Chapter 8
Trends and Policies for Mid-to-Long-Term Development of Service Sectors

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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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