal regulations, Party policies, and State laws and regulations in accordance with the Party's leadership over legislation, and establish a well-conceived and efficient system of social rules and mechanisms for the application of Party regulations and state laws and regulations.

- (7) Strengthening the overall coordination of the socialist rule of law system with Chinese characteristics and comprehensively institutionalizing various tasks for advancing the rule of law

Building a system of socialist rule of law with Chinese characteristics is a complicated social program involving many fields and aspects such as legislation, law enforcement, judicial practice, law abidance, legal personnel training, application of law in matters involving foreign elements, legal supervision, and development of a culture of rule of law. As the focus of our efforts in comprehensively advancing law-based governance, building a system of socialist rule of law with Chinese characteristics is not only the general goal of comprehensively advancing law-based governance, but also an important institutional measure to build a socialist country under the rule of law, a form of institutional expression of a socialist country under the rule of law, and a concrete path to basically realize the integrated development of rule of law for the country, the government, and society. Before realizing the goal of advancing the

rule of law in the first stage by 2035, i.e., basically realize the integrated development of rule of law for the country, the government, and society, for various tasks of comprehensively advancing law-based governance, breakthrough progress must be made in building a system of socialist rule of law with Chinese characteristics to form an institutional framework for sustainable development.

In the two goals for comprehensively advancing law-based governance proposed at the 19 CPC National Congress, a system of socialist rule of law and a socialist country under the rule of law are mutually supportive. Building a socialist country under the rule of law must be premised on building a sound socialist rule of law system with Chinese characteristics, while building a system of socialist rule of law with Chinese characteristics is a symbol that a socialist country under the rule of law is built. The improvement of the rule of law system is the essential requirement of building a country under the rule of law, and the building of a rule of law system can advance the rule of law in China. To this end, we must pay close attention to the coordination and unity of building a system of socialist rule of law with Chinese characteristics and building a socialist country under the rule of law, while mutually reinforcing our efforts to build a country, government, and society based on the rule of law. We must comprehensively institutionalize various tasks of law-based governance in accordance with the law as a specific goal and action plan for building **a system of socialist rule of law** with Chinese characteristics. We must also grasp the rhythm of building a system of socialist rule of law with Chinese characteristics from the macro perspective of building rule of law in China, and ensure that the building of a system of socialist rule of law with Chinese characteristics adapts to the overall process of reform and opening-up and socialist modernization.

In addition, as a long-term development goal and strategy for advancing the rule of law, we should accelerate the training of a contingent of professionals for enforcing the rule of law. On May 3, 2017, General Secretary Xi Jinping emphasized when inspecting China University of Political Science and Law that “To strengthen the rule of law in the country, in its government and in society and achieve that laws must be legislated scientifically and enforced strictly, justice must be impartial, and the people must be law-abiding, we need to build a strong contingent of personnel for enforcing the rule of law. If we are unable to train a strong contingent of personnel for enforcing the rule of law, it is to advance law-based governance in an all-around way.”¹⁷ To train a high-caliber contingent of personnel for enforcing the rule of law, we should lay special emphasis on training personnel for enforcing the rule of law in matters involving foreign elements, build a global legal service network serving overseas Chinese enterprises and citizens, and coordinate the rule of law at home and abroad. We should accelerate the establishment of the legal system for extraterritorial application of Chinese laws, strengthen the training of personnel for enforcing the rule of law in matters involving foreign parties, establish a legal service system for foreign-related work, promote the formation and improvement of legal concepts of diplomatic work and consular services, actively develop foreign-related legal services, strengthen enterprises’ awareness in legal compliance, and guarantee and serve high-level opening-up.

¹⁷ People’s Daily (2017).

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Chapter 25

Medium- and Long-Term Goals, Strategies and Major Policies for Developing a Great Socialist Culture in China



Yanli Feng

Our country will thrive only if our culture thrives, and our nation will be strong only if our culture is strong. General Secretary Xi Jinping pointed out that: “Without a rich and prosperous culture, the Chinese nation will not be able to rejuvenate itself.”¹ Therefore, we must focus on developing a socialist culture with Chinese characteristics, developing cultural undertakings and cultural industries, inspiring the cultural creativity of our whole nation, promoting the scientist spirit, foster a culture of innovation, a rule of law culture and a green culture, and building a great socialist culture in China.

25.1 Research on the Profound Significance and Guiding Ideology for Developing a Great Socialist Culture in China in the Middle and Long Term

Culture is a country and nation’s soul. To build a great socialist culture in China, we must first carry out in-depth study, fully understand, and accurately grasp the profound significance and guiding ideology of building a culturally strong country and developing cultural undertakings and cultural industries in China.

¹ Xi (2019b).

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25.1.1 Research on the Profound Significance for Developing a Great Socialist Culture in China in the Middle and Long Term

General Secretary Xi Jinping pointed out that “The Chinese dream requires balanced development and mutual reinforcement of material and cultural progress. Without the continuation and development of civilization or the promotion and prosperity of culture, the Chinese dream will not come true.”² Building a culturally strong country and developing cultural undertakings and cultural industries has important practical significance in the middle and long term.

- (1) Provide spiritual motivation and intellectual support for the construction of modern power

Culture is the highlight of national spirit and the spirit of the times, and also an embodiment of a nation’s ideological value. Resuming the prosperity of the Chinese civilization is the great mission of the Chinese Communists in modern times, and the great goal of building China into a great modern socialist country with Chinese characteristics in the new era. In the middle and long term, developing a great culture is a cultural mission of the great rejuvenation of the Chinese nation, providing spiritual motivation and intellectual support for building China into a great modern socialist country. In the face of complicated domestic and international situations, building a culturally strong country and developing cultural undertakings and cultural industries not only helps to create a social atmosphere of upholding virtues and doing good turns, but also helps to improve people’s knowledge accomplishment, build development consensus, and condense the spiritual power of all people.

- (2) Conducive to ensuring coordinated implementation of the five-sphere integrated plan and the four-pronged comprehensive strategy

The five-sphere integrated plan and the four-pronged comprehensive strategy clarify the main contents and development goals of building a great modern socialist country with Chinese characteristics in the new era, initiate a new stage of governance for China, and provide important and basic guidelines for China’s economic and social development. As an important part of the five-sphere integrated plan, cultural advancement is also an important scale for measuring the implementation results of the four-pronged comprehensive strategy. Building a great culture in China from a new perspective and strategic height and forming cultural industries and cultural undertakings adaptable to economic and social development is conducive to ensuring coordinated implementation of the five-sphere integrated plan, providing strong spiritual support for the four-pronged comprehensive strategy.

- (3) Meeting the needs of the people’s growing beautiful cultural life

The 19th CPC National Congress pointed out that in the new era, the principal contradiction facing Chinese society has evolved. What we now face is the contradiction

² Xi (2014c).

between unbalanced and inadequate development and the people's ever-growing needs for a better life. In 2019, China's GDP was over US \$10,000 in per capita terms, and urban and rural residents' disposable income reached a new high. Meanwhile, with the continuous development of social productive force, people's consumption structure has also changed from material demands to increase the spiritual experience, and such transformation is the specific expression of "the people's ever-growing needs for a better life". Therefore, on the basis of completing the building of a moderately prosperous society in all respects by 2020, the key to continuously improve people's sense of happiness is to develop a great culture and develop cultural undertakings and cultural industries to meet the people's ever-growing cultural and spiritual needs for a better life.

(4) Improving the State's cultural soft power and overall competitiveness

General Secretary Xi Jinping pointed out that "through the ages, the development process of any large country is both a process of improving its hard strength, military power, etc., and a process of improving its soft power such as values, ideology and culture."³ Statistics show that China's GDP exceeded 99 trillion yuan in 2019, and China maintains the position as the second largest economy in the world. However, with regard to overall strength, there is still a gap between China's overall strength and that of some developed countries, which is mainly manifested in the fact that its soft strength competitiveness in "cultural undertakings, cultural industries and cultural systems" does not match its economic strength, which will inevitably restrict to a large extent the comprehensive improvement of China's national strength. Meanwhile, with the continuous deepening of the economic globalization process, Western hegemony will continue to promote cultural infiltration in China in a long period of time in future, threatening China's cultural security, so in future, China should consolidate the foundation of its cultural soft power, and build a great culture and improve its overall competitiveness.

(5) Conducive to promoting the well-rounded development of all our people and social civilization

General Secretary Xi Jinping pointed out that "fostering stronger confidence in the path, theory, system, and culture of socialism with Chinese characteristics is after all to strengthen confidence in our culture. Cultural confidence represents a fundamental, profound and sustainable force."⁴ A nation and country's cultural development determines the extent of its cultural confidence, and also determines its people's courtesy and social civilization. The level of people's courtesy and social civilization is the basic display of a nation's spiritual appearance and an important carrier of cultural confidence, which determines the quality of national economic development, affects the formation of a favorable social atmosphere, and has a bearing on the rise and fall of the whole country and nation. Therefore, the competition of comprehensive national strength among countries depends on the competition in culture and talents

³ Xi (2014a).

⁴ Xi (2016b).

in the final analysis. China should place building a great culture in a more important strategic position and enhances its competitiveness in culture and talents. This is an important move to improve the level of people's courtesy and social civilization, strengthen our consciousness of the need to maintain political integrity, think in big-picture terms, follow the leadership core, and keep in alignment with the central Party leadership, stay confident in the path, theory, system, and culture of socialism with Chinese characteristics, and uphold Comrade Xi Jinping's core position on the Party Central Committee and in the Party as a whole, and uphold the Central Committee's authority and its centralized, unified leadership.

- (6) Conducive to enhancing the attraction, appeal and influence of Chinese culture in the world

Each culture was formed and developed in a specific historic and social environment of a nation, and has its own advantages and disadvantages. The exchanges among different cultures in the world not only help a culture to absorb the merits of others but also enable it to contribute its wisdom and strength for the development of world civilization. Since the convocation of 18th CPC National Congress, China's international communication capacity has been continuously enhanced, and new international communication approaches are constantly adopted. The attraction, appeal and influence of the Chinese culture in the world have been significantly improved. A long period in future will be an important period during which tremendous changes will take place in the global governance system and a key period of China's increasingly approaching the central stage of the world. Only by building a culturally strong country and developing cultural undertakings and cultural industries can make the Chinese culture more prosperous, show to the world the charm of China as a major country, and thereby further handle China's affairs properly and further tell China's true stories.

25.1.2 Research on the Guiding Ideology for Building a Great Culture in China

In our endeavors for building a great culture in China in the middle and long term, we should follow the guidance of Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory, the important thought of the Three Represents, the Scientific Outlook on Development, and Xi Jinping thought on Socialism with Chinese characteristics for a new era because these are the basic guiding principles for the practice of building a great culture in China, affecting the direction and analysis of cultural development, solving the position, opinions, methods, and emphasizing the guiding ideology must always be clear, belief is firm.

- (1) Unswervingly following the guidance of Xi Jinping thought on socialism with Chinese characteristics for a new era

Since the 18th CPC National Congress, General Secretary Xi Jinping has delivered a series of speeches on building a culturally strong country and developing cultural

undertakings and cultural industries from the strategic height of rejuvenation of the Chinese nation, in which he put forward a series of new ideas and new requirements. The new moves related to developing a great socialist culture have been effectively implemented, great progress has been made in developing socialist cultural undertakings and cultural industries with Chinese characteristics, opening a new chapter in building China's cultural confidence and achieving cultural prosperity. This provides a strong theoretical support and practice foundation for building a culturally strong country and developing cultural undertakings and cultural industries in the medium and long term. Xi Jinping thought on socialism with Chinese characteristics for a new era was created on the basis of useful explorations on the laws that underlie governance by a Communist party, the development of socialism, and the evolution of human society. It is people-centered and problem-oriented, and based on benign interaction between theoretical development and practical innovation, it provides scientific guidelines for promoting the prosperity of the socialist culture with Chinese characteristics in the new era. In the next longer period, the external environment may be more complicated and full of uncertainties and challenges. In this period, to build a culturally strong country, we must unswervingly follow the guidance of Xi Jinping thought on Socialism with Chinese characteristics for a new era, consciously arm ourselves with Xi Jinping thought on socialism with Chinese characteristics for a new era, comprehensively implement the spirits of the 19th CPC National Congress, and the 2nd, 3rd and 4th plenary sessions of the 19th CPC Central Committee, and be fully committed to developing a socialist culture with Chinese characteristics.

(2) Upholding Marxism-Leninism, Mao Zedong Thought and the theoretical system of socialism with Chinese characteristics

As the guiding ideology of China's socialist construction, Marxism-Leninism, Mao Zedong Thought and the theoretical system of socialism with Chinese characteristics have constantly revealed and developed the laws that underlie governance by a Communist party, the development of socialism, and the evolution of human society, and naturally encompass the law of cultural development and construction. General Secretary Xi Jinping stated that "To develop socialist culture with Chinese characteristics means to develop a socialist culture for our nation—a culture that is sound and people-oriented, that embraces modernization, the world, and the future, and that both promotes socialist material wellbeing and raises socialist cultural-ethical standards. In developing this culture, we must follow the guidance of Marxism, base our efforts on Chinese culture, and take into account the realities of contemporary China and the conditions of the present era."⁵ We must unwaveringly uphold the guiding role of Marxism, which is the fundamental difference between the development path of socialist culture with Chinese characteristics and the development paths of the cultures of other countries. In a long period, when insisting on using Marxism-Leninism, Mao Zedong Thought and the theoretical system of socialism with Chinese characteristics to guide the building of a great socialist culture, "the most important thing is to adhere to Marxism's basic principles and the positions,

⁵ Xi (2017c, p. 44).

opinions and methods that runs through it”⁶ and explore the basic laws for building a culturally strong country and firmly stick to the right course for developing cultural undertakings and cultural industries.

- (3) Maintaining and improving a system that promotes cultural advancement under socialism so that the whole nation is united with shared beliefs and goals for the future

The 4th Plenary Session of the 19th CPC Central Committee proposed that “Developing advanced socialist culture and pooling people’s spiritual strength are a strong pillar of support for modernization of the national governance system and capacity. We must uphold cultural confidence, keep to the orientation of advanced socialist culture, inspire the cultural creativity of the whole nation, and foster a Chinese spirit, Chinese values and Chinese strength.”⁷ To build an advanced socialist culture of socialism, we must inherit and promote the fine traditions of the Chinese culture and the revolutionary cultural traditions formed after the May 4th Movement, absorb and learn from the world’s excellent cultural achievements, and reflect the spiritual pursuit of people of all ethnic groups under new historical conditions. It is a culture that always represents contemporary China’s development direction. In the future, we must uphold and improve the system of socialism with Chinese characteristics and continue to modernize China’s system and capacity for governance, which will be accomplished under the nourishing of the advanced socialist culture. To uphold and improve the system of socialism with Chinese characteristics, we must maintain and improve a system that promotes cultural advancement under socialism, including upholding the fundamental system that stresses the guiding role of Marxism in ideological fields, upholding the system that underscores the leading role of core socialist values in cultural construction, enhancing the system for guaranteeing people’s cultural rights and interests; improving and upholding the correct public opinion guidance system; establishing and enhancing a cultural creation and production system that puts social benefits in the first place and unifies social and economic benefit.⁸

- (4) Upholding a people-centered approach

General Secretary Xi Jinping pointed out that “To follow the guidance of Marxism, the core is to solve the issue that whom we serve.”⁹ Socialism with Chinese characteristics is socialism, not capitalism, and building a culturally strong country is to develop the advanced socialist culture with Chinese characteristics under Marxism, which fundamentally emphasizes and determines the direction of building a great socialist culture in the long term. The fundamental stance of upholding Marxism is to insist that to develop a strong socialist culture in China, we must always serve the people and represent the interests of the people. Specifically, in the work for

⁶ Xi (2016b).

⁷ *People’s Daily* (2019).

⁸ Same as above.

⁹ Xi (2016b).

propaganda on ideology, we must uphold the unity of the Party spirit and the affinity to the people. In literary and artistic works, we must give full play to the primary role of the people; in terms of measurement standards, the people's satisfaction should be the criterion. "When measuring the literary and artistic achievements of an era, we should lay emphasis on literary and artistic works. ... Writers and artists should keep in mind that creation is their own primary mission, works are the foundation to gain a foothold in the society, so writers and artists should settle down to create fine works and present the best spiritual food to the people."¹⁰

(5) Adhering to the new development philosophy

General Secretary Xi Jinping pointed out that "Our development must be sound development. We must pursue with firmness of purpose the vision of innovative, coordinated, green, and open development that is for everyone"¹¹ The new development philosophy indicates the development ideas, development direction and key points of development of China in the future. In the future, in building a culturally strong country, we must use the new development philosophy to guide the practice, use latest achievements in innovation to enhance the momentum of development, promoted coordinated development, optimize the development environment, improve the international influence through deepening opening up, promote healthy and sustainable development of cultural industries and undertakings, and foster a culture of innovation, a culture of rule of law and a culture of greed development, so as to provide strong ideological and cultural guarantees for fully building a modern socialist country.

25.2 Opportunities and Challenges in the Middle and Long Term

In the future, China has great opportunities in building a culturally strong country, mainly manifested as follows: in the 13th Five-Year Plan period, China has achieved significant achievements in cultural development, such as rapid development in core cultural fields, with an income increase of 10.8%, far higher than 3.3% of the growth rate of culture-related fields; huge achievements of economic development have laid a strong material foundation for cultural advancement; the Party and the State attach great importance and strongly support the building of a culturally strong country; digital cultural industries have achieved rapid development. However, China is also facing many challenges in building a culturally strong country, such as the influence of erroneous ideological trends, including Western cultural hegemony and cultural infiltration, new liberalism, historical nihilism and mismatched, democratic socialism, etc., lack of significant philosophy and social science journals, writings and scholars etc.

¹⁰ Xi (2016c).

¹¹ Xi (2017c, p. 21).

25.2.1 *Great Opportunities for Building a Culturally Strong Country*

The huge achievements of China's economic and social development and the people's strong demand for a spiritual culture provide great opportunities for building a culturally strong country in the medium and long term.

- (1) The tasks of cultural advancement in China have been basically accomplished during the 13th Five-Year Plan period, and the annual growth rate of cultural industries is significantly higher than that of GDP.

The tasks identified by the *Outline of the 13th Five-Year Plan for Cultural Reform and Development* have been basically successfully accomplished, China's cultural soft power has been further improved, the leading and cohesion role of Chinese dream is further enhanced, the socialist core values win stronger support among the people, people enjoy a richer cultural life, the breadth and depth of cultural participation continue to expand, and the quality of our people and the graciousness of our society are significantly improved. Particularly, the anti-corruption struggle has won an overwhelming victory, the political atmosphere keeps improving, and a sound political culture has gradually been formed.

In 2019, the operating income of enterprises in cultural and related industries above designated size nationwide amounted to 8662.4 billion yuan, an increase of 7.0% over the previous year in comparable terms, significantly higher than the GDP growth rate of 6.1% over the previous year.¹² Taking the operating income data of enterprises in cultural and related industries above designated size nationwide in the first three quarters of 2019 as an example, the core cultural fields achieved rapid development, with a growth rate of operating income of 10.8%, much higher than the growth rate of 3.3% in the culture-related fields; and the operating income in the core cultural fields accounted for 59.6%, an increase of more than 4.3% over the same period of the previous year. New cultural business types have grown rapidly, and new growth drivers were fostered at a quicker pace. By industry category, 16 categories with obvious characteristics of new cultural business types realized an operating income of 1532.4 billion yuan in the first three quarters of 2019, an increase of 21.3% over the same period of the previous year; accounting for 24.6% of total operating income of enterprises in cultural and related industries, an increase of 2.8% over the same period in the previous year. The proportion of cultural service industry has increased, and the industrial structure continued to optimize. In the first three quarters of 2019, the growth rate of the operating income of the cultural service industry was 12.4%, which was 8.2% and 7.0% higher than that of cultural manufacturing and cultural wholesale and retail industry respectively; the operating income of the cultural service industry accounted for 41.2%, an increase of 4.0% over the same period of the previous year, the percentage of operating income of cultural manufacturing and cultural wholesale and retail industries reduced by 3.6% and 0.4% respectively. The income-generating capacity of the cultural service industry

¹² The National Bureau of Statistics (2020b).

was continuously improved, providing strong support for the continuous optimization of the cultural industrial structure. The development of the central and western regions was gathering pace. In the first three quarters of 2019, the operating income of cultural and related industrial enterprises in the central regions and the western regions increased by 9.4% and 13.8%, an increase of by 0.8% and 1% over the same period of the previous year respectively, also higher than the growth rate of 6.7% in the eastern regions; and the operating income of cultural and related industrial enterprises in the central and western regions accounted for 14.2% and 9.2% respectively, an increase of 1.2% and 0.9% over the same period of the previous year.¹³

(2) Achievements of economic development laying a strong material foundation for building a culturally strong country

The rapid development of China's economic and social development naturally entails the prosperity of culture. In recent years, China's economic development achievements have not only won more say for the Chinese culture to go global, but also provide a solid material foundation for cultural development. With the continuous improvement of people's material life, they also have higher spiritual pursuits, requiring further adaptable cultural development in the next step. Only by whipping up a new climax of cultural development can China win the initiative in the fierce competition in comprehensive national strength.

According to the data of the National Bureau of Statistics, in January–June 2019, the national general public budgetary revenue and expenditure totaled 10,784.6 billion yuan and 12,353.8 billion yuan respectively, among which the expenditure on culture and education totaled 2399.7 billion yuan: education 1811.7 billion yuan; science and technology 427.6 billion yuan; culture, tourism, sports and media 160.4 billion yuan.¹⁴ In January–December, 2018, the national general public budgetary revenue and expenditure totaled 18,335.2 billion yuan and 22,090.6 billion yuan respectively, among which the expenditure on culture and education totaled 4406.6 billion yuan: education 3222.2 billion yuan; science and technology 832.2 billion yuan; culture, tourism, sports and media 352.2 billion yuan.¹⁵ In January–December 2017, the national general public budgetary expenditure totaled 20,333 billion yuan, among which the expenditure on culture and education totaled 4091.2 billion yuan: education 3025.9 billion yuan; science and technology 728.6 billion yuan; culture, tourism, sports and media 336.7 billion yuan.¹⁶ In January–December 2016, the national general public budgetary revenue and expenditure totaled 15,955.2 billion yuan and 18,784.1 billion yuan respectively, among which the expenditure on culture and education totaled 3778.9 billion yuan: education 2805.6 billion yuan; science and technology 656.8 billion yuan; culture, tourism, sports and media 316.5 billion yuan.¹⁷ Thus it can be seen that with the

¹³ The National Bureau of Statistics (2019).

¹⁴ The Department of Treasury of the Ministry of Finance of the People's Republic of China (2019a).

¹⁵ The Department of Treasury of the Ministry of Finance of the People's Republic of China (2019b).

¹⁶ The Department of Treasury of the Ministry of Finance of the People's Republic of China (2018).

¹⁷ The Department of Treasury of the Ministry of Finance of the People's Republic of China (2017).

increase in China's aggregate economic revenue, the overall investment in culture and education remained stable, but the total amount has gradually increased, and the economic development achievements provide a strong material foundation for building a culturally strong country.

- (3) The Party and the State attach great importance to and strongly support the building of a culturally strong country

General Secretary Xi Jinping stated that “Without full confidence in our culture, without a rich and prosperous culture, the Chinese nation will not be able to rejuvenate itself.”¹⁸ Since the release of the 13th Five-Year Plan, the Party and the State have attached great importance to the building of a culturally strong country in the overall planning of development.

The National Development and Reform Commission and the Ministry of Foreign Affairs jointly have issued the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road*, strengthening mutual learning among and civilizations and **people-to-people** exchanges, cultural dissemination, and innovation-oriented development of culture and trade with the countries along the Belt and Road.¹⁹ In order to fully implement the spirit of the important speech by General Secretary of Xi Jinping on literary and artistic work, based on the reality of literary and artistic work, the Ministry of Culture has promulgated the *Development Plan for Promoting the Prosperity of People's Literature and Art during the 13th Five-Year Plan Period*.²⁰ In order to accelerate the development of public digital culture, the Ministry of Culture issued the *Plan of the Ministry of Culture for Public Digital Culture Development during the 13th Five-Year Plan Period*.²¹ In order to cultivate new drivers for rural development and promote rural cultural tourism, the Ministry of Culture and Tourism and the related departments joint issued the *Guiding Opinions on Promoting Sustainable Development of Rural Tourism*.²² This provides a detailed plan and guidance for the development of culture and tourism industries so as to meet the needs of the people, improve the quality of their cultural life and enhance their sense of happiness.

- (4) Increasingly frequent international cultural exchanges and cooperation

Since the convocation of 18th CPC National Congress, China has actively introduced Chinese cultures to the rest of the world, cultural exchanges between China and other countries are constantly enhanced, and Chinese cultures are increasingly emitting their due charm in the world. The Chinese language is a carrier of Chinese cultures, and the rise of Chinese language craze/Mandarin fever marks that Chinese cultures have gone to the world. At present, the Chinese language has been included

¹⁸ Xi (2017c, pp. 40–41).

¹⁹ The Ministry of Culture and Tourism of the People's Republic of China (2016).

²⁰ The Ministry of Culture and Tourism of the People's Republic of China (2017a).

²¹ The Ministry of Culture and Tourism of the People's Republic of China (2017b).

²² The Ministry of Culture and Tourism of the People's Republic of China (2018).

by more than 60 countries, including the United States, Canada, etc., in their mainstream education systems, more than 40 million people overseas are learning and using Chinese, and the state leaders of many countries have ever spoken Chinese on the official occasions. Chinese national treasures such as dramas, calligraphy, tea ceremony, folk music, porcelain art, etc. have gone out of our country and favored and accepted by more and more countries and peoples in the world. China have held various large-scale cultural exchange activities such as National Year, Cultural Year, Art Festival etc. with a slew of countries, and the essence of fine traditional Chinese culture is increasingly recognized in the world. the “Belt and Road” Initiative has promoted closer contact between China and the countries along the routes, which has facilitated the spread of fine Chinese culture in the world and eliminated some Western countries’ misunderstanding and doubts about China. In the future, it is necessary to “try methods with new concepts, domains and expressions that are understood by both China and the rest of the world to better tell China’s stories and make the voice of China heard”²³ and continuously improve the influence of Chinese culture in the world.

(5) Rapid development of the digital cultural industry

In August 2017, the Ministry of Culture issued the *Development Plan for Promoting the Prosperity of People’s Literature and Art during the 13th Five-Year Plan Period*, which proposes that an open, compatible and efficient public digital cultural service system with rich contents and fast transmission speed adaptable to the modern public cultural service system will be basically in place. The growth rate of China’s cultural industry is twice as much as that of GDP during 2004–2017. In 2017, the added value of digital cultural industries was approximately 1.03 trillion to 1.19 trillion yuan (the same below), and the total output value was about 2.85 trillion yuan to 3.26 trillion yuan.²⁴ On August 3, 2019, the Institute of Oriental Culture and Urban Development under the Development Research Center of the State Council and the Chinese Culture Research Center of the Chinese Academy of Social Sciences, together with Tencent Social Research Center and some other institutions, jointly released China’s first authoritative report on the development of digital cultural industry—*Report on Research on the Development Trend of China’s Digital Cultural Industry*. The report predicts that 5G will trigger a revolution in the lifestyle in China, and the entire digital cultural industry will therefore undergo disruptive changes.

China’s industries, such as film and television, literature etc., have made a grand appearance on the international arena in recent years. *Wolf Warrior II* was among the top movies in the Worldwide Box Office List, *Big Fish & Begonia* won the first prize of the full-length film category of the 15th Anilogue International Animation Film Festival in Budapest, and online literature is deeply favored overseas, all of which are the reflection of the rise of China’s cultural soft strength. The vigorous development of the cultural industry has also brought considerable economic benefits while spreading Chinese cultures to the world. According to the statistics of

²³ *People’s Daily* (2009).

²⁴ The National Bureau of Statistics (2018).

the Ministry of Commerce, in 2016, the total export of Chinese cultural products reached \$78.66 billion, achieving a surplus of \$68.8 billion; in 2017, the total import and export of cultural products reached \$97.1 billion, among which the total import and export of cultural products of the countries along the Belt and Road was \$17.62 billion, an increase of 18.5% over 2016.²⁵ Thus it can be seen that the Chinese digital cultural industry has developed rapidly since the 18th CPC National Congress.

25.2.2 Major Challenges in the Middle and Long Term

With the success of reform and opening-up and China's growing global influence, some Western countries headed by the United States attempt to suppress and contain China, so China is facing severe challenges in building a culturally strong country.

- (1) Stepping up efforts to raise intellectual and moral standards and help the people develop firm ideals and convictions

With the deepening of economic globalization, Western cultures, especially their money worshipping culture, is flooding in, posing a huge impact on Chinese ethnic cultures. Ideological and moral deterioration, and wavering of ideals, beliefs and values will shake the cultural roots and thus affect the development and revival of the whole nation. Therefore, to raise intellectual and moral standards and help the people develop firm ideals and convictions, we still face tough challenges and must uphold the fundamental system that stresses the guiding role of Marxism in ideological fields.

- (2) Cultural hegemony and cultural infiltration in the Western developed countries

In the process of economic globalization, a country whose culture becomes a mainstream culture will have a say in the international community and further have the future in its hands. To this end, the Western countries headed by the United States have promoted cultural infiltration into other countries by high-tech means through movies, television, broadcast, books, newspapers, advertising, pop music and international Internet, and take various means to belittle and defame the developing countries. In the Western countries headed by the United States are also trying to influence the world and reshape the world according to their ideology, values, and way of life, and thus the struggle between infiltration and anti-infiltration and between subversion and anti subversion is extremely fierce. In addition, based on the overall pattern of world culture, Chinese culture is still in a disadvantageous position, and Western culture is in an advantageous position. For example, on the Internet, the proportion of Chinese literature is small, and the proportion of China's mainstream cultural literature is smaller. Another example is that in the global cultural industry, the market share of Western developed countries is very large, while our cultural industry has

²⁵ Same as above.

just started. The culture of every nation should be equal, and the world should not be dominated by any culture. However, against the backdrop of hard bundling of a culture and an economy, the development of national cultures has been seriously distorted, and the level of economic development seems to be tied with the level of a national culture. Economic culturalization and cultural economization have become a serious phenomenon in the world. This phenomenon is objectively threatening the development of national cultures.

(3) Influence of erroneous ideological trends

On the one hand, various social ideological trends, especially erroneous ideological trends, such as new liberalism, historical nihilism, democratic socialism, social democracy, etc., have appeared in China, and the Western developed countries headed by the United States have continuously exported their social system, values, ways of life and other ideology. This has led to the rampancy of erroneous ideological trends in the relevant fields. Sense of ethnic pride, loss of self-confidence, hedonism, money worshiping and extreme individualism run rampant, and as a result some people displayed less identity with the traditional culture and socialist advanced culture and even lost their own beliefs, while worshiped the Western cultures.

On the other hand, the Western Color Revolution has appeared in many countries in the twenty-first century, such as Libya, Central Asia, the Middle East and other countries, causing a series of social disturbances in these countries and regions. At present, with the rise of right-wing conservative forces, anti-globalization and populism in many Western countries, they are attempting to spread the Western “universal values” by means of covertly supporting the reactionary forces. In addition, as the Internet initially became popular abroad, although China has become an Internet power in the War of the virtual network world, the rules of the Internet have been mostly formulated by the Western countries headed by the United States, and they can spread the Western values through the Internet with ease. In terms of Internet supervision, we have issue some legal provisions, but there are still many vulnerabilities in Internet supervision, which provide convenience for foreign hostile forces to spread various non-socialist values.

(4) Lack of philosophy and social sciences journals with significant international influence

As an important public opinion battlefield, philosophy and social sciences journals play an important role in academic communication, discourse and influence. Although China has achieved remarkable achievements in cultural development, in terms of international influence, especially in international academic influence, China has not yet won a due say. One reason for this is that we lack philosophy and social sciences journals with strong international influence. At present, the international discourse system is still dominated by Western cultures, so its entire evaluation criteria, language expression, etc. have a strong Western hue. They lead the world development direction of philosophy and social sciences. For example, the standards for journals to be included by SSCI with an equal fame as SCI are formulated in accordance with American humanities and social sciences, and the evaluation

system maximally limits the inclusion of journals from developing countries and backward countries. As a result, these countries, particularly China, have to follow the US standards. The direct consequence of westernization and non-localization of the entire evaluation criteria in humanities and social sciences is that almost no journals commensurate with the level of development of philosophy and social sciences have appeared in our country. This further makes the development of journals fall into the trap of the Western discourse system, which has formed a major obstacle for Chinese journals to “go global” and exert their influence.

(5) Few works and scholars with strong international influence

General Secretary Xi Jinping once stated that “On the whole, philosophy and social sciences are still in a state that we have a large number of journals, but those in high quality are rare, and we have fostered many experts but lack gurus.”²⁶ Although there are an unprecedented number of academic teams, academic publications, publishing houses, academic papers and works, and scientific research projects in China, the number of scholars, journals, publishing houses and academic achievements with really strong academic influence and high academic quality and values is too small. Therefore, we still face serious challenges in building cultural power in the future in aspects such as Western academic evaluation criteria and lack of major journals works, and famous scholars with strong international influence.

25.3 Main Objectives in the Medium and Long Term

The system that promotes cultural advancement under socialism has been improved. The ideals and convictions of all Party members and officials have been strengthened, the well-rounded development of all our people and social civilization have been further improved, and people’s confidence in our culture has been continuously enhanced. Due to the prosperity of cultural undertakings, a slew of world-class philosophy and social sciences journals and a number of world world-renowned scholars have appeared. Cultural industries continue to grow healthily, cultural industries, especially the digital cultural industry, has become a national economic pillar industry. Fine works showing positive energy and a group of famous gurus excellent in both performing skills and moral integrity have constantly emerged, a sound environment for fostering fine works and culture has been created, and the Chinese culture is exerting an increasing stronger influence globally.

²⁶ Xi (2016a, p. 7).

25.3.1 Firm Ideals and Convictions of Party Members and Officials

The fundamental system that stresses the guiding role of Marxism in ideological fields has been improved. We must consciously arm ourselves with Xi Jinping thought on socialism with Chinese characteristics for a new era, and firm up and further build the ideal of Communism and a shared ideal of socialism with Chinese characteristics.

- (1) Xi Jinping thought on socialism with Chinese characteristics for a new era is embraced by our people

Party members and officials have been actively studying Xi Jinping thought on socialism with Chinese characteristics for a new era to get a full understanding of its spirit, with focus on reading the original book, learning the original text and understanding the principle. We must thoroughly understand Marxist stance, viewpoint and methodology implicated in Xi Jinping thought on socialism with Chinese characteristics for a new era, maintain deep belief in and faithfully practice Xi Jinping thought on socialism with Chinese characteristics for a new era, and constantly improve our ability to use it to guide our practice, promote work and solve practical problems.

- (2) Core socialist values become part of people's thinking and behavior

Core socialist values help improve our cultural development system, and create a social atmosphere that is conducive to cultivating and promoting socialist core values. We will carry out propaganda and education, strengthen education guidance, enhance cultural edification, and pay attention to cultivation through practices and institutional guarantees. The value requirements of the state, society and individuals should be reflected in all aspects of moral building, and moral norms and moral identity should be shaped among all the people. We should try to strengthen ideological and moral cultivation and enhance moral education for our citizens so as to constantly improve the ideological and moral quality of the whole society and bring together Chinese strength.

- (3) Firm belief in Marxism and confidence in communism

Marxist theory has truly become the ideal and conviction of Party members and officials. We must consciously arm ourselves with Xi Jinping thought on socialism with Chinese characteristics for a new era and refer to it as our guideline to reshape the objective world and subjective world and solve the actual problems. The people's sense of fulfillment produced from enjoying the dividends of reform has grown stronger. We must enable the people to have firm ideals and convictions, resolve the fundamental issue of the worldview, outlook on life, and values we should embrace, truly understand the Party's purpose and fundamental goal, have firm communist lofty ideals, have a firm belief that socialism with Chinese characteristics is invincible, maintain a firm political stance, resist against various temptations, and have confidence in overcoming all difficulties and obstacles that we meet on our way.

- (4) Strengthening the “four-consciousnesses”, maintaining the “four-confidences”, upholding the status of General-Secretary Xi Jinping as the core of the Central Committee and the whole Party, and upholding the authority, centralized and unified leadership of the Central Committee

Under the situation that the world is undergoing the greatest changes in a century, we must maintain political integrity, think in big-picture terms, follow the leadership core, and keep in alignment; stay loyal to the Party and the State, closely follow the CPC Central Committee in terms of our thinking, political orientation and actions, and love the Party and the nation in practical actions. We must strengthen our confidence in the path, theory, system, and culture of socialism with Chinese characteristics. We must match our words with actions, resolutely uphold the status of General-Secretary Xi Jinping as the core of the CPC Central Committee and the whole Party, and uphold the authority, centralized and unified leadership of the CPC Central Committee. We must uphold the absolute leadership of the CPC Central Committee, and the whole Party and the people should unite as one and maintain a high degree of unity in thought, stance, and action with the CPC Central Committee with Comrade Xi Jinping at the core.

25.3.2 Promoting the Well-Rounded Development of All Our People and Raising Standards of Public Civility

We have established a relatively sound evaluation standard system and related databases for development of all our people and public civility

- (1) Continuously raising the ideological and moral standards and scientific and cultural qualities

Extensive efforts were made to raise ideological and ethical standards, and the ideological and moral cultivation and scientific and cultural quality of the people have been continuously improved. A culture of innovation has been formed and the spirit of scientists is highly valued. The whole society respects work, and the hard-working spirit that work is the greatest, the most glorious, noble, and beautiful thing has been formed. We should guide the public to establish the awareness to work arduously, honestly, and creatively. The ability to distinguish right from wrong has been improved, people have developed good behaviors and habits, the moral standards of the whole society has been constantly improved, and a new generation capable of shouldering the mission of national rejuvenation has emerged.

- (2) Significantly raising standards of public civility

Core socialist values have been gradually embraced by our people, the moral standards have been significantly improved, and good social norms have been formed. A culturally advanced and harmonious society that the people are honest and friendly, esteem virtue and perform good deeds has been formed throughout the country. The

cultural life of the people is rich and colorful. Personal development, family happiness, neighborhood harmony, social harmony, and advancement in social system, social behaviors and politics contribute to the formation of the Chinese culture and Chinese civilization matching the great rejuvenation of the Chinese nation.

(3) Promoting creative transformation and development of fine traditional Chinese culture

Efforts are needed to promote the evolution and growth of fine traditional Chinese culture in new and creative ways in all walks of life. According to the characteristics and requirements of the times, the fine traditional Chinese culture should be endowed with new connotations and modern expression forms suiting the characteristics of the times, and its values and concepts should be explored. Spiritual nutrients of fine traditional Chinese culture should be absorbed to help our people raise their political awareness and moral standards, and foster appreciation of fine culture. The fine traditional Chinese culture that has been constantly enriched and developed has become an important source for cultivating core socialist values. In the development of Marxism in the 21st Century in theoretical and practical interaction, the influence, cohesiveness, and appeal of Chinese civilization are fully displayed, and we have been constantly developing the Chinese culture into one that shines in the current era and in the world.

(4) Further promoting the revolutionary culture and advanced socialist culture

The Communist Party of China has led the people to create a revolutionary culture in the revolutionary struggle, grasp the profound connotation of revolutionary culture, carry forward the revolutionary culture, and promote the development of culture. The advanced socialist culture is rooted in the fine traditional Chinese culture, formed in the socialist revolution and construction period and enriched in the great practice of socialism with Chinese characteristics, and it represents the trend of progress of the times and the direction of historical development. The revolutionary culture and socialist advanced culture is consciously carried forward, and their unique spiritual advantages have given fully exerted.

(5) Building stronger cultural confidence

China's fine traditional culture, revolutionary culture and advanced socialist culture are constantly and consciously promoted in the whole society. We have produced many books, dramas, music and artistic works, and TV series reflecting the spirits of the times and encouraging our people to strive for excellence and develop stronger virtues, and created fine cultural products reflecting the national standards and displaying the ethnic characteristics. We have rich and colorful cultural and creative products that uphold the craftsmanship spirit, highlight the Chinese style, national characteristics and modern temperament, and meet people's diverse needs in life. We have built up the strength and quality of cultural products, and the quality and efficiency of development of cultural industry has further enhanced. Cultural services should follow the law of cultural and ideological progress, and we should form a new model of specialized and socialized operation of public cultural services. With

greater confidence in our culture, we have drawn on outstanding achievements of other civilizations. The Chinese culture is more inclusive and has stronger vitality, and fostering a Chinese spirit, Chinese values and Chinese strength has become the spiritual power and source of strength for realizing the great rejuvenation of the Chinese nation.

25.3.3 Promoting the Prosperity of Cultural Undertakings

We have established sound databases and standards for promoting the prosperity of cultural undertakings.

(1) Deepening the reform of the cultural system

We have improved the cultural management system which, under the leadership of Party committees, is comprised of regulation by the government, industry self-governance, public oversight, and the law-based operation of cultural enterprises and public institutions, in a bid to uphold socialism, rally public support, foster a new generation with sound values and ethics, develop Chinese culture, and build a positive image of China. To satisfy people's growing expectations for a better life, under the leadership of Party committees, we have improved systems for managing state-owned assets in the cultural sector, strengthened legal safeguards in cultural development, prioritized social benefits, and promoted the unity of social and economic benefits. We have conducted assessment, monitoring and appraisal of state-owned cultural enterprises to maintain and raise the values of state-owned assets. In the cultural market, comprehensive administrative law enforcement organs perform work according to law, and cultural capital, cultural enterprises, cultural product market access and exiting mechanisms have been formed to achieve high management efficiency and ensure national cultural safety and a good market order.

(2) Further improving the public cultural service system

The basic cultural facilities have been further improved, and efforts have been made to guarantee that the general public, especially disadvantaged groups, have equal access to cultural resources. All members of society basically have equal access to public cultural products and services. We have strengthened areas of weakness between urban and rural areas, increased support to cultural development in rural and underdeveloped regions, implemented poverty alleviation by increasing their confidence and helping them acquire knowledge and skills, and helped impoverished areas to march forward together on the road of building a moderately prosperous society in all respects through science popularization and other means of education. Efforts have also been made to ensure equity in distribution and consumption of cultural products. Free access to public cultural installations has been further encouraged. Investments in building and maintenance of public libraries, cultural centers, museums, and township/sub-district integrated cultural service centers have been increased, and public-interest cultural programs have been effectively carried out.

Our endeavors in cultural development have truly satisfied the growing diversified spiritual cultural needs of the people.

(3) Protection and inheritance of fine traditional cultures and cultural heritages

With a civilization that dates back more than 5000 years, the Chinese nation has created a profound and splendid culture. As one of the countries with richest cultural heritages in the world, China has always attached great importance to the protection of material cultural heritage. We have strengthened protective use of cultural relics and protection and inheritance of cultural heritages. In cultural relics protection, we attach equal importance to rescue protection and preventive preservation and to protection of cultural relics and surrounding environments. A sound legal system for protection of cultural relics has been established, the comprehensive quality of personnel in cultural relics and museology has been improved, and cultural relics protection responsibility and awareness, governance capacity and management level enhancement have been raised. The long-term mechanism for protecting cultural heritage has been improved, publicity in protecting cultural heritage has been continuously carried out, and cultural heritage protection and inheritance has been mutually promoted.

(4) A growing workforce in the cultural sector

Training of personnel in the cultural sector has been strengthened. A leadership team with a strong sense of responsibility and creative thinking that uphold the Party spirit and maintain excellent conducts has been fostered, and a workforce with political integrity and professional competence, a reasonable structure and an international vision, dedicated to making innovations and reforms, capable in business and good at management has been built in the cultural sector.

(5) Marked progress in building a discipline system, academic system, and discourse system of philosophy and social sciences

China is accelerating the establishment of a discipline system, academic system, and discourse system of philosophy and social sciences with Chinese characteristics, style and grandeur that reflect inheritance and nationality; reflect originality and the characteristics of the times, and reflect systematicity and professionalism. The discipline system of philosophy and social sciences with Chinese characteristics optimizes discipline setting, covers a full range of basic disciplines, highlights advantageous disciplines, and strengthens emerging disciplines and cross-discipline researches. The academic system of philosophy and social sciences with Chinese characteristics adheres to the guidance of Marxism, integrates various academic resources in ancient and modern China and foreign countries, and focuses on solving major and urgent problems the Party and the State are facing in the new era. It has continuously the ability and level of Chinese scholars within philosophy and the social sciences to create original works. The discourse system of philosophy and social sciences with Chinese characteristics aims to create new concepts, categories and expressions that

are realistic, scientific, open and inclusive, and constantly enhance China's discourse power and rule-making power in the international community.²⁷

(6) World-class philosophy and social sciences journals

The world-class philosophy and social sciences journals contribute significantly to discipline development, discourse power building and development of academic talents. We have supported first-class journals in aspects such as journal-running conditions, funds and policies. The operation quality and concepts and mechanisms of journals have been inspected, and the operation mechanisms and quality of journals have been improved. Through model demonstration, we have guided philosophy and social sciences journals to deepen reforms and continuously improve their operation level.

(7) World-renowned scholars

The capacity for independent innovation of scholars has been continuously improved. Relying on national major scientific research projects and programs, key disciplines, key scientific research bases, and international academic exchange collaboration projects, etc., we have fostered a number of world-class scientists, scientific and technological leaders, engineers, and senior experts, literati artists and educators in philosophy and social sciences. The national academician system and the first-grade professor system have been constantly improved, with emphasis on providing spiritual incentives for the titles and regulating academic part-time jobs. Great importance is attached to the introduction of overseas high-level innovative and entrepreneurial talents, and China will gradually join the ranks of talent-strong countries in the world.

25.3.4 Gradually Improving Systems and Mechanisms that Put Social Benefits First While Pursuing Economic Returns

The cultural industry, especially the digital cultural industry, has become a pillar industry in the development of the national economy, and the growth rate has increased year by year.

(1) Further improving the modern cultural industry system and market system

We have put in place a cultural industry system with a rational product structure layout and a complete industrial chain under which the governments exercise leadership and provide guidance, support, enterprises and non-governmental actors cooperate. We have created a unified open and orderly modern cultural market system, optimized and upgraded the industrial structure, and established and improved the public cultural service system. The cultural market is further opened, and the endogenous power of the market is constantly enhanced. Cultural products and elements have

²⁷ Xie (2019b).

flow reasonably throughout the country, cultural resources and cultural industries are organically integrated to create high-quality cultural products, cultivate cultural goods with strong influence, expand and guide cultural consumption, and improve the quality and returns of cultural industries.

(2) Development of the cultural industry under the rule of law

We should improve the system of laws for cultural development that follows the law of cultural development, adheres to the development direction of socialist advanced culture and helps to stimulate cultural creation vitality and safeguard the basic cultural rights and interests of the people. The legislation of the *Law on the Promotion of Cultural Industries* is underway. The law is a basic law on the development of cultural industries, and there are also supporting legal implementation rules for promoted coordinated development of cultural undertakings and cultural industries. We should give full play to the positive role of the rule of law for the development of cultural industries, and guarantee the healthy and orderly development of cultural industries. The reforms in advanced fields have significance influence on cultural development under the rule of law, so we should pay attention to universality, operability and foresightedness while formulating laws and regulations.

(3) Promoting innovation-oriented development of traditional cultural industries and accelerating the development of modern cultural industries

Based on the market demands, we should make innovations for fine traditional cultures and solve the problems in inheritance, transmission and transformation of traditional cultures. We should accelerate the development of emerging cultural industries and raise the proportion of emerging forms of business in the cultural sector. We should support innovations in financial products and services that meet the development requirements of cultural industries and cultural enterprises, and make innovations in financial businesses such as cultural assets management, cultural industry financial leasing and cultural insurance guarantee to enable the finance sector to better serve the development of cultural industries. Based on financial conditions and needs of economic and social development, we should make overall arrangements of funds to support the innovation-oriented development of fine traditional cultural industries and accelerate the development of modern cultural industries.

(4) Creating a cultural industrial structure with public ownership playing a dominant role and diversified forms of ownership developing side by side

We should enhance the strength, quality, and size of state-owned or state-controlled cultural enterprises, and enable them to play a leading role in promoting the development of cultural industries and prosperity of cultural markets. We should foster a cultural industrial structure with diversified investment subjects, socialized financing channels, diversified investment modes and market-oriented project construction. The service and management system of non-public cultural enterprises has been improved. Cultural enterprises consciously fulfill social responsibilities, and mature cultural enterprises are listed on the capital markets.

- (5) The cultural industry, especially the digital cultural industry, has become a pillar industry of the national economy

State-owned or state-controlled large-size cultural enterprises with strong core competitiveness have become the backbone of cultural enterprises, and the integrated development of digital culture and related industries is achieved. The development of the digital cultural industry is promoted through AI, big data, cloud computing and block chain technology, which are all based on 5G. The cultural industry, especially the digital cultural industry, plays the role of driving the development of producer services, and involves the creation and supply of digital cultural creative contents. The level of digital cultural and creative technology and equipment is raised. The mass entrepreneurship and mass innovation platforms of digital cultural industry have been formed to give to play the role of digital cultural industry in improving the competitiveness and influence of Chinese culture, and a digital cultural industry innovation ecosystem has been formed.

25.3.5 Promoting Vigorous Development of Literature and Arts

The related departments of the central government and state organs have formulated the implementation measures for various tasks and major projects. Plans for personnel training in the cultural sector have been made, and the implementation of the plans is monitored, assessed and appraised.

- (1) Constant emergence of fine works full of positive energy

Literary and artistic works should put social benefits first while pursuing economic returns. Literary and artistic creations should reflect core socialist values, send out the strongest voices of the times, shape heroic images and mental idols, integrate idealism and heroism, advocate the themes of the times, and guide aesthetic orientation and value orientation. In creation of fine literary and artistic works, artists and writers should take a people-centered approach, draw inspiration from everyday life and the experiences of the people, show the spirit of the times, inspire national spirit, and cultivate lofty sentiments. Fine literary and artistic works should be able to withstand the test of time and the people, and reflect the voices of the people. Literary and art workers should stay in close touch with the people to feel their joy and sadness, in order to produce classical works that are close to real life, welcomed by the public and can be passed down from generation to generation.

- (2) Emergence of a large number of eminent figures who have moral integrity and outstanding artistic appeal

Eminent writers and artists with moral integrity and outstanding artistic appeal represent the culture as part of the soft power of our country. A man who does not excel in virtue will not cherish lofty ideals, and a man without great wisdom will not

have profound insight. Outstanding talents must cherish moral integrity and professional competence, with greater priority given to the former. We have fostered a large number of leading authorities and giants who inherit and carry forward the fine traditional Chinese culture, and those who lead the thriving of Chinese culture and enhance culture as part of the soft power of our country. Eminent figures who have moral integrity and outstanding artistic appeal must be patriotic, dedicated, honest and friendly, integrate their art ideas into the cause of the Party and the people, cherish high ideals, work hard for the greater national interests, put the people's interests first, and produce more fine works so as to draw a more alluring prospect for the people and a better future for the nation.

(3) Emergence of a large number of top-notch creative talents

For top-notch creative talents, we should give them full trust in politics, guide them positively in ideology, create favorable conditions for their work, and give them care and concern in life. Efforts must be made to enhance benefit for them, address their concerns, and deliver results for their well-being, create necessary conditions for learning, living and creation, provide high-quality training and learning opportunities, and create favorable conditions for producing fine works and outstanding personnel. A large number of creative works with depth of thinking, artistry and value orientation have been created.

25.3.6 Stronger International Influence of Chinese Culture

New ground has been made in opening the cultural sector further, and the attractiveness, appeal and influence of the Chinese culture is significantly increased.

(1) Further expanding cultural exchanges and cooperation

Cultural interconnection between China and the regions and countries along the Belt and Road has been deepened. The international cooperation mechanism of cultural industries has been further improved and cultural exchanges have moved up to a new level. The activities such as "Cultural Tourism Year" are carried out regularly. The exchanges and cooperation between performing arts organizations are strengthened, and the systems for publication cooperation and film and TV co-production are further improved.

(2) Significant progress in improving the international communication capacity

China Central Television (CCTV) has become a world-class media group. China's capacity for international communication of culture is strengthened, the international communication capacity in key emerging media and traditional radio and television media is improved, development advantages and comprehensive strength are transformed into discourse advantages, our voices on the international stage are amplified, and innovations are made in modes of expression so as to tell China's stories well,

make the voice of China heard, and present a true, multi-dimensional, and panoramic view of China to the world.

(3) Significant increase of the attraction, appeal and influence of Chinese culture in the world

As China grows in its economic strength and political influence, the products that contain Chinese cultural elements are well received in the world. The attraction and influence of Chinese culture continues to increase, and we have stronger faith in our culture. The influence and radiation capacity of China's path and model is significantly improved, and "Chinese-learning craze/Mandarin fever" is on the rise worldwide. The number of students who have come from countries and regions with different levels of development to China for study and scholarly exchanges is increasing year by year. The Confucius institutes have further exerted the role of spreading the Chinese culture and telling Chinese stories to the world. The overseas competitiveness of Chinese cultural enterprises is continuously improved, and the international influence of Chinese cultural products is constantly enhanced.

25.4 Major Strategies and Policy Suggestions

We should maintain and improve a system that promotes cultural advancement under socialism and effectively consolidate the common ideological foundation for the concerted endeavor of the people of all ethnic groups. Xi Jinping thought on Socialism with Chinese characteristics for a new era is embraced by our people, and the Project to Study and Develop Marxist Theory was further implemented. We hold firmly the leading position, maintain the initiative and ensure we have our say in the realm of ideology. We will further implement philosophy and social science innovation projects, and propose to establish a national award in philosophy and social sciences; improve modern systems for cultural industries, including the legal system for development of cultural industries, especially digital cultural industries; uphold the system that underscores the leading role of core socialist values in cultural construction, purify and guide the network culture, and foster a workforce that follow the guidance of Marxism; cultivate a group of world-class philosophy and social sciences journals and a number of renowned scholars with significant international influence, publish a number of books with significant international influence each year, and propose to establish a World Civilization Contribution Award. We will create a favorable cultural environment conducive to producing fine works and highly-accomplished gurus.

25.4.1 Maintaining and Improving the Fundamental System Which Ensures that Marxism Guides All Our Ideological Work, and Holding Firmly the Leading Position and Ensuring We Have Our Say in the Realm of Ideology

- (1) Increasing the public appeal of Xi Jinping thought on Socialism with Chinese characteristics for a new era

We will strengthen research and interpretation on historic background, great significance, scientific connotation, core meaning, and spiritual essence of Xi Jinping thought on Socialism with Chinese characteristics for a new era. We will strengthen popularization and publicity on Xi Jinping thought on Socialism with Chinese characteristics for a new era, and build education, practice and networking fronts to internalize it in the mind and externalize it into practice. It is recommended that we should assess each year the results of different units and different departments in their efforts to increase the public appeal of Xi Jinping thought on Socialism with Chinese characteristics for a new era.

- (2) Constantly adapting Marxism to China's conditions, keeping it up-to-date, and enhancing its popular appeal

We should assess the results of adapting Marxism to China's conditions, keeping it up-to-date, and enhancing its popular appeal each year. Based on China's actual conditions, we should respond to the call of our people, focus on China's actual problems, and constantly adapt Marxism to China's conditions. Based on the characteristics of the times, we should use Marxism to observe, understand, and steer the trends of our times, identify the major tasks facing people of our times, and fully understand the evolution and basic tendency of the world history,²⁸ so as to constantly keep Marxism up-to-date. To arm ourselves with Marxist theory, we should promote the publicity and education on Marxist theory to constantly keep Marxism up-to-date by relying on the national education system and the education system for officials.

- (3) Further implementing the Project to Study and Develop Marxist Theory

We will improve the teaching materials for the Project to Study and Develop Marxist Theory, and launch more major sub-projects under it. It is recommended to assess the results of implementation of the Project to Study and Develop Marxist Theory each year. We will strengthen research on theoretical innovation achievements of adapting Marxism to China's conditions and on major realistic problems. We will strengthen adapted translation and study of the classic works on Marxism, step up efforts to build a database for works on Marxism, and form the basic theories on Marxism. We will compile the teaching materials of key disciplines that reflect latest theoretical results of Marxism in contemporary China, and improve the system of

²⁸ Xi (2017d).

teaching materials for philosophy and social sciences with Chinese characteristics. We will strengthen the cultivation of talents on Marxist Theory.

(4) Enhancing the academic capacity, contemplative faculty and influence of Chinese philosophy and social sciences

We will accelerate the development of basic disciplines that enhance originality and play the supporting role for philosophy and social sciences, lay emphasis on the development of key disciplines, emerging disciplines and cross disciplines, and attach importance to the development of unpopular disciplines.²⁹ We will create the original theories with Chinese characteristics and unique advantages, establish an evaluation system of philosophy and social sciences with Chinese characteristics, and strengthen the theoretical interpretation of the Party's theoretical innovation achievements. We will fully interpret the historic and global significance of China's path, try methods with new concepts, domains and expressions that are understood by both China and the rest of the world to better tell China's stories, and propose the ideas, propositions and solutions that reflect China's position, wisdom and values, and demonstrate the characteristics and advantages of China's academic discourses.³⁰

(5) Improving and upholding the correct public opinion guidance system and raising the level of public opinion guidance

We will firmly uphold the principle of the Party assuming the responsibility for management of media. Supported by advanced technology, based on content development and guaranteed by innovation management, we will strive to cultivate a number of new-type mainstream media. We will boost the in-depth integration of traditional media and emerging media in terms of contents, channels, platforms, operation, management, etc., and build a new-type "content + platform + terminal" communication system. We will promote the construction of major integration projects, optimize the media structure, and form a modern multi-media system with complementary advantages and integrated development.³¹

(6) Implementing the ideological work responsibility system and strengthening front construction and management

We will improve the subject responsibility and supervision responsibility system for ideology work, and establish an assessment system. We will hold firmly the leading position, maintain the initiative and ensure that we have our say in ideological work. We will improve the system that the Party assumes the responsibility for management of propaganda, positions, public opinion and media, and conscientiously implement the principles that the competent department should be held responsible for ideological work in areas under their respective jurisdiction. We will further consolidate our positions and improve management in this field so that the leadership of ideological

²⁹ *People's Daily* (2017).

³⁰ Xie (2018).

³¹ Xinhua Net (2016).

work is firmly in the hands of Marxists. We will distinguish between matters of political principle, issues of understanding and thinking, and academic viewpoint, but we must oppose and resist various erroneous views with a clear stand.³² We should do our best to fulfill our duties and be proactive in our work to ensure ideological security.

25.4.2 Promoting the Prosperity of Cultural Undertakings

- (1) Deepening the reform of the cultural system and improving the cultural management system

It is suggested to publish a research report on the development of Chinese culture each year. “We will accelerate the establishment of systems and mechanisms that put social benefits first while pursuing economic returns.”³³ We will deepen the reform to introduce the shareholding systems in cultural enterprises, and improve the modern cultural enterprise system. We will improve the supervision system integrating the management of people, affairs, assets and orientation and the system for comprehensive management of state-owned cultural assets, and optimize the management system for public welfare cultural institutions.

- (2) Implementing philosophy and social science innovation projects

We will implement the national philosophy and social science innovation projects, further strengthen research and interpretation on the Party’s innovation theory, establish a discipline system, academic system, and discourse system of philosophy and social sciences with Chinese Characteristics, Chinese style and Chinese manner, and promote the transformation and utilization of achievements.

- (3) Improving the system for protecting the cultural rights and interests of the people and carrying out public-interest cultural programs

We will improve the top-level design and resource allocation of the government; give to play the role of nongovernmental sectors to achieve diversification of supply subjects and fund supply modes; promote the standardization of and equal access to basic public cultural services; build modern service facilities and networks; strengthen the building of primary-level cultural service capacity; strengthen policy support for cultural development in former revolutionary base areas, ethnic-minority areas, border areas and impoverished areas; and identify the needs of the public by relying on big data and block chains to achieve targeted precision supply and effective supply. We will actively carry out activities such as nationwide art popularization, nationwide physical fitness and nationwide science popularization, and expand the scope of free public cultural facilities.

³² Xi (2017c, p. 48).

³³ Ibid., p. 44.

(4) Strengthening preservation of cultural relics and inheritance of cultural heritage

We will strengthen the rule of law in preservation of cultural relics, fulfill the preservation responsibilities, and improve the permanent mechanisms for safeguarding the safety of cultural relics, ensuring cultural relics preservation input, and preserving non-movable cultural relics. We will launch repair projects and environmental remediation projects for a number of cultural relics sites, and carry out trials on protection of contiguous revolutionary cultural relics sites; strengthen the preservation of ancient books; strengthen efforts in training cultural relics preservation management personnel; improve the working system for cultural heritage preservation and inheritance, and establish a cultural heritage list system; organize cultural heritage knowledge readers and incorporate them into the national education system and official education system to disseminate the values of cultural relics. It is suggested to establish a preservation database cluster of cultural relics.

(5) Extensively carrying out mass activities on culture

We adhere to the principle of maintaining close contact with reality, life and the public, and extensively carry out healthy and uplifting mass activities on culture in diverse forms. We will create a variety of mass cultural event brands.

(6) Establishing a philosophical and social science national award

It is suggested to establish a national award for philosophy and social sciences to further mobilize the enthusiasm and creativity of philosophy and social science workers. For the promotion of philosophical and social sciences, accelerate the construction of Chinese characteristics, Chinese style, Chinese style philosophy and social sciences system, academic system, and discourse system.

25.4.3 Further Accelerating the Development of Cultural Industries

It is suggested to incorporate cultural industries, especially digital cultural industries, into provincial and municipal development assessments. We will establish and improve the cultural creation and production systems and mechanisms that put social benefits first while pursuing economic returns.

(1) Promoting the development of cultural market entities

We will promote the decisive role of the market in cultural resource allocation and improve various systems to give better play to the role of the government; establish a cultural market credit supervision system; develop backbone cultural enterprises; promote high industrial relationship, state-owned cultural enterprises jointly restructure; promote mergers and restructuring of state-owned cultural enterprises with

high industrial linkage and similar businesses; and support efforts to strengthen the development of micro-, small- and medium-sized cultural enterprises.³⁴

(2) Improving the legal system for the development of cultural industries

We will improve the basic law in the cultural industries, move faster to improve administrative regulations and local government rules and regulations to match the basic law, and improve the laws and regulations in the cultural industries. We will strengthen the training of personnel for enforcing the rule of law in the cultural industries.

(3) Encouraging integrated development of cultural industry and technology and other related industries

We will strengthen research and development of key common cultural technologies in the cultural sector, improve the scientific and technological innovation system, accelerate the popularization of scientific and technological achievements, strengthen the establishment of large data systems, and promote further integration of cultural industries and technologies.³⁵ We will comprehensively promote the development strategy of “culture +” and “+ culture”, and boost the in-depth integration of cultural industries and finance, tourism, ecology, information, sports, agriculture, forestry and consumer goods manufacturing, etc.

(4) Improving systems and mechanisms for the non-public economy to join the cultural sector

We will further transform the functions of the government, improve the mechanisms for the non-public economy to enter the cultural industries; support the non-public economy to participate in the reform and restructuring of state-owned cultural units; and step up efforts to realize equal treatment and common development of non-public cultural enterprises and state-owned and collective cultural enterprises.³⁶

(5) Accelerating the development of modern cultural industries, especially the digital cultural industry

We will promote the integration of traditional cultural industries and emerging cultural industries by making use of modern information technologies; establish platforms for cooperative exchanges and business services to create a grand alliance for full coverage of traditional cultural industries; and vigorously develop core digital cultural industry focusing on digital contents such as digital interactive entertainment, digital audiovisual, Internet literature, online film and TV, online publishing, digital music, digital education, etc.

³⁴ *Xinhua Net* (2016).

³⁵ The Ministry of Science and Technology of the People's Republic of China (2019).

³⁶ The Ministry of Culture and Tourism of the People's Republic of China (2008).

(6) Cultivating new cultural industries and cultural consumption modes

In cultural industries such as film, performance, animation, game, Internet culture, artistic product trading, publication, creative design, cultural equipment, as well as cultural fields such as Internet literature, online music, digital publishing, short video and webcast, we will cultivate new forms of cultural businesses of “culture +” and “+ culture” and encourage enterprises to create new cultural consumption modes.

(7) Improving the economic policies on the development of the cultural sector

We will strengthen financial guarantee, implement and improve the tax policies for cultural industries, develop cultural finance, improve the cultural trade promotion policies, improve the support mechanism for land use for cultural development, and improve economic policies on high-quality development of the cultural sector, especially the digital cultural industry.

25.4.4 Promoting Socialist Cultural and Ethical Progress

We will uphold the socialist core value system, and uphold the system that underscores the leading role of core socialist values in cultural construction.

(1) Integrating socialist core values into all aspects of economic and social development

We will focus on fostering a new generation capable of shouldering the mission of national rejuvenation, offer better guidance to students in primary, secondary and tertiary schools, expose them to practice, and provide institutional guarantees. We will draw on core socialist values to guide education, efforts to raise cultural-ethical standards, and the creation, production, and distribution of cultural and intellectual products, and see that all areas of social development are imbued with these values and that they become part of people’s thinking and behavior. To this end, we will encourage extensive public involvement, making our officials take the lead and starting with families and children.³⁷ We will improve and practice the goals and evaluation systems of socialist core values.

(2) Further raising intellectual and moral standards

We will undertake extensive public awareness activities to help the people develop the noble ideal of Communism and the shared ideal of socialism with Chinese characteristics, foster a Chinese ethos, strengthen the guiding role of patriotism, collectivism, and socialism, and see that the people develop an accurate understanding of history, ethnicity, country, and culture. We will launch a civic morality campaign to raise public ethical standards, and enhance work ethics, family virtues, and personal integrity, and continuously raise intellectual and moral standards through

³⁷ Xi (2017c, p. 42).

education, habitual development and institutional guarantee.³⁸ We will improve and strengthen our ideological and political work, and launch initiatives to raise the public's cultural-ethical standards; promote the spirit of science and make scientific knowledge widely attainable; promote credibility building, institutionalize volunteer services, and heighten people's sense of social responsibility, awareness of rules, and sense of dedication.³⁹

(3) Seeing socialist literature and art thrive

We Writers and artists should take a people-centered approach to produce works. We encourage them to create fine works that are thought provoking and of a high artistic standard, that reflect real life, and that extol our Party, our country, our people, and our heroes. We will encourage originality and experimentation with new approaches in the creation of literature and art. We will strengthen the professional standards of artists and writers to see the emergence of a large number of eminent figures who have moral integrity and outstanding artistic appeal, and creators of inspiring works.⁴⁰

(4) Purifying and guiding the Internet culture

We will incorporate socialist core values into the development of the Internet culture, and nourish the cyberspace with the outstanding achievements of human civilization; improve the Internet language filtering mechanism; improve the cyberspace public opinion research and judgment mechanism, and develop new cyberspace discourse boundary identification databases; cultivate a healthy and uplifting Internet culture, and create a clean and healthy cyberspace.

(5) Promoting the creative transformation and innovative development of fine traditional Chinese culture

We will strengthen the collation and publishing of classics of fine traditional Chinese culture and promote the digitalization of cultural classics; clarify the connotation of fine traditional Chinese culture, change old forms of expressions, and endow it with the connotation of the new era and modern forms of expression; encourage cultural relics and museology organizations to produce cultural and creative products.⁴¹

(6) Actively promoting revolutionary heritage and advanced socialist culture

We will work harder to study Marxist cultural theory, step up publicity efforts, expand the scope of publicity and increase the influence through traditional and emerging media, and promote the development and utilization of resources of revolutionary heritage and advanced socialist culture.

³⁸ *Xinhua net* (2019).

³⁹ Xi (2017c, p. 43).

⁴⁰ *Ibid.*

⁴¹ The Central People's Government of the PRC (2017).

(7) Fostering a strong contingent of personnel engaged in study of Marxism culture

We will improve the top-level design for building a strong contingent of personnel engaged in study of Marxism culture; accelerate the cultivation of personnel in Marxist theoretical disciplines; optimize the support platform of personnel training; make innovations in systems and mechanisms for personnel development; improve the training methods for reserve talents; and create a social form for training personnel engaged in study of Marxism culture.

25.4.5 Continuously Promoting Chinese Culture to Go Global

(1) Improving the cultural opening-up system and promoting cultural exchanges

We will improve the mechanisms for Chinese and foreign cultural communication, and deepen the cultural exchanges between the government departments. We will strengthen cultural exchanges and cooperation with the regions and countries along the Belt and Road, and promote international exchanges in Sinology and cooperation between Chinese and foreign think tanks. We will support the private sector to participate in foreign cultural exchanges, and give to play the active role of overseas Chinese in this regard. We will encourage social organizations, Chinese-funded institutions, etc. to participate in construction of overseas Chinese cultural centers and Confucius institutes. We will expand cultural exchanges between Chinese and foreign teenagers.⁴² We will bring about a new pattern of all-round two-way cultural opening-up with links running eastward and westward over land and sea. It is suggested to carry out propaganda and assessment of the impact of Chinese culture going global each year.

(2) Improving the international communication capacity

We will improve the international communication capacity of key mainstream media, and enhance the penetration, attraction and influence of Chinese culture. We will establish a media communication platform, and strengthen exchanges and cooperation with international mainstream new media. We will speed up the digitalization of cultural resources and promote the online spread of Chinese fine culture. We will make overall planning for overseas publicity resources, and shape global narratives for telling China's stories.

(3) Cultivating a number of world-class philosophy and social science journals

We will optimize philosophy and social science journals and publishing structure layout, focus on improving the management capability, publication market operation capacity and international competitiveness of philosophy and social science journals,

⁴² Ibid.

formulate annual plans, five-year plans and ten-year plans, and gradually cultivate a group of world-class philosophy and social sciences journals.

(4) Publishing a number of books with significant international influence annually

We will strengthen theoretical innovation and international promotion of excellent results in philosophy and social sciences, and publish a slew of works with significant international influence, especially those that tell the Chinese stories and study China's path.

(5) Fostering a number of renowned scholars with significant international influence

We will increase investments and focus on training high-caliber professionals. We will accelerate the establishment of scientific, authoritative, open and transparent evaluation system, formulate annual plans, five-year plans and ten-year plans, and focus on fostering a number of renowned scholars with significant international influences. For each primary discipline or secondary discipline, a number of scholars significance influence will be elected each year.

(6) Establishing a world civilization contribution award

It is suggested to establish a world civilization contribution award to vigorously propagate, elect annually and commend once every five years those scholars, scientists, writers and artists who have made remarkable contributions to world civilization development and to promote all kinds of domestic and foreign media to focus on China.

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