

Global Economic Synergy of Belt and Road Initiative
Series Editors: Wei Liu · Hui Zhang

Wei Liu
Hui Zhang *Editors*

The Belt and Road: Industrial and Spatial Coordinated Development



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Global Economic Synergy of Belt and Road Initiative

Series Editors

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The core idea of the series is built on the theoretical framework the double circulation of global value chain, which is possibly a way of explanation of current world economic structure. This book series is devoted to provide a comprehensive analysis of Belt and Road Initiative (BRI) on global economic development from the perspective of industrial cooperation, spatial synergy, global value chains and detailed area studies. In terms of the methodology, the series combine multiple research methods. On quantitative-wise, it quantifies the role of the world's major economies in the international division from the perspective of global value chains, and clarifies the value cycle system between China and developed and developing economies. On the qualitative-wise, it provides a volume on case studies and special topics. By doing so, the series may answer the initial question that is why BRI can be the bridge linking the diversified development.

The key words in GESBRI include but are not limited to:

- Global Synergic Development
- Double Circulation of Global Value Chain
- Belt and Road Initiative
- Industrial Cooperation
- Spatial Synergy

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Preface

More than 2,000 years ago, the ancient Silk Road linked China with the world affecting the rise and fall of different civilizations and countries in the vast Eurasian continent. Today in the twenty-first century, China's Belt and Road Initiative attracted the attention of the whole world. The past 3 years were the mobilization period of the Belt and Road Initiative after its blueprinting and planning, and now we are moving towards a new stage of in-depth exploration and comprehensive development.

"Big contributions can be made to the country within 3 years", and it is time to summarize the achievement. First, the policy coordination has gained a broad consensus. Since the Belt and Road Initiative was kicked off, China has established the policy coordination at different levels with the countries along the Belt and Road, such as the SCO Framework, the International Coordinating Mechanism of the New Euro-Asian Continental Bridge Project, the Euro-Asia Economic Forum and other forms of dialogue, and has reached broad consensus with all countries along the Belt and Road, thus forming the main basis for advancing the construction of the Silk Road Economic Belt. Second, the infrastructure connectivity has laid a solid foundation. The infrastructure plays a leading role in the construction and development of the Belt and Road. The China-Laos Railway and the Jakarta-Bandung High-speed Railway have kept bridging geographical barriers. The expressways, high-speed rail trains, ports and ships, as well as cross-border optical fiber cables have made connectivity a reality step by step. Third, the unimpeded trade has made remarkable achievements. The unimpeded trade is the "golden key" to each other's markets. In the past 3 years, China and countries along the Belt and Road have worked together to promote trade and investment facilitation, strengthen the negotiation of agreements on protecting bilateral investments and avoiding double taxations to gradually eliminate various trade and investment barriers, and build a good business environment for countries in the region. Fourth, the financial integration forms a cooperation network. The financial support mechanism began to play a role, breathing a new life into financial cooperation under the Belt and Road Initiative. The Asian Infrastructure Investment Bank opened for business, and the first batch of projects supported by the Silk Road Fund were officially kicked off in early 2016. The financial cooperation is rapidly unfolding, and the internationalization of Renminbi is progressing steadily, which

has provided a strong support for the construction of key projects. Fifth, the closer people-to-people tie has been steadily promoted. Amity between people holds the key to sound state-to-state relations. Over the past 3 years, China has been carrying forward the spirit of friendly cooperation of the Silk Road. It has carried out extensive cultural exchanges and cooperation with various countries and regions along the Belt and Road, as well as dialogues and cultural fusions with diverse civilizations. In this way, a distinctive spirit of the Silk Road and an exchange pattern of modern civilizations were formed, laying a solid foundation for positive public opinions.

The Belt and Road Initiative is a long-term and systematic project. What's the most important is to get understanding and support from all stakeholders, reach a real consensus and make serious investments. In the past 3 years, the Belt and Road Initiative has achieved the expected results, but it also faces many challenges and risks.

First, we should explain the message of the Belt and Road and condense the power of extensive consultation and joint contribution. We should actively publicize the actual fruits of the Belt and Road construction, strengthen the academic research, theoretical support and discourse system of the Belt and Road, fully explain the connotation and extension of the Belt and Road Initiative, build a community for shared interests, shared future and shared responsibility featuring mutual political trust, economic integration and cultural inclusiveness.

Second, we should establish a mechanism of overall planning and coordination to achieve efficient and integrated promotion. We should adhere to coordination and strengthen the complementarity between the initiative and national strategies, including the Coordinated Development of Beijing, Tianjin and Hebei, and the Yangtze River Economic Belt, to achieve all-round opening up and integrated development of east, central, and west China.

Third, we should adhere to the principle of long-term promotion and encourage mechanism and platform innovation. We may start with a few demonstration projects for early harvest, in particular, projects for infrastructure connectivity, cooperation in industrial capacity, and economic and trade zones, so that countries involved will have a true sense of achievement.

Fourth, we should make use of the global Chinese network to build the international talent pool. Overseas Chinese are familiar with overseas culture, have bilingual and multilingual ability, and have a lot of resources such as capital, technology, information, and relations. We should make full use of the existing global Chinese networks such as the World Chinese Entrepreneurs Convention, the Overseas Chinese Association and so on to form a talent pool that serves the Belt and Road Initiative.

Fifth, we should improve the business support system to ensure comprehensive and effective support. As for business services, China is currently unable to provide strong support for enterprises "going global", especially in the fields of investment banking, trust, enterprise management, law, audit, consultation and investigation, etc. which are dependent very much on external support, thus increasing the risk of overseas expansion for enterprises. We should strengthen such support so as to help them better go global and participate in the construction of the Belt and Road Initiative.

In a more profound sense, the Belt and Road Initiative is a great strategy for China to expand and deepen opening up, build a new pattern of open development, and implement the concept of win-win cooperation. Higher education institutions should shoulder their due responsibilities, provide more valuable research results, and provide strong think tank guarantee for the smooth implementation of the national strategy.

We should give full play to professional research ability and the influence to the government and the public, and promote state-to-state policy coordination and closer people-to-people ties, laying a solid public opinion foundation for the implementation of the Belt and Road Initiative. We should build a platform of exchanges for the political, commercial and educational circles, and strengthen the policy dialogue and consultation among countries along the Belt and Road to enhance mutual trust and consensus.

This book was written based on the achievements of Phase II Research titled “Study on the International Competition and Cooperation under the Change of Global Governance Structure” (2011–2012) and the ongoing Phase III titled “Study on Coordination Mechanism between China and Asia, Africa and Latin America under the Dual Circulation of Global Value” by the China Development Bank and the Peking University and the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* officially announced on March 28, 2015. Relevant experts took the Belt and Road as the theme, deeply analyzed the active role of the Belt and Road Initiative on achieving the industrial and spatial synergy among developing countries from the perspective of industry and space. The book collected such experts’ latest results of related research, which is of much reference significance to fully understanding the connotation, deeply exploring the strategic value and widely expanding the strategic vision. I sincerely hope that the Belt and Road Initiative will bring profound changes to our social economy and regional international relations, and hope this book will benefit every reader. I would like to thank Tang Yuxuan, post-doctor, Yi Tian and Yan Qiangming, doctoral candidates, and Xin Xing and Luo Chang, postgraduates of Peking University, for their revision and correction of the manuscripts.

Finally, due to the limited time, energy and ability, there might be some mistakes and flaws in this book. Please don’t hesitate to correct me.

Beijing, China
December 2016

Wei Liu

Overview

This study starts with the international economy and trade pattern under the dual circulation framework and focuses on the role of China as an industrial and spatial hub and its leading mechanism under the Belt and Road Initiative. Currently, there is adequate academic research on the value circulation between China and developed economies, but relatively less research on the value circulation between China and the countries and regions along the Belt and Road, especially some less developed economies. Now, the economic development of China and developing economies are increasingly inseparable from the value circulation, and industrial and spatial synergetic development in the circulation is also the cornerstone for long-term, stable and sustainable development of China in the future. Therefore, it is necessary to carry out theoretical and empirical research. The major issue explored in this study is whether there is any inherent industrial and spatial connectivity between China and countries (regions) along the Belt and Road. This study will analyze the necessity of industrial and spatial synergetic development along the Belt and Road from the perspective of industrial and spatial division of labor. Secondly, it analyzes and compares the realization path of industrial and spatial synergetic development along the Belt and Road from the perspectives of historical evolution, current status, and the relations between industries and economic growth and fluctuations, and mainly studies the industrial and spatial diffusion mechanism under the Belt and Road Initiative, analyzes the effect of synergetic development on both sides, and provides corresponding policy recommendations. The study is divided into four parts: country, industry, space, and theoretical history.

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Part I

On Comparative Analysis

Exchanges Go Beyond Language Barriers, Belt and Road Countries Seek Common Development

Due to the ethnic, cultural, economic and political diversities of the countries along the Belt and Road, how much we understand these countries determines the depth and breadth of our cooperation with them. From a horizontal view of different countries, this chapter presents an in-depth and detailed study of the social and economic situations of the countries and regions along the Belt and Road other than China, providing a broad and substantial map of economy and culture as a reference for smooth implementations of the Belt and Road Initiative.

Comparative Analysis of Economy along the Belt and Road



Hui Zhang, Yuxuan Tang, Tian Yi, and Qiangming Yan

The overall strategic thinking of the Belt and Road, which is an initiative put forward under the “new normal” of China’s economy, was formed in 2013, improved in 2014 and implemented in 2015. The Belt and Road Initiative (hereinafter referred to as the BRI) is a global governance mechanism led by China to create a cross-regional governance platform spanning Asia, Europe and Africa under the dual circulation framework of the global value chains. It is designed to balance economic governance and social governance, so as to promote the upgrading of domestic industrial structure and finally achieve a peaceful rise. The BRI was proposed at a critical moment of increasingly serious polarization of global economic development, marginalization of developing economies and intensified domestic polarization of developed economies amid the globalization of Neoliberalism in the 1970s and 1980s. On the basis of a five-pronged approach (policy coordination, connectivity of infrastructure and facilities, unimpeded trade, financial integration, and closer people-to-people ties) and aiming at building a community with shared interests and responsibilities with a shared future, China advocates a fairer and more peaceful new pattern of globalization for mutual benefits and win–win outcomes under the guidance of the spirit of the Silk Road. The spirit of the Silk Road firmly believes that “countries of different races, beliefs and cultural backgrounds are fully capable of sharing peace

This report was jointly authored by Zhang Hui, associate dean and professor of the School of Economics, Peking University; Tang Yuxuan, a postdoctoral researcher of the School of Economics, Peking University; Yi Tian, a doctoral candidate of the School of Economics, Peking University; and Yan Qiangming, a doctoral candidate of the School of Economics, Peking University.

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and development on the basis of solidarity, mutual trust, equality, inclusiveness, mutual learning and win–win cooperation.”

The BRI has received active responses from more and more countries and regions since it was proposed four years ago. China has got extensively involved in the economic construction of various countries along the Belt and Road, and gradually built a platform for fairer, more peaceful, mutually beneficial and win–win international cooperation. Combining the “Silk Road” inherited from more than 2000 years ago with the maritime hubs, the BRI involves dozens of countries and regions along the Belt and Road, breathing a new life into several economic circles in Europe, Asia and Africa and creating a broader space for world economic development.

The more than 60 countries and regions currently covered by the BRI have diverse yet interrelated geographical and historical backgrounds as well as economic developments. China’s cooperation with the countries along the Belt and Road is to achieve common development and common prosperity, which requires close industrial synergy among all parties in the cooperation zone. The BRI closely links China with developed European countries via Central Asia and Eastern Europe, and consolidates China’s role in the first circulation of the world’s dual circulation system. Meanwhile, as the developing countries in the second circulation along the Belt and Road (except Singapore) feature strongly complementary economic structures, especially industrial structures and trade structures, they are eagerly looking for new economic growth points. “Knowing well yourself and your partner” is essential in international economic cooperation. Through in-depth study of the countries along the Belt and Road, this study measures various important economic indicators such as the industries, and fully analyzes the development demands of all countries under the BRI, for a useful exploration of China’s industrial synergy with countries along the Belt and Road and wider related areas.

As the advocator of the BRI, China’s social-economic development trajectory can be used as an important reference by most developing countries. All developing countries are currently faced with the urgent task of developing economy and improving people’s livelihood. According to the World Bank’s classification of national income, in 1987 there were 49 low-income countries, of which 26 remained in the class in 2015. China, Equatorial Guinea, Guyana and Maldives became upper-middle-income countries; and 19 countries (Bangladesh, Bhutan, Cambodia, Ghana, India, Indonesia, Kenya, Laos, Lesotho, Mauritania, Myanmar, Nigeria, Pakistan, the Democratic Republic of Sao Tome and Principe, Solomon Islands, Sri Lanka, Sudan, Vietnam and Zambia) became lower-middle-income countries in 2015. Most of these countries, adjacent to China, are located along the Asia-Africa borders. In 2015, low-income countries remained mainly in Africa and southern region of Asia. As a populous developing country, China has transformed itself from a low-income to an upper-middle-income country in just 30 years after its reform and opening-up, and is elbowing its way into the rank of high-income developing countries, contributing a lot to worldwide poverty alleviation.

During the 1978–2015 “miracle of growth” era, China’s average annual GDP growth rate was 9.71%, while its annual GDP per capita growth rate stood at about 9%. Since it surpassed Japan in 2010, China has remained the world’s second largest

Table 1 China's GDP index from 1978 to 2015

Year	GDP index preceding year = 100	Year	GDP index preceding year = 100	Year	GDP index preceding year = 100
1978	100.0	1991	109.3	2004	110.1
1979	107.6	1992	114.2	2005	111.4
1980	107.8	1993	113.9	2006	112.7
1981	105.1	1994	113.0	2007	114.2
1982	109.0	1995	111.0	2008	109.7
1983	110.8	1996	109.9	2009	109.4
1984	115.2	1997	109.2	2010	110.6
1985	113.4	1998	107.8	2011	109.5
1986	108.9	1999	107.7	2012	107.9
1987	111.7	2000	108.5	2013	107.8
1988	111.2	2001	108.3	2014	107.3
1989	104.2	2002	109.1	2015	106.9
1990	103.9	2003	110.0		
The times of the GDP in 2015 to that in 1978					30.27
Average annual economic growth rate (%)					9.71

Source Based on the data from *China Statistical Yearbooks*

economy after the USA (see Tables 1 and 2). During this period, it created two high-speed growth cycles with an average annual growth rate of more than 10% for five consecutive years (the growth rate in the first cycle was 12.4% in 1992–1996 and that in the second was 10.8% in 2003–2007). In 2015, China's total economic volume was 60.6% of that of USA, the world's largest economy, and 263.5% of that of Japan, the second largest economy. The global share of its GDP per capita also skyrocketed to 80% in 2015 from 8% at the beginning of reform and opening up.

After the first industrial revolution, Asia, especially East Asia, gradually deviated from its status as the world economic center, due to the gradual rise of Europe and North America. After the World War II (WWII), with the rapid rise of Japan, especially after more than 20 years of high-speed growth from the 1950s to the 1970s (including three long-lasting booms: “Jinmu boom” from December 1954 to June 1957, “Iwato boom” from July 1958 to December 1961, and “Izanagi boom” from November 1965 to July 1970), and two short-term booms: “Olympic boom” from October 1962 to October 1964 and the rehabilitation program from December 1971 to November 1973), brought back the status of Asia as the global economic center. At the constant price of 2005, Asia accounted for 16.53% of global GDP in 1970. With the deepening of China's reform and opening up, especially since China's accession to the World Trade Organization in 2001, China's economy has witnessed rapid growth for more than 30 years in a row. The rapid improvement of China's global economic status has pushed Asia back to the first position in the world economy. As of 2013, Asia accounted for 30.69% of global GDP, overtaking Europe to become the

Table 2 Comparison of GDP of major countries in the world from 1990 to 2015

Country	GDP (USD100 million)			The ratio of different nations' GDP to world GDP (%)			The ratio of China's GDP to GDP of various countries (%)			Growth rate of GDP of various countries (%)		Inflation rate of various countries (%)	
	1990	2000	2015	1990	2000	2015	1990	2000	2015	2015	2015	2015	2015
China	3569	11,985	108,664.40	1.6	3.7	14.80	–	–	–	6.90	–	1.44	–
USA	57,572	97,648	179,470.00	26.4	30.5	24.44	6.2	12.3	60.55	2.43	–	0.12	–
Japan	30,183	46,674	41,232.58	13.8	14.6	5.61	11.8	25.7	263.54	0.47	–	0.79	–
Germany	17,145	19,002	33,557.72	7.9	5.9	4.57	20.8	63.1	323.81	1.69	–	0.23	–
France	12,445	13,280	24,216.82	5.7	4.1	3.30	28.7	90.2	448.71	1.16	–	0.04	–
UK	9959	14,509	28,487.55	4.6	4.5	3.88	35.8	82.6	381.45	2.33	–	0.05	–
Italy	11,334	10,973	18,147.63	5.2	3.4	2.47	31.5	109.2	598.78	0.76	–	0.04	–
Brazil	4620	6447	17,747.25	2.1	2.0	2.42	77.3	185.9	612.29	–3.85	–	9.03	–
Russia	5168	2597	13,260.15	2.4	0.8	1.81	69.1	461.5	819.48	–3.73	–	15.53	–
India	3175	4602	20,735.43	1.5	1.4	2.82	112.4	260.4	524.05	7.57	–	5.87	–
World	218,133	320,019	734,336.40	–	–	–	–	–	–	2.47	–	1.44	–

Sources Data of 1990 and 2000 are sourced from *International Statistical Yearbook 2010*, and data of 2015 are sourced from the World Bank

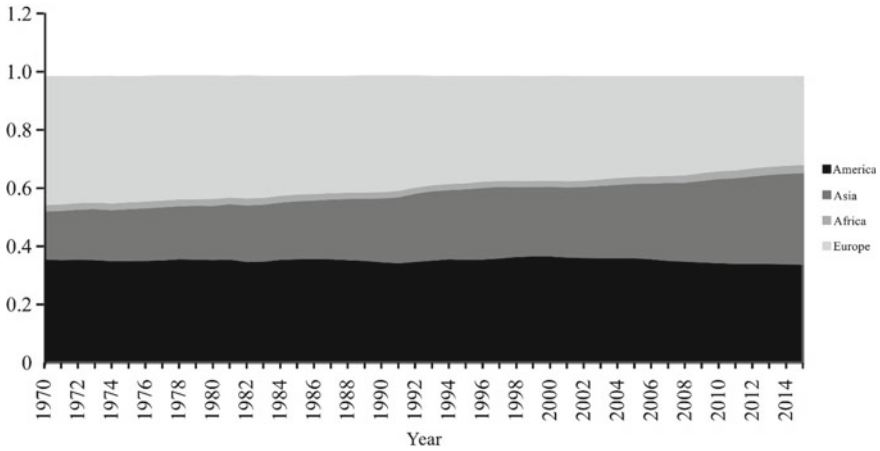


Fig. 1 Economic development of continents from 1970 to 2015. *Source* UNCTAD

world’s largest continent by economic volume. As can be seen from Fig. 1, the global share of Asian economy has been on the rise since 1970. Japan’s industrial-capacity cooperation partners were extended from the “Four Asian Tigers” (Taiwan and Hong Kong of China, Singapore and South Korea) in the 1960s and 1970s to include five Tiger Cub Economies (Thailand, Malaysia, Indonesia, the Philippines and Vietnam) and the mainland of China in the 1970s and 1990s. As a result, Asia, with East Asia in particular, was brought back to the center of the world economic stage, while the sustained and rapid growth of China since the new century pushed Asia to the top position of the world economic stage.

From the trade perspective of the three major global economies—the EU, North America and East Asia, China’s total import and export trade with the EU in 2002 was USD118.5473 billion, which for the first time exceeded that of Japan (USD110.7711 billion). After that, the trade gap with the EU between China and Japan further widened. As of 2014, China’s total import and export trade with the EU was 4.3 times that of Japan (3.9 times in 2013). In 2003, China’s total import and export trade with North America (the USA and Canada) amounted to USD208.3917 billion, which for the first time surpassed that of Japan (USD189.0308 billion). After that, the trade gap with North America between China and Japan further widened. As of 2014, China’s total import and export trade with North America was 3.2 times that of Japan (3.0 times in 2014). In 2007, China’s total import and export trade with seven Southeast Asian countries (Vietnam, Cambodia, the Philippines, Thailand, Malaysia, Singapore and Indonesia) amounted to USD172.1821 billion, which for the first time exceeded that of Japan (USD172.1179 billion). After that, the trade gap with the seven Southeast Asian countries between China and Japan further widened. As of 2014, China’s total import and export trade with the seven Southeast Asian countries was 1.6 times that of Japan (1.4 times in 2013).

From the perspective of economic structure evolution, China has made substantial progress in terms of new industrialization, agricultural modernization, urbanization and informatization. Compared with other industrialized nations, China has moved quickly from the initial phase of industrialization starting in 1978 to the mid- and post-industrialized phase, achieving almost 70% of its industrialization goals. Its agricultural modernization reached the level of upper-middle-income countries from low-income countries, with its agricultural labor force dropping from 70.5% in 1978 (the average proportion in low-income countries is 72%) to 36% of the working population (the average proportion is 30% in upper-middle-income countries). Its urbanization level increased from 17.9% in 1978 to 56.1% in 2015. Moreover, the increasing marketization and macro-control in China helped greatly improved the stability of the Chinese economy on the premise of maintaining high growth.

According to the *Report on World Manufacturing Production* issued by the United Nations Industrial Development Organization (UNIDO), China has contributed greatly to the growth of global manufacturing industry. At the constant price of 2000, the share of the value added of Chinese manufacturing industry within the global total rose from 5.1% in 1995 to 20.8% in 2014, which means China has overtaken the United States (19.30%) and emerged as the largest manufacturer in the world. As to the products and output of manufacturing industry, in 2014, China ranked No. 1 for 7 out of the 22 categories of products (based on ISIC): 49.8% for tobacco, 29.2% for textiles, 24.7% for garments and furs, 33.4% for leatherware and shoes, 23.8% for alkaline metal, 28.2% for power equipment, and 34.1% for other vehicles. For another 15 categories, China ranked top 3; China ranks top 6 in 21 out of the 22 categories, the only exception is the category of motor vehicle, trailer and semitrailer. Actually around half the following products are made in China: cement, sheet glass, ceramics for the construction industry, mobile phone, PC, color TV, display, PBX, and digital camera. In addition to the labor, capital and technology intensive industries mentioned above, Alibaba, Tencent, Baidu and Jingdong have occupied four of the top ten global Internet economies in the emerging knowledge-intensive Internet economy in recent years, becoming the second largest economy in the global Internet economy after the USA.

I. Background of the industrial synergy under the BRI

(I) Transfer of world economic center

The industrial revolution was accompanied by several transfers of world economic centers. In the first half of the nineteenth century, the UK first completed the industrial revolution and became the center of the world economy. In 1830, the UK accounted for 21.5% of the total world trade, which rose to 25% in 1870, but dropped to 19% in 1900 and further decreased to 14% in 1938. In the above years, the total world trade share of the USA was 5.4%, 7.5%, 10.4% and 10.7%, respectively, far below that of the UK. However, the USA seized the opportunity of the development of the leading sectors during the second industrial revolution and achieved the highest industrial output value in the world in 1894. After more than half a century of development, the total world trade share of the USA rose to 16% in 1953, while that of the UK was

only 10%. The USA overtook the UK in the field of world trade. From the 1950s to the 1970s, Japan vigorously promoted its export policy. Meanwhile, Japan was rich in young labor resources (in 1953, the population of Japan was 87.5 million, that of South Korea was 21 million, that of Taiwan, China was 8.8 million, and that of Thailand was 21.2 million). As a result, Japan became one of the main sources of USA imports. The considerable size of the domestic market in the USA promoted the rapid improvement of Japan's labor productivity. Japan's export trade increased rapidly from 0.44% in 1948 to 9.9% in 1993. However, in the mid-1990s, Japan saw a gradually shrinking size of young labor force and a slowdown in its economic growth. At this time, China, as the most populous country, attracted foreign direct investment with its large labor reserve. The global share of China's export trade increased to 13.72% in 2015 from 0.91% in 1980. According to the trade, GDP, investment and population data of China and Japan shown in Tables 3 and 4, China gradually surpassed Japan in various fields from the beginning of the twenty-first century. China's import of goods and services was 1.08 times that of Japan in 2005, and its GDP was 1.1 times that of Japan in 2010. Its FDI increased to an amount dozens of times of Japan's, while its industrial added value remained much faster than that of Japan. With the rapid growth rate and closer ties with the world economy, China took the place of Japan as the driver of Asian economic development. Driven by its domestic reform, foreign investment and export, China achieved a long-term high-speed growth.

Figure 2 shows the proportions of world GDP from 1700 to 2012. It can be seen that the UK, as the world economic center in the first half of the nineteenth century, led the European economy from the level of 30% to 47% of the world total in 1913. After that, the USA drove the American economy from about 20% of the world's level to about 40% in 1950. Driven by Japan, the share of the Asian economy was brought from about 20% to about 30% in 1990. Then, during the period of China's rapid growth, the global share of the Asian economy grew to about 40%.

Table 5 shows the GDP per capita levels of major countries in previous global relocation of industries. It can be seen that the proportion of the UK's GDP per capita in that of the USA continued to rise in the period from 1850 to 1900, and then began to decline. This shows that the UK's rapidly-growing GDP per capita at this stage led the economic development of Europe. Compared with Japan, the GDP per capita of the USA gradually declined after 1960. Compared with China, Japan's GDP per capita declined after 2000. This once again verifies the historical facts that the global economic center transfers mentioned above.

Since the 1950s, the global share of European and American economies has been declining year by year, while the total economic volume of Asia has been growing rapidly, showing a similar trajectory to the growth trend of the global population. According to the 1700–2012 world population distribution shown in Fig. 3, the proportion of Europe and America in the world population dropped to 10% in 2012. Economic development cannot be separated from the support of labor force. Although most of the European and American economies are developed countries, due to the weak population growth in the future, labor will become more and more scarce, which is not conducive to their long-term development. Although Asia has always been the

Table 3 Comparison of major economic data between China and Japan

Year	Import of goods and services		
	China (BoP, USD100 million)	Japan (BoP, USD100 million)	China/Japan (%)
1996	1541.27	4421.39	34.86
2005	6487.12	6030.31	107.58
2010	13,809.20	7917.93	174.40
2015	20,446.52	8035.74	254.44
Year	GDP		
	China (USD100 million)	Japan (USD100 million)	China/Japan (%)
1982	2035.50	11,168.41	18.23
1996	8608.44	47,061.87	18.29
2005	22,685.99	45,718.67	49.62
2010	60,396.59	54,987.18	109.84
2015	108,664.44	41,232.58	263.54
Year	Net flow of FDI		
	China (BoP, USD100 million)	Japan (BoP, USD100 million)	China/Japan (times)
1982	4.30	4.40	0.98
1996	401.80	2.08	193.51
2005	1041.09	54.60	19.07
2010	2437.03	74.41	32.75
2015	2498.59	-0.42	-5965.23

Source World Bank

Table 4 Annual comparison of industrial added value between China and Japan from 1982 to 2014 (Unit: %)

Year	China	Japan
1982	5.51	0.54
1996	12.11	2.75
2005	12.07	1.80
2008	9.80	-0.46
2014	7.30	1.49

Source World Bank

most populous continent, its proportion in the world population is still rising slowly. With the largest population, China is still a country with relatively rich labor resources in the world, despite the gradually shrinking demographic dividend. Compared with India, the world's second populous country, China's labor force has higher quality. In 2015, the adult literacy rate in India was only 72.22%, while that in China reached 96.36%. At the same time, China's potential huge domestic market demand and the

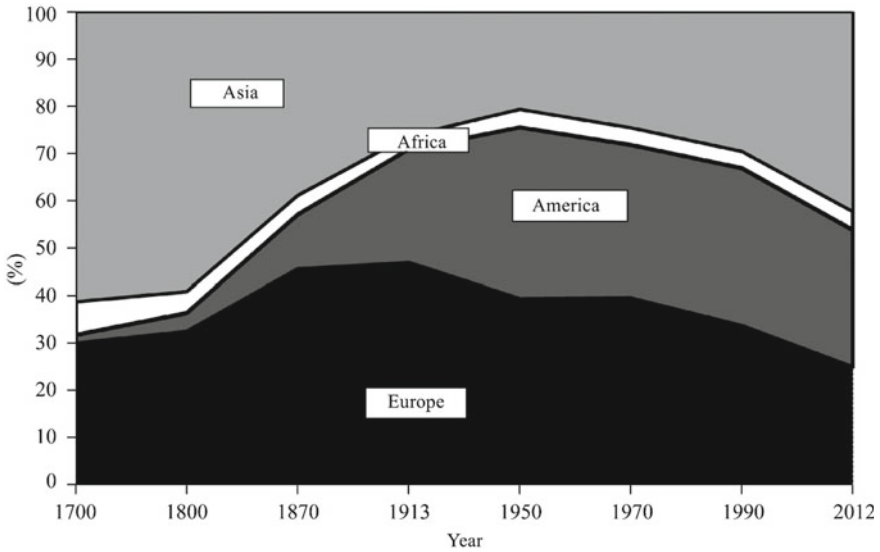


Fig. 2 Proportions of world GDP from 1700 to 2012. *Source* Piketty, T. *Capital in the Twenty-First Century* [M]. The Belknap Press, 2004. Due to the different sources of data, the results here are different from those obtained based on the World Bank data in the preceding part

new dividends of continuous economic growth brought by the continuous reform will provide sustained impetus for China to drive the economic development of Asia.

Since the reform and opening up in 1978, thanks to the opening-up policy and cheap labor costs, China has undertaken a large number of international production outsourcing orders and acted as the “world factory”. This led to China’s rapid growth in trade and economy, and turned China from a country with complete industrial sectors to a large manufacturing country. The *Report on World Manufacturing Production* issued by the UNIDO (see Table 6) estimated that the growth rate of global manufacturing added value in 2015 was 1%, while China was expected to see a growth rate of 7.4% and remained a major driver of the global manufacturing growth, in spite of slowing down of its growing rate. Meanwhile, according to the constant price at 2010, the global share of China’s manufacturing added value increased from 11.75% in 2005 to 23.84% in 2015, ranking first in the world.

Table 7 shows the changes in manufacturing related indicators of China, as well as the average level of the upper-middle-income countries and the world. As can be seen from Table 7, the growth rate of China’s manufacturing added value tends to be stable, and its per capita manufacturing added value has approached the world average and reached the average of upper-middle-income countries.

In addition, in terms of the output of manufacturing products (see Table 8), compared with 1978, the output and world ranking of China’s major industrial products have increased significantly. In 2014, the output of China’s domestic steel reached 822.31 million tons, which ranked the first in the world and was 24.9 times

Table 5 Historical Data of GDP per capita of Major Countries

Year	UK		USA		Japan		China
	GDP per capita (International Dollar in 1990)	Share in the USA's GDP per capita (%)	GDP per capita (International Dollar in 1990)	Share in Japan's GDP per capita (%)	GDP per capita (International Dollar in 1990)	Share in China's GDP per capita (%)	GDP per capita (International Dollar in 1990)
1850	2330	1.29	1806	2.66	679	1.13	600
1870	3190	1.31	2445	3.32	737	1.39	530
1900	4492	1.10	4091	3.47	1180	2.16	545
1913	4921	0.93	5301	3.82	1387	2.51	552
1930	5441	0.88	6213	3.36	1850	3.26	568
1938	6266	1.02	6126	2.50	2449	4.36	562
1950	6939	0.73	9561	4.98	1921	4.29	448
1960	8645	0.76	11,328	2.84	3986	6.02	662
1970	10,767	0.72	15,030	1.55	9714	12.48	778
1980	12,931	0.70	18,577	1.38	13,428	12.66	1061
1990	16,430	0.71	23,201	1.23	18,789	10.04	1871
2000	20,353	0.71	28,467	1.37	20,738	6.06	3421
2008	23,742	0.76	31,178	1.37	22,816	3.39	6725

Source Historical Statistics of the World Economy by Maddison

higher than that in 1978. The output of coal, cement, chemical fertilizer, cloth and television sets all secured the No.1 place in the world, while crude oil and power generation ranked fourth and second in the world.

In knowledge-intensive industries, the USA has 11 of the world's top 20 valuable Internet companies and Asian countries have nine, of which six are in China. The total market value of Alibaba, Tencent, Baidu and JD.COM reach USD426 billion. The specific ranking and output value are as shown in Table 9. China's knowledge-intensive industries have also shown a good development.

In terms of mileage of traffic network (see Table 10), the total mileage of transportation lines in China in 1978 was only 1.235 million km. By 2014, the total mileage increased to 9.5568 million km (including village roads), which was 7.74 times that in 1978. Among them, the mileage of highways was 4.4639 million km, 55.34 times that in 1949; that of railways was 111,800 km, 5.2 times that in 1949; that of oil and gas pipelines increased by 527.5 times from 200 km in 1958 to 105,700 km in 2014; that of regular flights increased from 11,300 km in 1949 to 4.6372 million km in 2014, and the number of civil airports increased to 200 in 2014, 164 more than that in 1950. In terms of expressways, the 147 km-long Shanghai-Jiading Expressway, the first expressway in China, was completed and opened to traffic in 1988; China's mileage of expressways exceeded 10,000 km in 1999 and 20,000 km in 2002; by the end of

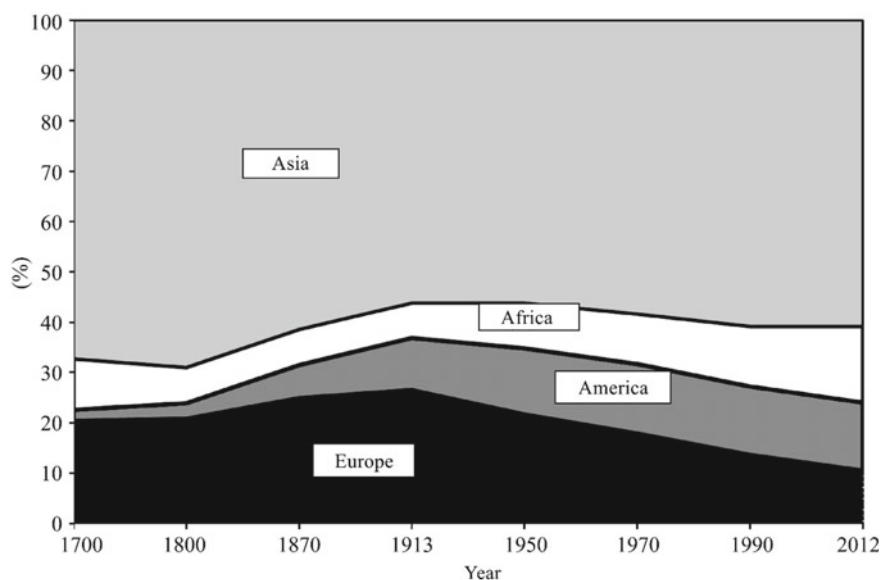


Fig. 3 Distribution of world population from 1700 to 2012. *Source* Piketty, T. *Capital in the Twenty-First Century* [M]. The Belknap Press, 2004

Table 6 Proportions of manufacturing added value in the world's total in 2005, 2010 and 2015 (Unit: %)

Country	2005	2010	2015
China	11.75	18.69	23.84
USA	20.43	17.77	16.54
Japan	11.14	10.43	8.93
Germany	7.29	6.55	6.37
South Korea	2.54	2.95	3.09
India	1.74	2.36	2.45
Italy	3.7	2.94	2.42
France	3.13	2.61	2.34
Brazil	3.08	2.89	2.26
Indonesia	1.65	1.7	1.93
UK	2.66	2.15	1.93
Russia	2.15	1.9	1.77
Mexico	1.91	1.69	1.7
Canada	2.2	1.57	1.45
Spain	2.18	1.69	1.44

Source *The Report on World Manufacturing Production* issued by the UNIDO

Table 7 Comparison of China's manufacturing industry with the average of upper-middle-income countries and the world

Indicator	Period	China	Upper-middle-income countries	World
Annual growth rate of manufacturing added value (%)	2005–2010	11.10	5.85	2.03
	2010–2014	7.89	4.43	2.24
Per capita value added of manufacturing industry (USD)	2005	914.36	884.80	1201.63
	2014	1218.99	1066.46	1276.66

Source *The Report on World Manufacturing Production* issued by the UNIDO

Table 8 World ranking of China's output of major industrial products

Industrial products	1978		2014	
	Output	Ranking	Output	Ranking
Steel (10,000 tons)	3178	5	82,231	1
Coal (10,000 tons)	61,800	3	387,400	1
Crude oil (10,000 tons)	10,405	8	21,143	4
Power generation (100 million kWh)	2566	7	56,496	2
Cement (10,000 tons)	6524	4	249,207	1
Chemical fertilizer (10,000 tons)	869	3	6877	1
Cloth (100 million kWh)	110	1	894	1
TV (100 million kWh)	0.4	8	14,129	1

Source Wind Economic Database

Table 9 Top 10 internet companies in the world by market value in September 2015

Company	Market value (USD1 billion)
Google	390.5
Facebook	193.9
Alibaba	165.0
Amazon	149.6
Tencent	147.6
Baidu	73.9
eBay	63.3
Priceline	60.5
Yahoo	42.3
JD.COM	39.5

Source Based on information available online

Table 10 Operating mileage of railways, expressways and civil aviation from 1949 to 2014 (Unit: 10,000 km)

Year	Railway	Expressway	Civil aviation
1978	5.17		14.9
1985	5.52		27.7
1990	5.79	0.05	50.7
1995	6.24	0.21	112.9
2000	6.87	1.63	150.3
2005	7.54	4.10	199.9
2008	7.97	6.03	246.2
2013	10.31	10.44	260.29
2014	11.18	11.19	287.00

Source *China Statistical Yearbook*

2014, the national mileage of expressways had reached 111,900 km, which linked all provincial expressways and expressways in most central cities. China has completed the course of development that took developed countries 30 to 40 years in just more than 10 years. At present, China's total mileages of highways and expressways both rank second in the world.

(II) Development orientation

According to the World Bank's classification of national income, in 1987 there were 49 low-income countries, of which 26 remained in the class in 2015. China, Equatorial Guinea, Guyana and Maldives became upper-middle-income countries. Nineteen countries (Bangladesh, Bhutan, Cambodia, Ghana, India, Indonesia, Kenya, Laos, Lesotho, Mauritania, Myanmar, Nigeria, Pakistan, the Democratic Republic of Sao Tome and Principe, Solomon Islands, Sri Lanka, Sudan, Vietnam and Zambia) became lower-middle-income countries in 2015. Most of these countries, adjacent to China, are located along the Asia-Africa borders. In 2015, low-income countries remained mainly in Africa and southern region of Asia. We will compare their trade with China between the countries or regions that have transformed from low-income countries to upper-middle-income countries or lower-middle-income countries and the 26 low-income countries.

Figures 4 and 5 are based on the import and export trade data of various countries collected by UN COMTRADE. The data in 2013 are selected as they contain the largest number of countries and are more representative. Figure 5 shows the proportion of total import and export trade between the countries that have transformed from low-income countries (regions) to lower-middle-income countries (regions) and China in their respective total trade. The average proportion of import and export trade between the countries (regions) with data available and China was 15.12% in 2013 and 15.97% in 2014. In 2015, there were only a few countries with data available, and their average proportion of import and export trade with China reached 24.91%. The proportion of import and export trade between Sudan, which has the

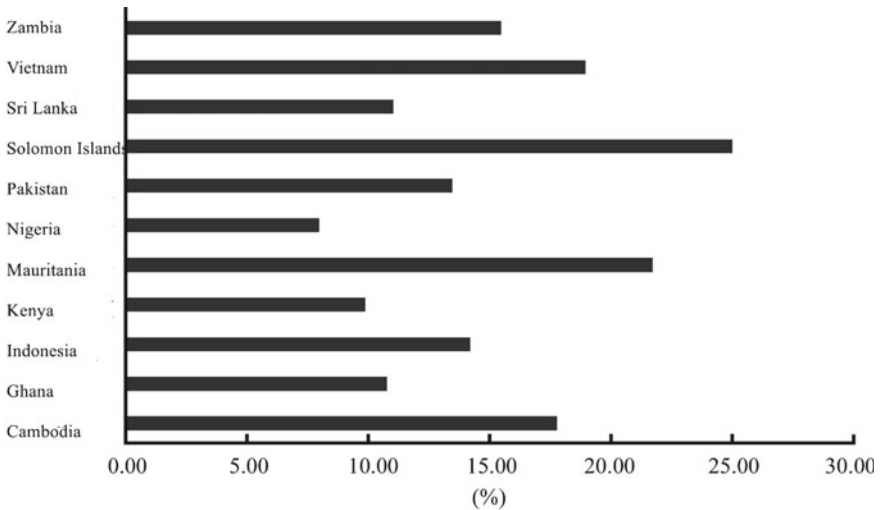


Fig. 4 Trade between countries that transformed from low-income countries to lower-middle-income countries (regions) and China in 2013

highest share in the trade with China (Sudan is not included in the figure due to lack of data in 2013), and China reached 36.20% in 2015. Compared with the trade of countries (regions) which have always been in the low-income class, the average proportion of the import and export trade between countries (regions) in this class and China was 12% in 2015, with Ethiopia at 24.46% (the highest), and Central African Republic at only 6.67% (the lowest). As a whole, the proportion was lower than that of those countries that have transformed from low-income countries (regions) to lower-middle-income countries (regions). It can be seen that countries (regions) with close trade ties with China have also seen steady income rise driven by China's rapid economic development. Relatively speaking, the countries (regions) with less trade exchanges with China have relatively sluggish economy and remain in the low-income class.

Figure 6 shows the trade of Maldives and Guyana, which have become upper-middle-income countries, with China. Since 1999, these two countries have seen a rising proportion of trade with China. Maldives entered the upper-middle-income class in 2010, and the proportion of its trade with China has declined since 2011. Guyana entered the upper-middle-income class in 2015, and the proportion of its trade with China decreased in 2015. In the transformation from low-income to lower-middle-income countries, these two countries have seen a rising proportion of trade with China. Obviously, in this process, their trade activities with China have breathed a continuous life into their domestic economic development, leading their healthy and high-speed economic development. When these countries enter the upper-middle-income stage, China's leading role will be weakened.

(III) Equity and Sustainable Development

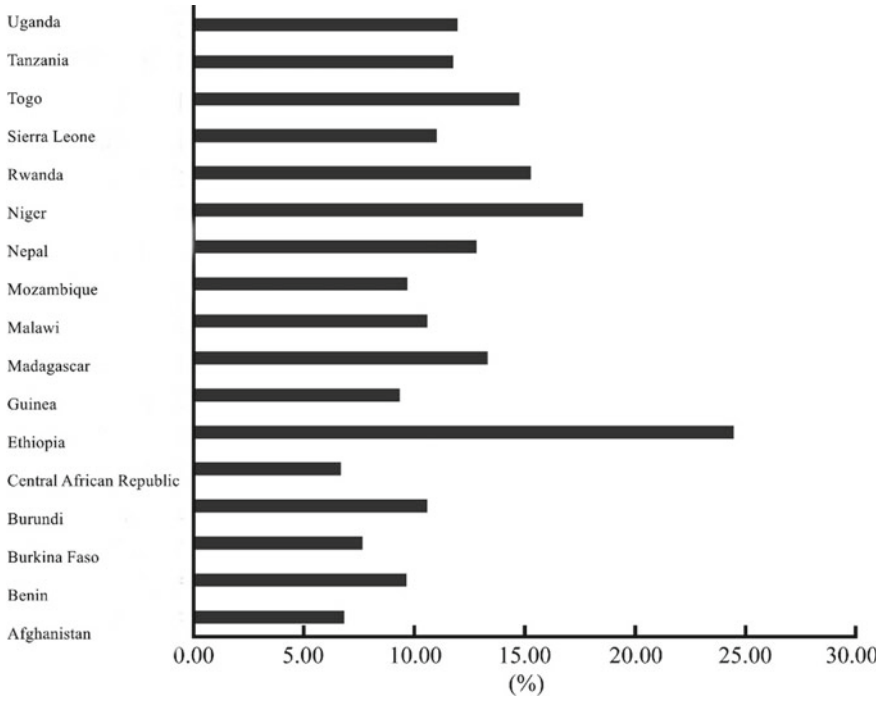


Fig. 5 Trade between low-income countries and China in 2013

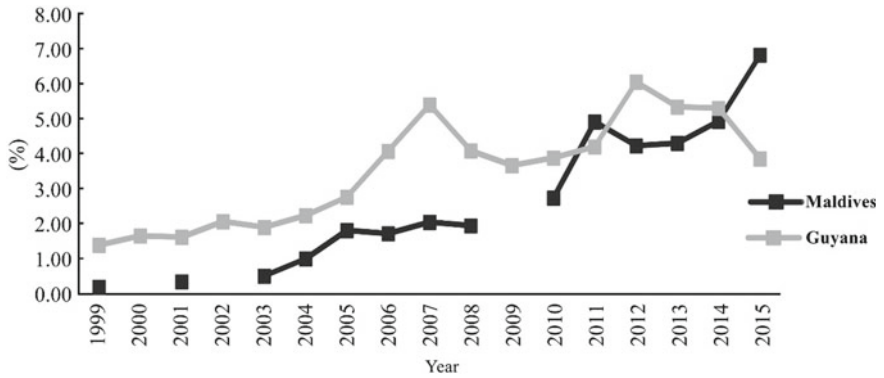


Fig. 6 Trade between countries that have transformed into upper-middle-income countries and China

Table 11 China's proportion data of commodity imports by SITC in 2010 and 2015 (Unit: %)

Year	SITC0	SITC1	SITC2	SITC3	SITC4	SITC5	SITC6	SITC7	SITC8	SITC9
2010	1.55	0.17	15.18	13.54	0.65	10.70	9.40	39.38	8.11	1.32
2015	3.00	0.34	12.56	11.81	0.48	10.16	8.03	40.93	7.89	4.79

Source UN Comtrade Database

Table 12 Changes in trade of major import commodities (Unit: %)

	Growth rate of import value	Growth rate of import volume
Trucks (2001–2010)	734.08	325.43
Automobile chassis fitted with engines (2001–2014)	587.88	144.13
Dump trucks (2001–2010)	219.62	62.83
Aircraft (2001–2013)	471.72	218.03

Source China Economic and Social Development Statistical Database

Although China has achieved many economic fruits and promoted the economic development of its neighboring trade partners, the current development mode has some problems which will hinder future sustainability. Next, we will unfold analysis from import trade and export trade aspects.

1. Import trade

As shown in Table 11, machinery and transportation equipment (SITC7) accounted for the largest share of imports in China's commodity trade, with a proportion of 40.93% in 2015; followed by crude materials, etc. (SITC2), mineral fuels, etc. (SITC3) and chemicals, etc. (SITC5). In 2015, the imports of these four categories accounted for 75.46% of China's total imports.

We select China's major imports to analyze its import trade development here-under. As shown in Table 12, the import value of trucks in China increased by 7.34 times from 2001 to 2010, but the import volume only increased by 3.25 times; in the same period of time, the import value of dump trucks in China increased by 2.2 times, but the import volume only increased by 62.83%. As of 2013, the import value of aircraft has increased by 4.72 times, but the import volume has only increased by 2.18 times; the import value of automobile chassis also grew much faster than the import volume. Obviously, China has been playing an increasingly important role in the world's import trade in recent years, but its import volume has grown far more slowly than its import value. It indicates that China's economic development has been accompanied with growing unit prices of imported goods.

2. Export trade

As can be seen from Table 13, machinery and transport equipment (SITC7) accounted for the largest share of exports in China, with a proportion of 46.76% in 2015, followed by miscellaneous manufactured articles (SITC8) and manufactured goods

Table 13 China’s export proportion of commodities by SITC in 2010 and 2015 (Unit: %)

Year	SITC0	SITC1	SITC2	SITC3	SITC4	SITC5	SITC6	SITC7	SITC8	SITC9
2010	2.61	0.12	0.74	1.69	0.02	5.55	15.79	49.51	23.89	0.09
2015	2.55	0.15	0.61	1.22	0.03	5.68	17.24	46.76	25.66	0.09

Source UN Comtrade Database

classified chiefly by material (SITC6). In 2015, the export of these three categories accounted for 89.67% of China’s total export.

From 2004 to 2011, China’s export trade increased from USD593.3 billion to USD1.8984 trillion, showing an increase of 2.2 times. Some phenomena behind such a rapid growth are worth paying attention to. During the same period, the international iron ore price per ton increased from USD26 to USD89, soaring by 242%, but China’s steel export price only increased by 67%. China is the world’s largest exporter of rare earth resources. In 2009, the export price of rare earth products was only USD8.59, showing an increase of less than USD2 compared with 30 years ago. However, the production and mining process of steel or rare earth products destroys vegetation and farmland, pollutes air and surface water, and brings great harm to human health and natural ecological environment. China has paid a high cost for the rapid growth in its export trade value and its new status as the world’s largest exporter. What’s more, the growth of export value was brought by increasing export volume, rather than providing added value of products to the upstream of the industrial chain.

Therefore, no matter from the perspective of import trade or export trade, the process of China’s great development was accompanied with frequent conflicts on land expropriation, dwindling demographic dividend, various resource depletions, and worsening domestic ecological environments. All these are the non-renewable costs paid for the current development fruits. Such development path is unsustainable for China and other developing countries. Therefore, the Belt and Road Initiative is designed to form a dual circulation framework, break the trade system led by developed countries, achieve wider industrial-capacity cooperation, and bridging economic exchanges and assistance among developing countries, thus creating fairer and more sustainable development opportunities for developing countries.

II. New Mode under the Dual Circulation Framework

(I) Operation mechanism of the Belt and Road Initiative

As the largest developing country in the world, especially in East Asia, China’s industrial structure is not only an integral part of international division of labor system, but also maintains relative independence and integrity. China has diverse conditions of natural resources and human resources in different regions, leading to unbalanced regional productivity development, which has resulted in China’s diversified industrial structures. Meanwhile, in its participation in international division of labor, China has fully absorbed technological capital from all over the world, which has helped China comprehensively improve its industrial structures, and is turning it into the country with the most complete industrial structures in East Asia.

Due to its complete industrial structures, China not only has labor-intensive and capital-intensive industries under the vertical division of labor, but also has modern technology industries under the horizontal division of labor. Therefore, China can develop both vertical and horizontal division of labor in its development.

China's industrial structure and development has broken the Flying-Geese Paradigm¹ and completed the gradient industrial relocation from "labor-intensive to capital-intensive and then to technology-intensive". The whole process has crossed the stages experienced by Japan and the "Four Asian Tigers", then ASEAN countries and finally the mainland of China. With China's gradual integration into the international market, developed countries have begun to invest directly in and transfer technology to China. Due to its certain advantages gained in knowledge-intensive fields in a short period of time, China mainly obtained capital and advanced technology directly from the field beyond the gradient of Flying-Geese Paradigm to support its industrial relocation across the geese formation.

The essential of the Flying-Geese Paradigm is industrial relocation. With the economic development of various countries, the traditional Flying-Geese Paradigm was proven unsustainable. From the 1960s to the 1980s, East Asian countries and regions developed export-oriented economy through gradual industrial gradient transfer, which led to the regional economic take-off and formed the Flying-Geese Paradigm. In the 1980s, the Flying-Geese Paradigm with Japan as the leading role was formed in Asia. Under the paradigm, Japan, with an advanced industrial structure, was in the first gradient of the division of labor system, the newly industrialized economies in the second gradient, and the mainland of China and ASEAN countries in the third gradient. The three gradients were respectively characterized by technology-intensive and high value-added industries, capital- and technology-intensive industries, as well as labor-intensive industries.

As China kept upgrading its industrial structure and Japan's economy declined continuously, the mode of industrial division and industrial relocation in Asia, which used to be dominated by Japan, was gradually broken. Based on the comparative advantages of labor costs and natural endowments of different countries, China's labor-intensive industries and capital-intensive industries can be aligned with surrounding countries and countries along the Belt and Road to drive their industrial upgrading and industrialization, thus establishing a new global industrial chain model with China as the axis linked by its production of intermediate goods. To this end, it is necessary to explore the economic complementarity of countries along the Belt and Road, and to establish and improve the supply chain, industrial chain

¹ The Flying-Geese Paradigm, which was developed by Japanese scholar Akamatsu in 1935, expounds the process of Japan's great economic success through trade and substitution production after World War II, that is, the process of prosperity and decline of a certain industry in different countries along with international division of labor and industrial relocation, and the process of different industrial structure changes in one of the countries. East Asian countries are the economic development form of the Flying-Geese Paradigm: with Japan as the leading goose, followed by the "Four Asian Tigers", and the mainland of China and the five Tiger Cub Economies as the ending geese.

and value chain of developing countries, so as to promote Pan-Asian and Eurasian economic integration.

(II) Historical opportunities

1. Disintegration of the Flying-Geese Paradigm

From the 1960s to the early 1990s, the East Asian economy developed the Flying-Geese Paradigm, which was a relatively complete industrial chain. In the paradigm, Japan served the role of technology source and investment source. Japan constantly upgraded its industrial structure, and relocated its mature and large-scale manufacturing industries to the “Four Asian Tigers” with more cost competitiveness. After the upgrading of the “Four Asian Tigers”, these industries were further transferred to Southeast Asian countries and China’s coastal areas with low labor cost. This paradigm is sustainable only under the following conditions: (1) there is sufficient market demand for the export products of all members in such paradigm; (2) the following members can get financial and technical support from the leading members; (3) the speed of the leading goose should not be too slow, while the catching-up speed of the countries in the following gradient should not be too fast. After the economic bubble burst in the early 1990s, Japan’s economy entered a long-term recession, with an average annual economic growth rate of only about 1% for the whole decade. After entering the twenty-first century, Japan registered a negative economic growth. In the 1990s, Japan failed in competition with the USA in mainstream consumer goods industries such as computers, telecommunications and the Internet. As a result, Japan could no longer maintain its leading role and there were no more conditions to maintain the goose queue.

Meanwhile, in emerging areas such as computers and Internet, a new pattern of direct division of labor was formed among the USA, the “Four Asian Tigers”, the mainland of China and other East Asian economies. This new pattern was characterized by developing countries’ imitation as well as the innovation and competition among developed countries rather than industrial relocation of developed countries. The imitation of developing countries stimulates the developed countries to further develop new-generation products, thus launching an R&D race. This also means the fracture of the closed industrial chain in East Asia. The “disintegration of the goose queue” in 1995 marked the actual bankruptcy of the Flying-Geese Paradigm, which was closed and aimed only at the self-improvement of industrial structure in the past Asian economy.

2. Two debt crises

After the outbreaks of the two debt crises, western developed countries could provide significantly less loan to the real economy due to the broken financial system, resulting into the crisis of real economy with sluggish economy and less supply of foreign capital. The economic downturn of western countries spread to the whole world through international trade, international investment and multinational companies, leading to the global economic recession.

The developing countries that used to provide raw materials for the western countries under the “center-periphery” model failed to directly supply to the developed

countries due to their backward industrial system and technology. As a result, the western countries imported fewer products from these countries and turned to China's huge market. China, with strong manufacturing capacity of manufactured products and improving production technologies of other intermediate goods, became a bridge between developed countries and developing countries.

3. Formation of dual circulation framework

Countries along the Belt and Road have different industrial gradients under the global dual circulation framework. Therefore, China needs to fully tap the complementarity of the economies along the Belt and Road, establish a win-win and rational international division of labor system, and create a new pattern of regional economic integration in the Eurasian region. This is also the main purpose of the Belt and Road Initiative.

The process of industrialization is actually the process of modernization, in which industry plays a key role. In particular, the whole process of transformation from a labor- and resource-intensive industrial structure to a capital-, technology- and knowledge-intensive one promotes economic development.

After the disintegration of the Flying-Geese Paradigm, all countries involved were thinking about how to integrate the resources of the region and construct a new division mode through bilateral or multilateral regional cooperation. With China's opening up, a large developing country with a population of 1.4 billion joined the goose queue. In addition, Japan's economic development continuously stalled after the 1990s, making the goose queue unsustainable. Asian economy that had broken the Flying-Geese Paradigm was at a critical turning point. With its unique position in the international division of labor, China became the world's most important manufacturing base in the world, and was comprehensively and directly integrated into the process of globalization. By then, China's development situation had broken away from the Flying-Geese Paradigm in Asian and even the world's industrial division of labor system. First of all, China's export growth was due to the upgrading of its export structure to mechanical and electrical products, especially the sharp increase in exports of computers, telecommunications and auxiliary products. In the first half of 2001, monitors and mobile phones took the place of traditional export products such as toys and shoes to become China's most exported items. Due to the fierce competition, Chinese household appliance enterprises had to keep improving quality while cutting prices, defeating Japanese household appliances which used to assemble products in Southeast Asia. Moreover, these Chinese enterprises began to export a lot after 1998. As one of the developing countries that attracted the most foreign investment, China's rise has brought great competition pressure to other developing countries in East Asia in terms of attracting foreign investment. These new changes exerted an impact on the Flying-Geese Paradigm.

The core of the Belt and Road Initiative is the formation of the overall economic production network, and the industrial integration needs to be developed according to the development stages of various countries. Countries along the Belt and Road are in different stages of industrialization, have different levels of economic development and form different dominant industries. These industries also form three different

gradients: technology-intensive and high value-added industries (countries in the late stage of industrialization), capital-intensive industries (countries in the mid stage of industrialization), and labor-intensive industries (countries in the early stage of industrialization).

With the end of the era of cheap labor in China, labor-intensive industries (such as textiles, toys) are expected to transfer to countries in early industrialization stage represented by some Southeast Asian countries. Resource-intensive industries (such as energy products, chemical products, metal products) in China can be transferred to countries rich in oil and gas represented by some central and eastern European countries and countries rich in minerals represented by some central Asian countries, while China can expand the export of capital-intensive, technology-intensive and high value-added products and technology to these countries.

Some technology-intensive and high-value-added industries (such as mechanical and electrical products and part of equipment manufacturing) are transferred to the countries in the late stage of industrialization represented by some central and eastern European countries, so as to realize the exchange of technologies.

As a result, the upgrading of countries in the first industrial gradient will lead to the corresponding upgrading of countries in the second industrial gradient, and the upgrading of countries in the second industrial gradient will inevitably lead to the corresponding upgrading of countries in the tertiary industrial gradient, thus achieving effective industrial relocation and building a production network with a clear division of labor in the countries along the Belt and Road, and forming a mode of division of labor and cooperation in the down circulation. Table 14 provides a comprehensive comparison between the Flying-Geese Paradigm and the dual circulation model.

(III) Historical development experience

1. Economic development experience

The rules of globalization are not all just and beneficial to developing countries. Developing countries are subject to many restrictions in the world economy. As a rising developing country, China's industrialization experience and products are more suitable for developing countries. As a result, China has become a potential leader in the down circulation. Being an advocate and coordinator, China will play a more important role in the region. Therefore, in terms of tactics, the Belt and Road Initiative will, on the one hand, help China's globalization, and on the other hand, increase the discourse power of developing countries in the industrial chain as a whole.

China's labor-intensive industries and capital-intensive industries can form vertical division of labor in countries along the Belt and Road. India, Mongolia and other countries are more suitable for undertaking the textiles industry due to their low labor cost and abundant labor force; the seven countries in the Middle East are more suitable for undertaking petroleum processing and coking, chemical and chemical products, rubber and plastic products industries because of their abundant

Table 14 Comparison of operation mechanism between the Flying-Geese Paradigm and the global dual circulation framework

	Flying-Geese Paradigm	Global dual circulation
Theoretical basis	Based on life cycle theory	Based on global value chain
Operating mechanism	Top-down industrial gradients	Interlinked gradients
Leading country	The country as the leading goose must always maintain a fast growth	The interlinked countries maintain stable economic development and have a large market space
Representation	Goose Queue	8-shaped (upper and lower circles)
Participating countries	Differences exist in industrial gradients of the countries involved	Great differences in industrial structure and strong complementarity among the countries
Source of driving force	The sustained economic growth of the country as the leading goose	The comprehensive structure of the interlinked countries
Scope of influence	Closed space, involving developing countries in East and Southeast Asia	An open system, involving the whole world, especially developing countries or regions
Core	Industry relocation	Comprehensive and synergetic development of infrastructure, culture, industry, space, trade, capital, etc

petroleum resources; the five Central Asian countries are more suitable for developing metals, metal products, and transportation vehicles and equipment due to their rich mineral resources and wide geographical area; the Caucasus region is suitable for undertaking electrical and electronic and optical equipment, mechanical equipment industries due to its certain industrial foundation and high wage level. In the meantime, China's mature high-speed rail technology helps connect inland countries in terms of economic geography.

2. International environmental experience

The Belt and Road Initiative will create a peaceful and stable surrounding environment through building an economic cooperation platform. In the world today, the geopolitical pattern is undergoing profound changes. The Asia Pacific region is increasingly becoming the focus and hot spot of global political and economic game. The external environment of China's peaceful rise is not optimistic. Most countries along the Belt and Road are developing countries or economies in transition. They have similar national conditions, similar development stages, strong economic complementarity, and a wide range of interconnected interests, and all are eager to accelerate economic and social development and become prosperous and powerful countries. Therefore, strategic cooperation under the Belt and Road

Initiative can effectively promote regional economic cooperation, build a community of common destiny through exchanges and cooperation, promote mutual understanding and trust on international issues, and form a peaceful, stable and harmonious surrounding environment.

As shown in Table 15, in terms of support for the *Statement of the Government of the People's Republic of China on China's Territorial Sovereignty and Maritime Rights and Interests in the South China Sea*, countries with increasingly close contacts with China have established strategic mutual trust through long-term economic exchanges and cooperation, and have expressed support for China's diplomatic position. In the process of its rise, China has paid attention to cooperation with its neighboring developing countries, which is also in line with the future demands of these developing countries in the national political environment.

III. Necessity of Industrial Synergy between China and Countries along the Belt and Road

(I) Summary on the economic development of countries along the Belt and Road

In terms of GDP ranking in 2014, except China, Russia and India, the economic size of countries along the Belt and Road is relatively small (see Table 16). Greatly affected by the sluggish global economic growth, these countries all saw a slowdown in their economic growth rates (see Table 17). The global economic recovery is still slow and fragile and the situation of weak demand and weak confidence in the international market has not improved significantly over the past few years. The global economy is currently in a vicious circle of low demand, low growth and low employment, which is a predicament that won't change in the short term. Especially for some emerging economies and developing countries, due to their singular industrial structure and fragile financial situation, it's hard for them to achieve economic structural adjustment. Their transformation and upgrading not only require their own vigorous structural reforms, but also depend on the improvement of external environment. At present, China's own economic development is also facing challenges and bottlenecks of industrial upgrading.

The severe international trade environment also led to the lack of impetus for world economic growth. Since 2011, the slowdown of global relocation of industries, sluggish investment and trade, distorted trade costs due to exchange rate changes, and other factors have led to a sharp slowdown in global trade growth. Countries have turned to seek more bilateral and regional cooperation for their own interests. Tables 16 and 17 show that the countries with relatively high economic growth efficiency are concentrated in Central Asia, Southeast Asia and South Asia and other labor-intensive areas. Most of these areas are neighboring countries with close economic exchanges with China. This means that the overall response generated by cross-regional cooperation and interaction will form a certain driving force in the system. Therefore, industrial synergy helps align supporting industrial facilities between regions, which will help countries along the Belt and Road Initiative to give full play to their potential advantages and further improve the efficiency of the economic system in the whole circulation.

Table 15 Countries supported the statement of the government of the People’s Republic of China on China’s territorial sovereignty and maritime rights and interests in the South China Sea

Southeast Asia	Vietnam		Central and Eastern Europe	Poland	✓	West Asia and North Africa	Turkey	
	Malaysia			Ukraine			Saudi Arabia	✓
	Singapore			Russian Federation	✓		Kuwait	✓
	Thailand	✓		Latvian			Jordan	
	Cambodia	✓		Moldova			Syrian Republic	
	Myanmar			Czech Republic			The Arab Republic of Egypt	
	Laos	✓		Slovak Republic			Oman	
	Indonesia			Bosnia-Herzegovina			Bahrain	
	East Timor			Estonia			Lebanon	✓
	Brunei	✓		Belarus	✓		Republic of Yemen	✓
South Asia	Bhutan		Southern Europe	Lithuania		Caucasus Region	UAE	
	Nepal			Greece			Iraq	
	Afghanistan	✓		Cyprus			Iran	
	India	✓		Romania			Qatar	
	Pakistan	✓		Serbia	✓		Israel	
	Maldives			Slovenia	✓		21 countries of LAS	✓
	Sri Lanka			Bulgaria			Georgia	
	Bangladesh	✓		Croatian			Armenian	
Central Asia	Uzbekistan	✓		Hungary			Azerbaijan	
	Turkmenistan	✓		Albania			Mongolia	
	Tajikistan	✓		Montenegro				
	Kyrgyzstan	✓						
	Kazakhstan	✓						

Source Sorted based on news

(II) Analysis of import and export trade between countries along the Belt and Road and China

Against the backdrop of sluggish international market and deep decline of world trade, China had remained the world’s largest import and export country of commodity trade by 2015. The proportion of China’s trade value with countries along the Belt and Road increased from 16.5% in 2001 to 25.1% in 2015. The countries along the Belt and Road have developed an increasingly close trade ties with

Table 16 Ranking of total GDP of countries along the Belt and Road in 2014 (Unit: USD100 million)

Country	Total GDP > 1000	Country	Total GDP > 1000	Country	Total GDP > 1000
China	82,301.21	Slovakia	969.04	Laos	97.75
India	22,006.17	Sri Lanka	727.81	Tajikistan	74.65
Russia	16,787.09	Oman	664.07	Moldova	70.41
Indonesia	9423.39	Belarus	609.60	Kyrgyzstan	58.56
Turkey	8718.43	Azerbaijan	583.83	Montenegro	43.81
Saudi Arabia	6495.73	Croatia	573.84	Maldives	28.86
Poland	5345.58	Uzbekistan	538.10	Bhutan	19.36
Iran	4639.03	Bulgaria	523.01	East Timor	11.79
Thailand	3816.79	Slovenia	479.35		
UAE	3509.31	Lithuania	436.21		
Malaysia	3143.35	Lebanon	407.05		
Singapore	2813.67	Serbia	398.82		
Israel	2684.32	Libya	380.97		
The Philippines	2507.87	Turkmenistan	349.80		
Egypt	2377.35	Bahrain	299.52		
Czech Republic	2121.98	Jordan	294.94		
Pakistan	2062.46	Latvian	276.58		
Kazakhstan	1828.37	Estonia	230.57		
Romania	1821.29	Afghanistan	199.90		
Iraq	1770.54	Nepal	190.29		
Qatar	1621.06	Bosnia-Herzegovina	177.58		
Bangladesh	1469.97	Cambodia	148.58		
Vietnam	1448.35	Georgia	143.55		
Hungary	1374.73	Albania	127.93		
Ukraine	1343.09	Mongolia	114.09		
Kuwait	1342.53	Armenian	111.12		

Source World Bank

China. China's complete industry and diversity of export commodities have met the consumption and production needs of most countries (see Table 18).

Except Singapore, other countries along the Belt and Road are mostly in deficit in export and import trade with China, and are relatively dependent on exports of Chinese industrial products. China's huge production capacity ensures the supply of products needed by most developing countries for industrial development, while the

Table 17 Comparison of economic growth rates of countries along the Belt and Road in 2015 (Unit: %)

Ranking	Country	GDP growth rate	Ranking	Country	GDP growth rate	Ranking	Country	GDP growth rate
1	Uzbekistan	8.00	21	Macedonia	3.67	41	Israel	2.49
2	India	7.57	22	Poland	3.65	42	Jordan	2.38
3	Cambodia	7.04	23	Slovakia	3.60	43	Mongolia	2.30
4	Laos	7.00	24	Qatar	3.58	44	Iraq	2.10
5	Myanmar	6.99	25	Oman	3.50	45	Singapore	2.01
6	China	6.90	26	Saudi Arabia	3.49	46	Latvia	1.89
7	Vietnam	6.68	27	Kyrgyzstan	3.47	47	Croatia	1.64
8	Bangladesh	6.55	28	Montenegro	3.37	48	Lithuania	1.59
9	Turkmenistan	6.50	29	Nepal	3.36	49	Afghanistan	1.52
10	The Philippines	5.81	30	Bhutan	3.25	50	Maldives	1.51
11	Pakistan	5.54	31	UAE	3.18	51	Lebanon	1.51
12	Malaysia	4.95	32	Bosnia-Herzegovina	3.16	52	Kazakhstan	1.20
13	Indonesia	4.79	33	Armenian	3.00	53	Azerbaijan	1.10
14	Sri Lanka	4.79	34	Bulgaria	2.97	54	Estonia	1.07
15	East Timor	4.25	35	Hungary	2.94	55	Serbia	0.73
16	Egypt	4.20	36	Bahrain	2.93	56	Kuwait	-0.40
17	Tajikistan	4.20	37	Slovenia	2.88	57	Moldova	-0.50
18	Czech Republic	4.20	38	Thailand	2.82	58	Russia	-3.73
19	Turkey	3.98	39	Georgia	2.77	59	Belarus	-3.89
20	Romania	3.74	40	Albania	2.56	60	Ukraine	-9.90

Source: World Bank

Table 18 Changes in international trade BoP of countries along the Belt and Road (Unit: USD100 million)

Region	Country	Year	With China	With the world	Region	Country	Year	With China	With the world
Southeast Asia	Indonesia	2005	8.19	279.59	Central and Eastern Europe	Poland	2005	-49.06	-121.61
		2010	-47.32	221.16			2010	-148.87	-170.63
		2014	-130.18	-21.43			2015	-203.63	47.65
	Thailand	2005	-20.24	-80.54	Romania	Romania	2005	-14.26	-127.33
		2010	-27.66	129.18			2010	-29.71	-125.93
		2015	-176.08	88.64			2015	-26.23	-92.53
	Malaysia	2005	-38.89	273.34	Czech Republic	Czech Republic	2005	-36.26	16.81
		2010	43.77	342.04			2010	-141.17	64.50
		2015	-71.80	240.36			2015	-165.89	181.92
	Singapore	2005	-7.59	296.02	Slovakia	Slovakia	2005	-9.87	-23.74
		2010	26.85	410.76			2010	-27.15	-3.83
		2015	55.73	498.93			2015	-50.89	21.10
	The Philippines	2005	9.43	-82.33	Hungary	Hungary	2005	-31.86	-36.48
		2010	7.70	-69.70			2010	-46.44	73.17
		2015	-50.85	-115.05			2015	-34.06	97.92
Cambodia	2005	-4.10	4.67	Latvian	Latvian	2005	-1.20	-34.68	
	2010	-11.21	6.88			2010	-2.53	-22.92	
	2015	-35.21	-21.26			2015	-3.41	-23.88	
South Asia	India	2005	-29.83	-405.09	Lithuania	Lithuania	2005	-3.67	-36.34
		2010	-238.09	-1296.21			2010	-5.33	-25.64
		2015	-520.28	-1263.64			2015	-6.93	-26.74

(continued)

Table 18 (continued)

Region	Country	Year	With China	With the world	Region	Country	Year	With China	With the world
Central Asia	Pakistan	2005	-19.14	-90.46		Estonia	2005	-5.79	-27.70
		2010	-38.12	-161.24			2010	-7.66	-3.85
		2015	-90.84	-219.01			2015	-10.89	-17.53
	Sri Lanka	2005	-6.02	-21.47		Croatia	2005	-8.64	-97.88
		2010	-11.52	-40.50			2010	-14.03	-82.56
		2015	-34.23	-85.28			2015	-5.01	-77.37
	Maldives	2005	-0.16	-5.91		Ukraine	2005	-10.99	-18.94
		2010	-0.31	-10.21			2010	-33.84	-93.07
		2015	-1.40	-17.70			2015	-13.72	6.11
Afghanistan	2005	-4.27	-24.80	Belarus	2005	1.47	-7.22		
	2010	-6.92	-47.66		2010	-12.08	-96.01		
	2015	-10.34	-71.51		2015	-12.82	-31.83		
Kazakhstan	2005	11.71	105.13	Moldova	2005	-0.73	-12.01		
	2010	61.58	332.20		2010	-3.18	-23.14		
	2015	4.01	224.14		2015	-3.58	-20.20		
Kyrgyzstan	2005	-0.76	-4.36	Russia	2005	57.83	1427.44		
	2010	-6.38	-17.34		2010	-191.78	1681.56		
	2015	-9.93	-26.27		2015	-68.64	1611.26		
West Asia and North Asia	Saudi Arabia	2005	64.06	1212.27	Southern Europe	Albania	2005	-1.70	-19.56
		2010	-124.25	1442.80			2010	-2.06	-30.53
		2015	-183.61	376.71			2015	-3.17	-23.91

(continued)

Table 18 (continued)

Region	Country	Year	With China	With the world	Region	Country	Year	With China	With the world
	UAE	2005	-65.87	346.39		Serbia	2005	-5.06	-59.80
		2010	-129.70	176.36			2010	-11.95	-69.40
		2014	-421.23	817.28			2015	-15.20	-48.51
	Oman	2005	48.56	97.22		Macedonian	2005	-1.05	-11.87
		2010	83.94	168.25			2010	-2.00	-21.23
		2015	126.14	29.19			2015	-2.48	-19.10
	Turkey	2005	-63.36	-432.98		Bosnia-Herzegovina	2005	-2.40	-46.65
		2010	-149.21	-715.62			2010	-4.39	-44.20
		2015	-224.59	-633.56			2015	-6.03	-38.95
Israel	2005	-11.40	-22.62	Montenegro	2006	-0.72	-12.85		
	2010	-26.90	-7.81		2010	-1.17	-17.45		
	2015	-25.17	19.94		2015	-2.02	-16.97		
Egypt	2005	-8.05	-91.66	Slovenia	2005	-5.43	-17.30		
	2010	-44.70	-266.72		2010	-13.56	-21.57		
	2014	-77.28	-445.26		2015	-15.03	8.52		
Qatar	2005	-1.43	157.02	Bulgaria	2005	-6.32	-64.23		
	2010	1.21	517.25		2010	-4.03	-47.52		
	2015	14.73	453.61		2015	-4.60	-34.86		
Jordan	2006	-11.58	-62.80	Greece	2005	-20.20	-374.59		
	2010	-15.43	-82.39		2010	-33.77	-388.67		
	2015	-24.25	-126.42		2015	-25.78	-189.75		

(continued)

Table 18 (continued)

Region	Country	Year	With China	With the world	Region	Country	Year	With China	With the world	
Caucasus Region	Lebanon	2005	-7.08	-74.48	Cyprus	Cyprus	2005	-2.29	-48.36	
		2010	-15.88	-137.16			2010	-4.34	-71.38	
		2014	-24.71	-171.75			2015	-2.24	-37.35	
	Bahrain	2005	-3.41	8.99		Cyprus	Cyprus	2005	-2.29	-48.36
		2010	-10.05	0.58				2010	-4.34	-71.38
		2015	-15.28	-25.32				2015	-2.24	-37.35
Republic of Yemen	2005	16.41	2.08	Cyprus	Cyprus	2005	-2.29	-48.36		
	2010	6.98	-28.18			2010	-4.34	-71.38		
	2014	-5.06	-96.25			2015	-2.24	-37.35		
Azerbaijan	Georgia	2005	-0.41	-16.24	Cyprus	Cyprus	2005	-2.29	-48.36	
		2010	-3.09	-35.12			2010	-4.34	-71.38	
		2015	-4.61	-55.23			2015	-2.24	-37.35	
Armenian	Azerbaijan	2005	-0.75	1.36	Cyprus	Cyprus	2005	-2.29	-48.36	
		2010	-2.49	146.82			2010	-4.34	-71.38	
		2014	-6.33	125.73			2015	-2.24	-37.35	
Armenian	Armenian	2005	-0.17	-7.55	Cyprus	Cyprus	2005	-2.29	-48.36	
		2010	-3.71	-27.70			2010	-4.34	-71.38	
		2015	-1.50	-17.74			2015	-2.24	-37.35	

Source UN Comtrade Database

net export gap of the trading countries resulting from too much deficit can be filled through the future industrial relocation and industrial-capacity cooperation under the Belt and Road Initiative by transferring the production lines to the countries rely heavily on import of products, so as to greatly improving efficiency (see Table 19).

By analyzing the proportion of their trade with China in their respective total import and export amounts in the past ten years, we see that Southeast Asian countries have similar structures of import and export when they do business with China. Due to geographical proximity and long trade history, their bilateral trade has been highly complementary. South Asia mainly imports Chinese products, but at a lower ratio than Southeast Asia. It is worth noting that the export of Yemen and Oman to China accounts for more than 1/3 of their respective total export, and China's import of oil and other resources has increased along with the sustained development of Chinese economy.

Nepal's export commodities are mainly raw materials, and labor-intensive textiles and raw materials account for the largest proportion.

For Vietnam and India are in the early stage of industrialization, their main trade commodities are basically raw material products, in addition to mechanical and electrical products and transport equipment. As Ukraine is rich in mineral resources and other natural resources, its proportion of mineral products exported to China is the highest.

Egypt is a transit station from the 21st Century Maritime Silk Road and the Silk Road Economic Belt to Europe. Its import commodities are mainly resource- and capital-intensive, and a large proportion of its mechanical and electrical products with high technological content come from China. Egypt is rich in oil and natural gas reserves, and its export commodities are mainly resource- and labor-intensive products, among which minerals account for 24.87% of the total export, and chemical products, 11.66%.

With the sustained development of China's economy, its demand for mineral resources as well as oil and gas resources has increased significantly. The strong complementarity reflected in China's mineral product trade with Uzbekistan and Kazakhstan and its oil and gas resources cooperation with Kazakhstan and Egypt has laid a solid foundation for the strengthening of their economic and trade relations. Meanwhile, their wide-ranging cooperation in the field of energy also covers infrastructure construction, environment, etc. China and these countries focus on strengthening cooperation on energy infrastructure construction, jointly maintaining the security of oil and gas transportation channels, and promoting the construction of transmission facilities, so as to realize the interconnection of various energy fields.

IV. Analysis of Industrial Synergy between China and Countries along the Belt and Road

In terms of industry structure, we carry out comparative analysis of representative countries in the different economic circles along the Belt and Road based on data availability.

(I) Analysis of industrial complementarity

Table 19 Ratio of import and export trade between countries along the Belt and Road and China in their respective national total (Unit: %)

Region	Country	Year	Import Ratio	Export Ratio	Region	Country	Year	Import Ratio	Export Ratio
Southeast Asia	Indonesia	2005	10.13	7.78	Caucasus Region	Georgia	2005	1.86	0.65
		2010	15.06	9.95			2010	6.55	1.53
		2014	17.19	10.00			2015	7.60	5.71
	Thailand	2005	9.44	8.30		Azerbaijan	2005	4.13	2.28
		2010	13.29	10.99			2010	8.91	1.59
		2015	20.26	11.05			2014	7.59	0.29
	Malaysia	2005	11.53	6.56		Armenian	2005	1.55	0.99
		2010	12.56	12.60			2010	10.63	3.05
		2015	18.87	13.02			2015	9.69	11.14
	Vietnam	2005	16.05	8.83	Central and Eastern Europe	Poland	2005	5.41	0.66
		2010	23.81	9.13			2010	9.48	1.04
		2014	29.52	10.10			2015	11.80	1.04
	Singapore	2005	10.26	8.60		Romania	2005	4.04	0.75
		2010	10.83	10.33			2010	5.45	0.83
		2015	14.20	13.76			2015	4.59	0.96
The Philippines	2005	6.33	9.88		Czech Republic	2005	5.13	0.38	
	2010	8.47	11.12			2010	12.20	0.92	
	2015	16.36	10.90			2015	13.40	1.18	
Cambodia	2005	16.62	0.47		Slovakia	2005	3.26	0.40	
	2010	24.20	1.16			2010	6.22	2.01	
	2015	36.80	4.75			2015	8.50	1.50	

(continued)

Table 19 (continued)

Region	Country	Year	Import Ratio	Export Ratio	Region	Country	Year	Import Ratio	Export Ratio
South Asia	Brunei	2006	7.86	2.32		Hungary	2005	5.44	0.65
		2012	11.38	2.68			2010	7.06	1.61
		2015	10.43	1.52			2015	5.76	1.79
	India	2005	7.22	7.16		2005	1.51	0.24	
		2010	11.78	7.91		2010	2.57	0.37	
		2015	15.77	3.62		2015	3.32	1.04	
	Pakistan	2005	9.36	2.71		2005	2.43	0.13	
		2010	13.98	6.71		2010	2.44	0.18	
		2015	25.05	8.76		2015	2.86	0.44	
Bangladesh	2005	15.85	0.70	2005	5.65	0.53			
	2011	8.76	1.57	2010	6.99	1.21			
	2005	7.59	0.46	2015	8.02	1.23			
Sri Lanka	2010	10.05	1.07	2005	5.01	2.08			
	2015	19.65	2.92	2010	7.74	2.56			
	2008	14.21	0.36	2015	10.05	6.29			
Afghanistan	2010	13.66	3.01	2005	1.70	2.70			
	2015	13.52	1.78	2010	4.83	1.88			
	2003	8.38	3.44	2015	6.91	2.94			
Nepal	2010	10.97	1.56	2005	7.36	5.40			
	2015	13.91	1.74	2010	17.02	4.98			
	2005	2.15	0.09	2015	19.26	8.24			

(continued)

Table 19 (continued)

Region	Country	Year	Import Ratio	Export Ratio	Region	Country	Year	Import Ratio	Export Ratio
West Asia and North Africa	Maldives	2010	2.88	0.40	Southern Europe	Moldova	2005	3.22	0.06
		2015	7.33	0.03			2010	8.31	0.15
		2005	1.07	0.00			2015	9.19	0.43
	Bhutan	2008	3.60	0.06		Bulgaria	2005	3.87	0.61
		2012	2.51	0.01			2010	2.57	1.21
		2005	7.41	5.98			2015	3.66	2.37
	Saudi Arabia	2010	11.63	—		Slovenia	2005	3.00	0.25
		2015	14.63	2.78			2010	5.55	0.49
		2005	8.53	0.26			2015	6.47	0.62
	UAE	2010	7.52	0.31		Croatia	2005	4.71	0.10
2014		15.07	0.76	2010	7.18		0.32		
2005		2.37	27.12	2015	2.81		0.60		
Oman	2010	4.84	25.55	Albania	2005	6.61	0.49		
	2015	5.02	44.07		2010	6.32	5.50		
	2005	6.11	0.82		2015	8.55	2.70		
Iran	2011	10.31	4.05	Serbia	2005	4.86	0.05		
	2005	5.90	0.75		2010	7.19	0.07		
	2010	9.26	1.98		2015	8.46	0.15		
Turkey	2015	12.00	1.68	Macedonia	2005	3.56	0.49		
	2005	4.19	1.75		2010	5.28	2.66		
	2010	8.00	3.50		2015	6.10	3.18		

(continued)

Table 19 (continued)

Region	Country	Year	Import Ratio	Export Ratio	Region	Country	Year	Import Ratio	Export Ratio	
	Israel	2015	9.29	5.08		Bosnia-Herzegovina	2005	3.41	0.05	
		2005	4.62	1.03			2010	4.81	0.10	
		2010	9.25	1.64			2015	6.89	0.31	
	Egypt	2014	11.30	1.23			Montenegro	2007	4.85	0.01
		2006	9.25	0.21				2010	5.36	0.05
		2013	13.53	0.91				2015	10.30	2.49
		2015	15.97	1.46				Greece	2005	3.86
	2005	5.17	1.46	2010			5.71		1.52	
	2010	9.05	2.97	2015			5.99		0.89	
	Qatar		2015	11.55			6.72	Cyprus	2005	3.82
2004			8.40	1.00	2010	5.26	1.38			
2010			10.85	1.61	2015	4.71	2.23			
Jordan		2015	12.90	2.75	Central Asia	Kazakhstan	2005	7.22	8.70	
		2005	7.87	1.39			2010	16.50	17.68	
		2010	9.12	1.17			2015	26.15	13.10	
Lebanon		2014	12.12	0.37	Kyrgyzstan	2005	9.29	3.95		
		2005	4.06	0.37		2010	20.68	1.90		
		2010	7.36	1.08		2015	25.30	2.49		
Bahrain		2015	9.59	0.32	Mongolia	2005	24.95	48.14		
		2005	6.20	35.24		2010	28.09	86.68		
		2010	7.91	22.21		2015	35.84	83.47		

(continued)

Table 19 (continued)

Region	Country	Year	Import Ratio	Export Ratio	Region	Country	Year	Import Ratio	Export Ratio
	Yemen	2014	11.35	35.62					
		2005	8.05	0.25					
		2010	8.80	0.72					
	Syria	2007	4.58	0.02					
		2010	4.58	0.00					
		2014	4.96	0.00					
	Palestine	2005	8.53	0.26					
		2010	7.52	0.31					
		2014	15.07	0.76					

Source UN Comtrade Database

As for the three industries, the economic circles along the Belt and Road have certain competitive relations in the division of labor. Table 20 shows the comparison of industrial structures between China and some countries along the Belt and Road in 2014. From the internal perspective of Southeast Asia, Indonesia, Malaysia and Thailand are relative competitors with China in the manufacturing industry. Although China has become the world's largest manufacturer, the proportion of its secondary industry in these Southeast Asian countries is the closest to that in China. Due to geographical factors, Singapore, as the most developed country among countries along the Belt and Road, has a relatively low proportion of primary and secondary industries, while its proportion of the tertiary industry is as high as 75%. In South Asia and Central Asia, except for Maldives, the distribution structure of the three industries is similar, with a proportion of the secondary industry slightly lower than that of China and a relatively high proportion of the primary industry, forming a good complementarity with China. West Asia and North Africa, which are rich in petroleum and other mineral resources, maintain a relatively high proportion of their secondary industry due to the prevalence of mining, forming a good complementarity of resources with China. The Caucasus region, Central and Eastern Europe and the CIS countries have their own natural endowment in the primary industry yet with a very low proportion, possessing a certain complementarity with China, while their proportion of the secondary industry is low, forming a good industrial complementarity with China. Bordering on European developed countries, these countries are rich in tourism resources, and have relatively developed tertiary industries.

Along the Belt and Road, Southeast Asia, northwest Asia and most of South Asia are the concentration areas of manufacturing and also the suppliers of primary products. However, the secondary and tertiary industries are relatively developed in CIS countries and Central and Eastern Europe, and industrial structures are relatively similar in the whole region. China has a competitive and complementary industrial structure with Southeast Asia and South Asia in the primary and secondary industries, and has a strong complementarity with other regions along the Belt and Road in various industries, creating much space for industrial synergy.

(II) Analysis of trade complementarity

Industrial complementarity is embodied by trade complementarity. In this part, we will analyze trade complementarity between China and some countries along the Belt and Road. The data were sourced from the UN Comtrade Database, and due to some data unavailability, the sample size was reduced as needed.

1. Analysis of trade competitiveness index

The trade competitiveness, as one of international competitiveness indicators, measures the relative value of the total trade value, excluding the fluctuation influence of macro factors such as economic expansion and inflation. Its value is between -1 and 1 . The closer to 1 , the stronger the trade competitiveness, and the closer to -1 , the weaker the competitiveness. This index can be used to analyze a country's

Table 20 Comparison of industrial structures between China and some countries along the Belt and Road in 2014 (Unit: %)

	Country	Primary industry	Secondary industry	Tertiary industry
	China	9.17	42.74	48.09
Southeast Asia	Indonesia	13.34	41.90	52.60
	Thailand	10.50	36.89	52.73
	Laos	27.67	31.43	40.09
	Cambodia	30.43	26.99	35.32
	Singapore	0.03	24.94	75.02
	Vietnam	17.70	33.21	39.04
	Malaysia	8.87	39.96	51.17
	The Philippines	11.30	31.39	57.31
South Asia	Afghanistan	23.46	22.33	54.21
	Bangladesh	16.11	27.61	56.28
	India	17.39	30.01	52.43
	Bhutan	17.74	42.89	59.34
	Bahrain	0.28	46.95	52.77
	Maldives	3.53	19.35	77.13
	Pakistan	25.03	20.90	54.07
	Nepal	33.69	15.63	50.68
Central Asia	Kazakhstan	4.69	35.95	55.13
	Kyrgyzstan	17.11	27.76	42.58
	Uzbekistan	18.77	34.10	47.14
West Asia and North Africa	Egypt	11.09	39.01	68.45
	Iran	9.34	38.23	52.43
	Jordan	3.78	29.79	59.36
	Kuwait	0.41	64.27	40.90
	Lebanon	7.23	30.64	60.80
	Oman	1.29	65.33	40.75
	Qatar	0.10	67.92	31.98
	Turkey	8.01	27.10	64.89
Saudi Arabia	1.90	57.37	40.73	
Caucasus	Azerbaijan	5.69	58.30	36.00
	Armenian	20.81	28.60	50.59
	Georgia	9.28	23.97	69.41
Central and Eastern Europe	Albania	22.90	25.09	52.01
	Bulgaria	5.27	27.17	67.57
	Bosnia-Herzegovina	7.24	26.84	65.92

(continued)

Table 20 (continued)

	Country	Primary industry	Secondary industry	Tertiary industry
	Czech Republic	2.70	37.96	49.90
	Estonia	3.44	28.11	66.75
	Croatia	4.33	26.26	64.36
	Hungary	4.46	31.17	42.27
	Lithuania	3.44	30.54	66.02
	Latvian	3.27	23.36	73.37
	Macedonia	11.61	25.24	63.15
	Montenegro	10.01	17.67	72.33
	Romania	5.33	28.15	66.52
	Serbia	9.28	30.22	60.50
	Slovakia	4.40	33.62	61.98
	Slovenia	2.20	33.12	64.68
	Poland	2.94	32.45	64.61
CIS	Moldova	15.47	17.24	67.29
	Russia	4.21	32.10	63.69
	Ukraine	11.79	25.40	62.81
	Belarus	8.63	41.35	50.02
	Mongolia	14.71	34.74	50.55

Source UN Comtrade Database

industrial competitiveness in the world. The comparative analysis of overall trade competitiveness of the countries along the Belt and Road is shown in Table 21.

According to the UN Comtrade classification, trade products in SITC0 to SITC 4 belong to primary production industries, which are classified into SITC0 (food and live animals), SITC1 (beverages and tobacco), SITC2 (crude materials, inedible, except fuels), SITC3 (mineral fuels, lubricants and related materials), and SITC4 (animal and vegetable oils, fats and waxes). The industrial structure depends on agriculture, animal husbandry countries or resource export-oriented countries, and the primary goods should have relatively high competitiveness. In terms of industrial manufactured goods, categories from SITC5 to SITC9 are as follows: SITC5 (chemicals and related products, n.e.s.), SITC6 (manufactured goods classified chiefly by material), SITC7 (machinery and transport equipment), SITC8 (miscellaneous manufactured articles) and SITC9 (commodities and transactions not classified elsewhere in the SITC). Countries with a large proportion of the secondary industry in the industrial structure are generally more competitive in the trade of industrial manufactured goods.

Table 22 shows that in terms of trade competitiveness of primary goods, China has a low competitiveness in SITC0 (farm products) and has competitive advantages in terms of other primary goods. The situations in Southeast Asia, South Asia

Table 21 Comparison of overall trade competitiveness

Region	Country	Year	Trade competitiveness index	Region	Country	Year	Trade competitiveness index
Trade Initiator	China	2005	0.072	Caucasus Region	Georgia	2005	-0.484
		2010	0.061			2010	-0.526
		2015	0.151			2015	-0.556
Southeast Asia	Indonesia*	2005	0.195		Azerbaijan*	2005	0.016
		2010	0.075			2010	0.527
		2014	-0.006			2014	0.406
	Thailand	2005	-0.035		Armenian	2005	-0.287
		2010	0.034			2010	-0.578
		2015	0.021			2015	-0.374
	Malaysia	2005	0.107	Central and Eastern Europe	Poland	2005	-0.064
		2010	0.094			2010	-0.052
		2015	0.064			2015	0.012
	Singapore	2005	0.069		Romania	2005	-0.187
		2010	0.062			2010	-0.113
		2015	0.078			2015	-0.071
	The Philippines	2005	-0.091		Czech Republic	2005	0.011
		2010	-0.063			2010	0.025
		2015	-0.089			2015	0.062
	Cambodia	2005	0.084		Slovakia	2005	-0.036
		2010	0.066			2010	-0.003
		2015	-0.111			2015	0.014

(continued)

Table 21 (continued)

Region	Country	Year	Trade competitiveness index	Region	Country	Year	Trade competitiveness index
South Asia	India	2005	-0.168		Bulgaria	2005	-0.215
		2010	-0.227			2010	-0.103
		2015	-0.193			2015	-0.063
	Pakistan	2005	-0.220		Hungary	2005	-0.028
		2010	-0.274			2010	0.040
		2015	-0.331			2015	0.051
	Sri Lanka	2005	-0.148		Latvian	2005	-0.246
		2010	-0.196			2010	-0.115
		2015	-0.290			2015	-0.094
Maldives	2005	-0.657	Lithuania	2005	-0.131		
	2010	-0.873		2010	-0.058		
	2015	-0.860		2015	-0.050		
Afghanistan	2005	-0.697	Slovenia	2005	-0.046		
	2010	-0.860		2010	-0.042		
	2015	-0.862		2015	0.016		
Central Asia	Kazakhstan	2005	0.233	Estonia	2005	-0.144	
		2010	0.409		2010	-0.015	
		2015	0.366		2015	-0.059	
	Kyrgyzstan	2005	-0.245	Croatia	2005	-0.358	
		2010	-0.368		2010	-0.259	
		2015	-0.477		2015	-0.231	

(continued)

Table 21 (continued)

Region	Country	Year	Trade competitiveness index	Region	Country	Year	Trade competitiveness index
West Asia and North Africa	Saudi Arabia	2005	0.505		Albania	2005	-0.598
		2010	0.403			2010	-0.496
		2015	0.103			2015	-0.382
	UAE*	2005	0.176		Serbia	2005	-0.400
		2010	0.047			2010	-0.262
		2014	0.120			2015	-0.154
	Oman	2005	0.351		Macedonia	2005	-0.225
		2010	0.298			2010	-0.241
		2015	0.048			2015	-0.175
	Turkey	2005	-0.228		Bosnia-Herzegovina	2005	-0.494
		2010	-0.239			2010	-0.315
		2015	-0.180			2015	-0.276
	Israel	2005	-0.026		Montenegro*	2006	-0.536
		2010	-0.007			2010	-0.667
		2015	0.016			2015	-0.706
Egypt *	2005	-0.301	CIS	2005	-0.027		
	2010	-0.336		2010	-0.083		
	2014	-0.454		2015	0.008		
Qatar	2005	0.438	Belarus	2005	-0.022		
	2010	0.527		2010	-0.160		
	2015	0.410		2015	-0.056		

(continued)

Table 21 (continued)

Region	Country	Year	Trade competitiveness index	Region	Country	Year	Trade competitiveness index	
	Jordan *	2006	-0.378		Moldova	2005	-0.355	
		2010	-0.370			2010	-0.429	
		2015	-0.447			2015	-0.339	
	Lebanon *	2005	-0.665		Russia	2005	0.420	
		2010	-0.617			2010	0.269	
		2014	-0.722			2015	0.306	
	Bahrain	2005	0.046					
		2010	0.002					
		2015	-0.084					
	Republic of Yemen*	2005	0.019					
		2010	-0.180					
		2014	-0.666					

Note * Due to the unavailability of data in the selected year for comparative analysis of this country, the data available in the near year are selected. Source: UN Comtrade Database

and other countries along the Belt and Road are similar. Most countries in West Asia, Central Asia as well as Central and Eastern Europe, relying on their own unique resource advantages, have strong trade competitiveness in their corresponding primary goods, while far less competitiveness in other products, especially for Saudi Arabia, Kazakhstan, Russia, Qatar and other oil-rich countries.

Table 23 shows that China has competitiveness in the trade of manufactured goods in general. As for producing countries of characteristic agricultural and animal husbandry products and resource-based countries along the Belt and Road, their trade industrial structures have strong complementarity with that of China. Some other countries rely on a certain traditional production process and have certain competitiveness, but they are generally weak. They still have some room for win-win cooperation with China in terms of industrial products.

2. Trade complementarity research based on RCA index

The Revealed Comparative Advantage Index (RCA Index) proposed by American economist Balassa Bela is an index to measure the competitiveness of a country's products or industries in the international market. It aims to quantitatively describe the relative export performance of a country's various industries (product groups). The RCA Index can be used to determine which of the country's industries have more export competitiveness, thus revealing the country's comparative advantage in international trade. By measuring the ratio of the country's export value of a certain commodity in its total export value to that of that kind of commodity in the world's total export, the RCA Index can be expressed as follows:

$$RCA_{xik} = \left(\frac{X_{ik}}{X_i} \right) / \left(\frac{W_k}{W} \right)$$

wherein, X_{ik} is the export value of country i 's export product k , X_i is the total export value of country i ; W_k is the export value of world export product k , and W is the world's total export value. RCA is a comparison between the national average and the world average. RCA close to 1 means that the country has no comparative advantage or is in disadvantage in the production and export of this commodity. When the index is greater than 1, the proportion of the country in the export of this commodity is higher than the world average, and its production and consumption have relative international competitiveness, and vice versa.

As mentioned in the previous chapters, China only has a trade competitiveness index greater than 0 in SITC0, and the net exporters of products in SITC0 have competitiveness. Typical energy- and resource-based countries and agricultural countries show greater RCA Index in this part. The calculation results in Table 24 show that in terms of primary goods, the RCA Index of Central Asia and Central and Eastern Europe is greater than 1 in SITC1 or SITC2. In SITC3 (minerals and mineral resources products), West Asian countries have greater RCA. Malaysia, the Philippines, Ukraine and some other countries have shown greater RCA in SITC4 (animal and plant resources products).

Table 22 Comparison of trade competitiveness index of primary products between China and countries along the Belt and Road

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China	0.31	0.07	-0.12	-0.27	-0.90	-0.88	-0.75	-0.75	-0.92	-0.84
Afghanistan	-0.58	-0.61	-1.00	-1.00	0.88	0.91	-1.00	-0.98	-1.00	-1.00
Albania	-0.81	-0.65	-0.94	-0.93	0.13	0.29	-0.39	-0.42	-0.96	-1.00
Bahrain	-0.56	-0.68	-0.77	-0.32	-0.31	-0.42	0.31	0.10	-0.99	-0.96
Armenian	-0.85	-0.65	-0.06	0.36	0.64	0.66	-0.88	-0.76	-1.00	-1.00
Bosnia-Herzegovina	-0.64	-0.58	-0.79	-0.74	0.31	0.36	-0.42	-0.55	-0.23	-0.13
Bulgaria	0.06	0.10	0.16	0.07	-0.09	-0.19	-0.34	-0.25	0.07	0.45
Belarus	0.16	0.00	-0.73	-0.29	-0.34	-0.14	-0.26	-0.08	-0.50	-0.09
Cambodia	-0.52	-0.10	-0.83	-0.86	0.13	-0.15	-1.00	-1.00	0.35	0.03
Sri Lanka	0.11	0.05	0.14	-0.10	0.20	-0.28	-0.99	-0.87	-0.81	-0.19
Croatia	-0.28	-0.27	0.16	-0.11	0.40	0.45	-0.44	-0.38	-0.47	-0.54
Czech Republic	-0.19	-0.09	0.08	0.18	0.09	0.06	-0.42	-0.33	0.02	0.16
Estonia	-0.08	-0.04	-0.23	-0.27	0.46	0.35	-0.04	-0.15	0.37	0.28
Georgia	-0.63	-0.43	0.04	0.19	0.34	-0.02	-0.86	-0.80	-0.95	-0.74
Hungary	0.26	0.26	-0.11	-0.13	0.12	0.00	-0.57	-0.52	0.09	0.47
Israel	-0.33	-0.43	-0.84	-0.82	-0.08	-0.20	-0.91	-0.87	-0.76	-0.65
Kazakhstan	-0.03	0.11	-0.58	-0.22	0.81	0.53	0.89	0.97	-0.45	0.12
Jordan	-0.37	-0.41	-0.22	-0.29	0.28	0.27	-0.96	-0.99	-0.82	-0.91
Kyrgyzstan	-0.44	-0.58	-0.48	-0.53	-0.02	-0.01	-0.76	-0.82	-1.00	-0.99
Latvian	-0.11	0.01	0.20	0.06	0.57	0.50	-0.56	-0.38	-0.49	-0.49

(continued)

Table 22 (continued)

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Lithuania	0.13	0.13	0.01	0.06	0.09	0.07	-0.21	-0.16	-0.54	-0.25
Malaysia	-0.25	-0.25	0.09	0.01	-0.01	-0.03	0.32	0.20	0.77	0.73
Moldova	-0.03	0.06	0.20	0.26	0.25	0.37	-0.98	-0.96	0.69	0.78
Montenegro	-0.86	-0.87	-0.50	-0.43	-0.22	0.17	-0.73	-0.62	-0.81	-0.91
Oman	-0.47	-0.44	-0.34	-0.38	-0.40	-0.27	0.89	0.71	-0.05	-0.04
Nepal	-0.47	-0.69	-0.27	-0.57	-0.63	-0.85	-1.00	-1.00	-0.97	-0.99
Pakistan	0.17	0.22	0.18	-0.23	-0.63	-0.70	-0.81	-0.95	-0.91	-0.93
The Philippines	-0.47	-0.42	0.25	0.13	-0.21	0.45	-0.81	-0.83	0.74	0.31
Poland	0.12	0.21	0.31	0.39	-0.19	-0.17	-0.49	-0.38	-0.32	-0.14
Qatar	-1.00	-0.90	-1.00	-0.99	-0.61	-0.50	0.99	0.99	-0.98	-0.96
Romania	-0.22	-0.12	0.23	0.12	0.26	0.12	-0.41	-0.24	-0.21	0.08
Russia	-0.62	-0.22	-0.70	0.27	0.43	0.27	0.98	0.97	-0.45	0.24
Saudi Arabia	-0.69	-0.72	-0.62	-0.50	-0.80	-0.50	1.00	0.98	-0.59	-0.51
Serbia	0.39	0.32	0.33	-0.23	-0.16	-0.23	-0.71	-0.69	0.56	0.52
India	0.48	0.48	0.68	-0.40	-0.04	-0.40	-0.49	-0.54	-0.79	-0.82
Singapore	-0.26	-0.15	0.03	0.03	-0.03	0.03	-0.18	-0.19	-0.19	-0.62
Slovakia	-0.18	-0.16	-0.66	-0.09	-0.15	-0.09	-0.45	-0.36	-0.33	-0.16
Slovenia	-0.37	-0.32	-0.39	-0.19	-0.26	-0.19	-0.54	-0.31	-0.70	-0.50
Thailand	0.54	0.43	0.29	0.48	0.33	0.24	-0.53	-0.57	0.20	0.02

(continued)

Table 22 (continued)

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Macedonia	-0.26	-0.29	0.56	0.02	-0.05	0.02	-0.58	-0.86	-0.64	-0.47
Turkey	0.40	0.38	0.33	-0.54	-0.64	-0.54	-0.72	-0.54	-0.50	-0.38
Ukraine	0.13	0.59	-0.08	0.60	0.41	0.60	-0.69	-0.91	0.73	0.90

Source UN Comtrade Database

Table 23 Comparison of trade competitiveness index of manufactured goods between China and countries along the Belt and Road

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China	-0.26	-0.14	0.31	0.49	0.17	0.22	0.54	0.63	-0.85	-0.95
Afghanistan	-1.00	-1.00	-0.70	-0.74	-1.00	-1.00	-1.00	-1.00	-0.91	-0.94
Albania	-0.97	-0.95	-0.53	-0.50	-0.86	-0.87	0.05	0.15	0.24	-0.17
Azerbaijan	-0.64	-0.63	-0.79	-0.86	-0.85	-0.97	-0.89	-0.91	-0.55	-0.43
Bahrain	-0.72	-0.36	0.23	0.29	-0.74	-0.38	-0.54	0.11	0.60	-0.52
Armenian	-0.93	-0.89	-0.26	-0.30	-0.93	-0.91	-0.80	-0.35	-0.61	0.65
Bosnia-Herzegovina	-0.64	-0.53	-0.21	-0.27	-0.51	-0.43	0.07	0.20	0.88	0.88
Bulgaria	-0.29	-0.23	0.06	0.09	-0.24	-0.16	0.25	0.25	-0.13	-0.16
Belarus	0.02	0.18	-0.17	-0.05	-0.22	-0.28	0.07	-0.06	-0.28	-0.11
Cambodia	-0.91	-0.82	-0.97	-0.87	-0.58	-0.56	0.87	0.77	-0.96	-0.89
Sri Lanka	-0.87	-0.86	-0.49	-0.58	-0.71	-0.77	0.76	0.68	0.20	-1.00
Croatia	-0.36	-0.31	-0.37	-0.30	-0.16	-0.23	-0.21	-0.15	0.20	0.84
Czech Republic	-0.21	-0.25	0.02	0.02	0.14	0.16	0.07	0.11	-0.11	0.11
Estonia	-0.33	-0.36	-0.05	-0.05	-0.03	-0.08	0.19	0.20	-0.10	-0.19
Georgia	-0.61	-0.60	-0.40	-0.56	-0.57	-0.73	-0.83	-0.69	0.66	0.23
Palestine	-0.75	-0.83	-0.57	-0.49	-0.89	-0.92	-0.30	-0.17	-0.29	-1.00
Hungary	-0.03	0.00	-0.10	-0.09	0.15	0.14	0.17	0.12	-0.23	-0.28
Israel	0.40	0.34	0.16	0.22	-0.07	-0.05	-0.04	-0.10	-0.42	0.13
Kazakhstan	-0.07	-0.04	0.26	0.23	-0.93	-0.90	-0.95	-0.91	0.96	0.03
Jordan	0.16	0.02	-0.54	-0.64	-0.65	-0.73	0.08	0.12	-0.10	-0.91

(continued)

Table 23 (continued)

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Kyrgyzstan	-0.95	-0.93	-0.80	-0.84	-0.78	-0.62	-0.32	-0.65	0.95	0.72
Latvian	-0.33	-0.29	0.07	0.02	-0.20	-0.21	-0.08	-0.10	-0.48	-0.22
Lithuania	-0.08	-0.06	-0.12	-0.13	-0.10	-0.19	0.33	0.28	-0.25	-0.31
Malaysia	-0.08	-0.10	-0.08	-0.09	0.03	0.05	0.31	0.25	-0.37	-0.56
Mongolia		-0.98		-0.73		-0.88		-0.78		1.00
Moldova	-0.74	-0.65	-0.73	-0.71	-0.61	-0.45	0.00	0.08	-0.70	-1.00
Montenegro	-0.85	-0.88	-0.26	-0.49	-0.85	-0.86	-0.92	-0.90		-1.00
Oman	0.18	-0.05	-0.46	-0.39	-0.83	-0.79	-0.57	-0.84	0.87	-0.05
Nepal	-0.87	-0.92	-0.41	-0.66	-0.97	-0.99	-0.39	-0.54	-1.00	-1.00
Pakistan	-0.76	-0.79	0.40	0.23	-0.86	-0.94	0.66	0.59	-0.98	-0.86
The Philippines	-0.56	-0.62	-0.17	-0.20	-0.09	0.05	0.09	0.24	0.94	0.33
Poland	-0.30	-0.21	0.01	0.06	0.04	0.04	0.06	0.13	-0.95	-0.79
Qatar	-0.12	-0.45	-0.98	-0.76	-1.00	-0.76	-0.98	-0.88	0.83	0.94
Romania	-0.48	-0.53	-0.22	-0.18	-0.02	0.03	0.18	0.16	-0.29	-0.12
Russia	-0.29	-0.16	-0.24	0.32	-0.78	-0.61	-0.83	-0.58	0.39	0.85
Saudi Arabia	0.34	0.29	-0.64	-0.66	-0.81	-0.82	-0.76	-0.87	-0.74	-0.87
Serbia	-0.41	-0.41	-0.03	-0.07	-0.31	-0.13	0.00	0.14	-0.90	-0.76
India	-0.19	-0.13	0.07	0.10	-0.33	-0.30	0.45	0.45	-0.82	-0.71
Singapore	0.31	0.36	-0.17	-0.18	0.11	0.11	0.06	0.08	0.40	0.47

(continued)

Table 23 (continued)

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Slovakia	-0.29	-0.30	0.11	0.07	0.12	0.13	-0.03	-0.12	-0.17	-0.11
Slovenia	0.05	0.09	0.03	0.07	0.08	0.10	0.00	0.06	-0.40	0.06
Thailand	-0.08	-0.03	-0.16	-0.13	0.12	0.11	0.24	0.13	-0.09	-0.31
Macedonia	-0.27	0.15	-0.17	-0.48	-0.70	-0.80	0.30	0.29	-0.52	-0.60
Turkey	-0.61	-0.55	0.02	0.01	-0.26	-0.25	0.26	0.32	-0.61	-0.50
Ukraine	-0.43	-0.56	0.37	0.36	-0.14	-0.27	-0.34	-0.13	-0.24	-0.23
Egypt	-0.28	-0.50	-0.33	-0.51	-0.84	-0.08	-0.09	-0.23	0.91	0.54

Source UN Comtrade Database

Table 24 RCA index of primary goods in China and countries along the Belt and Road

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China	0.459	0.405	0.157	0.171	0.182	0.177	0.118	0.125	0.047	0.073
Afghanistan	5.936	6.934	0.000	0.049	4.294	5.980	0.000	0.352	0.000	0.000
Albania	0.715	0.867	0.495	0.214	3.370	2.418	1.251	0.898	0.127	0.001
Bahrain	0.311	0.335	0.183	1.300	1.906	0.956	4.999	3.795	0.002	0.016
Armenian	0.684	1.074	15.088	22.179	6.472	7.596	0.281	0.635	0.005	0.006
Bosnia and Herzegovina	1.028	1.042	0.946	0.806	3.105	3.186	1.051	0.715	1.402	3.025
Bulgaria	1.833	1.658	2.879	2.154	2.132	1.884	0.926	1.082	1.238	2.519
Belarus	2.142	2.281	0.258	0.676	0.619	0.698	1.933	2.971	0.407	0.945
Cambodia	0.165	0.677	0.365	0.398	0.605	0.645	0.000	0.000	0.338	0.377
Sri Lanka	4.563	3.618	0.940	1.251	1.114	0.814	0.011	0.180	0.275	2.898
Croatia	1.508	1.675	2.751	1.794	1.667	2.259	0.868	1.112	0.446	0.598
Czech Republic	0.515	0.578	0.833	1.014	0.716	0.640	0.256	0.303	0.321	0.771
Estonia	1.352	1.312	1.931	1.538	1.971	2.070	1.098	1.126	0.853	0.786
Georgia	1.839	2.358	11.572	14.470	4.148	4.352	0.307	0.628	0.154	0.874
Hungary	1.116	1.050	0.413	0.417	0.498	0.479	0.185	0.237	0.589	1.257
Israel	0.521	0.419	0.070	0.088	0.456	0.374	0.060	0.081	0.082	0.139
Kazakhstan	0.553	0.786	0.145	0.299	1.333	0.720	4.993	7.297	0.135	0.231
Jordan	2.527	2.878	1.665	1.698	1.734	2.391	0.066	0.013	0.339	0.235
Kyrgyzstan	1.902	1.220	2.640	2.492	0.884	1.301	0.550	0.532	0.001	0.048
Latvian	2.089	1.956	4.862	4.712	4.150	3.900	0.370	0.630	0.533	0.527
Lithuania	2.527	2.278	2.618	3.081	1.086	1.405	1.627	1.663	0.326	1.025
Malaysia	0.501	0.557	0.574	0.695	0.739	0.792	1.104	1.679	16.139	16.234
Moldova	4.426	3.945	17.337	10.020	2.322	3.242	0.035	0.052	5.825	8.850
Montenegro	1.276	1.320	8.326	9.960	3.343	5.821	0.702	1.510	0.733	0.467
Oman	0.353	0.570	0.373	0.634	0.155	0.514	4.716	6.321	0.729	1.541
Nepal	2.953	3.941	3.945	2.205	1.298	0.937	0.000	0.000	0.703	0.310
Pakistan	2.794	3.048	0.197	0.071	0.814	0.888	0.390	0.122	0.752	0.691
The Philippines	0.739	0.792	0.799	0.798	0.642	1.326	0.143	0.135	4.711	4.976
Poland	1.613	1.699	1.724	1.942	0.557	0.631	0.289	0.337	0.389	0.668
Qatar	0.001	0.032	0.000	0.003	0.067	0.207	6.275	8.439	0.002	0.006
Romania	0.875	1.063	1.564	4.693	1.577	1.158	0.369	0.455	0.706	0.838
Russia	0.276	0.587	0.199	4.170	0.775	1.029	4.573	6.407	0.279	1.216
Saudi Arabia	0.190	0.256	0.103	0.632	0.033	0.156	5.970	7.739	0.138	0.299

(continued)

Table 24 (continued)

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Serbia	3.179	2.475	3.084	3.944	1.172	0.974	0.356	0.290	2.817	2.880
India	1.238	1.580	0.594	4.131	1.731	1.020	1.200	1.210	0.673	0.971
Singapore	0.200	0.274	0.886	0.880	0.144	0.217	1.123	1.284	0.252	0.140
Slovakia	0.630	0.518	0.197	2.117	0.678	0.522	0.336	0.380	0.300	0.481
Slovenia	0.570	0.593	0.516	4.356	0.980	1.075	0.295	0.542	0.111	0.223
Thailand	2.158	2.008	0.446	0.831	1.411	1.239	0.344	0.401	0.364	0.389
Macedonia	1.727	1.197	7.874	5.675	1.916	1.401	0.535	0.119	0.641	1.130
Turkey	1.623	1.582	1.027	3.040	0.735	0.750	0.269	0.305	0.571	1.435
Ukraine	1.936	3.837	1.613	17.192	2.564	4.243	0.496	0.131	9.344	20.777

Source UN Comtrade Database

In terms of manufactured goods, Table 25 shows that among the countries mentioned, only some countries in Southeast Asia and Eastern Europe show a relatively similar structure to China and have more than two manufactured goods with RCA. China has relatively more intra-industry trade with such countries. China has RCA in terms of manufactured goods in SITC6 and SITC8, as well as production equipment in SITC7. Energy- and resource-based countries and agricultural countries have no RCA in the trade of industrial manufactured goods, which is complementary to China and other countries.

Based on the RCA Index, we replace the export data of numerator and denominator with the import data, and get the Revealed Comparative Disadvantage Index (RCD Index)² of product k as follows:

$$RCA_{mjk} = \left(\frac{M_{jk}}{M_j} \right) / \left(\frac{W_k}{W} \right)$$

wherein M_{jk} is the import value of product k exported by country j , M_j is the total export value of country j , and W is the world's import value. Compared with the international import average of the product, the larger the RCD Index is, the more obvious the country's production disadvantage for the product, the more heavily the country relies on its import, and the weaker the country's production capacity of such product.

It can be seen from Table 26 that China has a comparative disadvantage in the index of mineral primary goods such as SITC2 (raw materials) and SITC3 (fuels and lubricants). Countries in West Asia and Central Asia have larger RCD Index in SITC0 and SITC1 (agricultural production of primary products). Central and Eastern

² Jinping (2003).

Table 25 RCA index of manufactured goods in China and Countries along the Belt and Road

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China	0.501	0.495	1.218	1.363	1.440	1.243	2.172	2.032	0.018	0.019
Afghanistan	0.000	0.001	1.514	1.248	0.000	0.000	0.001	0.005	5.631	3.421
Albania	0.043	0.049	1.698	1.178	0.120	0.073	3.362	2.848	0.057	4.815
Azerbaijan	0.055	0.146	0.062	0.125	0.030	0.012	0.009	0.018	0.011	0.394
Bahrain	0.062	3.326	1.016	1.769	0.098	0.410	0.122	0.935	0.010	0.152
Armenian	0.111	0.131	3.227	1.754	0.094	0.047	0.295	0.706	0.917	1.590
Bosnia and Herzegovina	0.457	0.613	1.913	1.802	0.340	0.388	1.895	2.055	0.505	0.649
Bulgaria	0.706	0.845	1.771	1.731	0.479	0.543	1.311	1.077	0.604	0.826
Belarus	1.333	1.562	1.152	1.023	0.498	0.329	0.571	0.448	0.782	0.812
Cambodia	0.024	0.074	0.054	0.323	0.140	0.206	8.211	6.329	0.013	0.080
Sri Lanka	0.106	0.140	1.122	0.999	0.154	0.170	4.175	3.937	0.307	0.000
Croatia	1.025	1.026	1.090	1.242	0.923	0.643	1.144	1.276	0.015	0.245
Czech Republic	0.563	0.522	1.298	1.259	1.553	1.480	0.972	0.960	0.483	0.054
Estonia	0.487	0.448	1.168	1.072	0.805	0.834	1.324	1.200	0.750	1.393
Georgia	0.725	1.252	1.672	1.149	0.613	0.356	0.270	0.469	1.084	0.646
Palestine	0.722	0.461	2.548	2.671	0.160	0.090	1.790	1.842	0.076	0.000
Hungary	0.776	0.938	0.719	0.816	1.672	1.495	0.725	0.696	0.961	0.500
Israel	2.433	2.085	2.615	2.605	0.730	0.764	0.734	0.667	0.046	0.217
Kazakhstan	0.397	0.488	1.001	1.083	0.018	0.028	0.009	0.020	0.293	0.012
Jordan	3.049	2.524	0.848	0.698	0.304	0.252	1.639	1.893	0.576	0.155
Kyrgyzstan	0.051	0.095	0.265	0.408	0.169	0.345	0.864	0.471	10.843	11.556
Latvian	0.747	0.680	1.723	1.441	0.535	0.611	0.873	0.774	0.655	1.055
Lithuania	1.162	1.279	0.771	0.844	0.515	0.482	1.237	1.248	0.300	0.443
Malaysia	0.576	0.627	0.680	0.761	1.278	1.113	0.863	0.852	0.131	0.108
Moldova	0.465	0.579	0.588	0.552	0.363	0.424	2.117	1.717	0.003	0.006
Montenegro	0.353	0.353	3.669	2.405	0.238	0.249	0.246	0.342	0.000	0.000
Oman	0.619	0.732	0.252	0.549	0.064	0.060	0.076	0.051	3.048	2.762
Nepal	0.427	0.456	4.139	3.733	0.054	0.023	1.305	1.312	0.000	0.007
Pakistan	0.336	0.348	3.312	3.395	0.077	0.040	2.309	2.194	0.001	0.005
The Philippines	0.273	0.245	0.503	0.672	1.288	1.716	0.410	0.770	5.714	0.161
Poland	0.773	0.770	1.548	1.483	1.210	1.038	1.144	1.190	0.013	0.037
Qatar	0.172	0.107	0.005	0.074	0.001	0.069	0.003	0.028	1.465	2.341
Romania	0.517	0.403	1.303	1.280	1.219	1.163	1.394	1.165	0.366	0.689

(continued)

Table 25 (continued)

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Russia	0.366	0.505	0.528	0.999	0.080	0.143	0.053	0.132	2.069	0.748
Saudi Arabia	0.786	1.287	0.133	0.208	0.055	0.095	0.043	0.043	0.029	0.036
Serbia	0.807	0.734	2.238	1.695	0.473	0.774	1.143	1.042	0.280	0.319
India	0.966	1.184	2.185	2.055	0.421	0.435	1.121	1.184	0.399	0.603
Singapore	1.020	1.184	0.294	0.323	1.485	1.361	0.635	0.691	1.579	1.277
Slovakia	0.422	0.405	1.471	1.318	1.589	1.585	0.899	0.760	0.052	0.060
Slovenia	1.483	1.508	1.699	1.659	1.126	0.995	0.978	0.834	0.038	0.086
Thailand	0.783	0.844	0.940	0.995	1.227	1.192	0.925	0.740	0.641	0.375
Macedonia	1.029	1.981	2.281	1.406	0.173	1.182	1.947	1.358	0.014	0.006
Turkey	0.484	0.500	2.248	1.952	0.812	0.725	1.565	1.479	0.620	1.378
Ukraine	0.601	0.431	2.866	2.243	0.503	0.320	0.317	0.324	0.137	0.094
Egypt	1.211	1.267	1.590	1.598	0.125	0.134	0.697	0.814	0.806	0.803

Source UN Comtrade Database

Europe is at a comparative disadvantage and is less diversified in the production of agricultural primary goods due to geographical constraints.

In terms of comparative disadvantages of industrial manufactured goods (see Table 27), except for equipment, China's index is low and shows a downward trend, which fully indicates that, as a big manufacturer, China's import volume of manufactured products is far lower than the international average of similar products. As China has entered the late stage of industrialization, its manufacturing industry has been upgraded, and its demand for production equipment with complex processes has increased. China's relatively high RCD Index in SITC7 indicates its growing import volume of high-end equipment. Other countries along the Belt and Road are at a disadvantage in the manufacturing products of various materials in SITC6, and rely more on the import.

The RCD can be used in combination with the RCA to calculate the trade complementarity between trade sides and measure the possibility of curbing economic growth declines due to singular industrial structure through industrial synergy via trade in the countries along the Belt and Road. Specifically, if country i has RCA in product k , while country j relies on import in product k , it can be inferred that the trade of product k is complementary between country i and country j . The degree of complementarity can be measured by the product of the RCA Index of country i and the RCD Index of country j . The formula is as follows:

$$C_{ijk} = RCA_{xik} \times RCA_{mjk}$$

Table 26 RCD index of primary goods in China and countries along the Belt and Road

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Afghanistan	1.716	2.172	2.300	1.664	0.018	0.018	1.355	1.851	4.479	8.705
Albania	2.262	1.877	5.361	2.523	0.786	0.515	0.897	0.837	2.245	1.631
Bahrain	1.126	1.544	1.403	2.172	3.304	1.743	2.469	2.234	0.359	0.554
Armenian	2.292	2.376	4.575	4.869	0.341	0.619	1.137	1.805	1.859	1.715
Bosnia and Herzegovina	2.436	2.267	4.231	3.136	0.773	0.738	1.254	1.180	1.212	1.780
Bulgaria	1.340	1.214	1.715	1.669	1.864	2.136	1.440	1.359	0.894	0.674
Belarus	1.137	2.062	1.214	1.089	0.811	0.685	2.246	2.654	0.920	0.805
Cambodia	0.609	0.683	4.644	4.329	0.480	0.612	0.459	0.069	0.189	0.228
Sri Lanka	2.476	1.848	0.478	0.862	0.453	0.692	1.086	1.221	1.837	1.865
China	0.276	0.489	0.228	0.411	3.379	3.171	0.879	1.031	1.250	0.927
Croatia	1.600	1.858	1.188	1.410	0.375	0.461	1.224	1.326	0.747	1.006
Czech Republic	0.811	0.810	0.754	0.815	0.569	0.556	0.619	0.580	0.337	0.507
Estonia	1.563	1.306	2.984	2.403	0.634	0.779	1.079	1.151	0.392	0.315
Georgia	2.586	1.728	3.353	2.860	0.578	1.125	1.186	1.404	2.034	1.341
Hungary	0.726	0.699	0.560	0.612	0.381	0.459	0.691	0.717	0.548	0.407
Israel	1.042	1.115	0.802	0.928	0.481	0.504	1.146	1.039	0.607	0.546
Kazakhstan	1.422	1.398	1.316	1.028	0.294	0.418	0.644	0.212	0.873	0.311
Jordan	2.535	2.729	1.215	1.198	0.404	0.454	1.433	1.506	1.617	1.548
Kyrgyzstan	2.261	1.650	3.499	2.924	0.386	0.412	1.722	1.669	2.901	2.600
Latvian	2.098	1.634	2.602	3.483	0.818	0.928	0.958	0.994	1.268	1.032
Lithuania	1.772	1.647	2.285	2.519	0.723	0.954	2.082	1.758	0.997	1.244
Malaysia	1.021	1.079	0.583	0.794	0.818	0.830	0.647	1.078	2.638	2.338
Moldova	1.897	1.758	4.626	2.981	0.499	0.633	1.333	1.003	0.440	0.437
Montenegro	3.483	3.358	5.044	4.333	0.945	0.617	0.823	0.944	1.472	1.431
Oman	1.824	1.653	1.413	1.578	0.597	0.852	0.478	1.010	1.529	1.472
Nepal	1.410	2.210	1.187	0.817	0.890	1.003	1.139	1.163	7.377	5.135
Pakistan	1.156	1.010	0.079	0.058	1.850	2.177	1.973	1.990	9.636	8.268
The Philippines	1.816	1.661	0.428	0.527	0.776	0.366	1.101	1.032	0.647	1.774
Poland	1.163	1.178	0.819	0.897	0.666	0.789	0.708	0.656	0.701	0.734
Qatar	1.298	1.444	1.199	1.036	0.801	1.296	0.058	0.102	0.551	0.545
Romania	1.110	1.192	0.780	1.054	0.660	0.689	0.651	0.556	0.882	0.493
Russia	2.073	1.788	1.966	1.897	0.485	0.958	0.079	0.143	1.328	1.119
Saudi Arabia	2.484	1.965	1.046	1.039	0.617	0.497	0.015	0.065	1.298	0.911

(continued)

Table 26 (continued)

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China										
Serbia	0.825	1.021	0.911	1.479	0.861	1.036	1.157	1.005	0.473	0.579
India	0.277	0.384	0.071	0.138	1.074	1.401	2.057	2.337	3.672	5.303
Singapore	0.391	0.444	0.948	1.280	0.156	0.208	1.696	1.899	0.432	0.568
Slovakia	0.913	0.753	0.954	0.815	0.819	0.560	0.826	0.704	0.611	0.548
Slovenia	1.154	1.212	1.090	1.030	1.390	1.400	0.837	0.929	0.602	0.549
Thailand	0.694	0.855	0.264	0.313	0.689	0.691	1.128	1.304	0.265	0.314
Macedonia	1.821	1.554	1.376	1.244	1.176	0.823	1.147	0.949	1.833	1.770
Turkey	0.433	0.511	0.317	0.439	1.846	1.536	0.935	0.607	1.092	1.778
Ukraine	1.269	1.038	1.596	2.036	0.812	0.939	2.097	2.531	1.271	0.882

Source UN Comtrade Database

wherein, RCA_{xik} refers to country i at a comparative advantage and RCA_{mjk} refers to country j at a comparative disadvantage.

As indicated by the RCA Index and the RCD Index above, China, with a relatively weak comparative advantage in primary products, is selected as the importer of primary products from countries along the Belt and Road. The index in Table 28 reflects the complementarity of the selected countries along the Belt and Road with China in term of primary goods export. Except for the countries in Southeast Asia, other countries have a high trade complementarity index. China's import trade of primary products with South Asia, Central Asia, West Asia as well as Central and Eastern European countries shows strong complementarity. These countries can be divided into two categories: resource-based countries, such as Oman, Russia and Saudi Arabia, which have strong complementarity with China in SITC3; and countries with characteristic agriculture (animal and plant materials), such as Central and Eastern Europe, which have strong complementarity with China in SITC2 and SITC4.

Judging from the RCA and the RCD, China has a strong advantage in industrial manufactured goods, and is more complementary to the countries along the Belt and Road that import industrial products from China. Among them, countries along the Belt and Road import more manufactured goods in SITC6 and SITC8, in a considerable volume and mostly with a rising trend, showing a strong complementarity with China in terms of the demand for these two categories. For SITC7 (equipment), West Asia and other resource-based countries have strong complementarity to China's export trade, which indicates that the equipment demand for primary processing of resources in these countries is complementary to China's machinery manufacturing (see Table 29).

China and countries along the Belt and Road have strong trade complementarity, which is mainly manifested in the complementarity in the import of primary goods and the complementarity in the export of manufactured goods. This means that the

Table 27 RCD index of industrial manufactured goods in China and countries along the Belt and Road

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
China	0.935	0.862	0.747	0.676	1.147	1.095	0.753	0.657	0.325	1.189
Afghanistan	0.140	0.105	0.668	0.666	0.192	0.074	0.250	0.399	11.334	10.624
Albania	0.881	0.828	1.924	1.675	0.553	0.475	1.053	0.988	0.015	3.624
Bahrain	0.373	0.583	0.664	0.874	0.654	0.769	0.415	0.664	0.003	0.479
Armenian	0.816	0.965	1.528	1.574	0.645	0.484	0.710	0.699	1.295	0.184
Bosnia and Herzegovina	1.052	1.111	1.557	1.901	0.541	0.550	0.873	0.811	0.022	0.029
Bulgaria	0.998	1.149	1.308	1.367	0.642	0.669	0.646	0.595	0.809	1.200
Belarus	0.901	0.930	1.201	1.069	0.563	0.519	0.370	0.465	1.286	1.052
Cambodia	0.549	0.571	3.650	3.909	0.604	0.591	0.682	0.682	0.836	1.345
Sri Lanka	0.977	0.981	2.261	2.190	0.624	0.726	0.396	0.438	0.176	0.062
Croatia	1.230	1.194	1.429	1.524	0.747	0.643	1.062	1.132	0.008	0.015
Czech Republic	0.884	0.960	1.356	1.457	1.234	1.214	0.906	0.916	0.811	0.057
Estonia	0.904	0.823	1.292	1.128	0.827	0.876	0.900	0.755	1.128	2.139
Georgia	0.912	1.410	1.257	1.248	0.705	0.656	0.947	0.770	0.087	0.138
Hungary	0.859	1.009	0.986	1.146	1.339	1.260	0.564	0.636	2.107	1.172
Israel	0.998	1.035	1.941	1.846	0.824	0.871	0.807	0.890	0.141	0.204
Kazakhstan	1.041	1.103	1.436	1.556	1.172	1.153	0.836	0.967	0.017	0.029
Jordan	0.986	0.898	1.363	1.305	0.670	0.615	0.651	0.600	0.416	1.519
Kyrgyzstan	0.873	0.933	1.129	1.810	0.628	0.524	0.785	0.833	0.170	0.800
Latvian	1.148	0.989	1.236	1.212	0.635	0.775	0.834	0.824	1.888	1.624
Lithuania	1.170	1.265	0.891	1.049	0.566	0.645	0.570	0.672	0.569	0.909
Malaysia	0.795	0.849	0.986	1.101	1.442	1.160	0.559	0.611	0.440	0.518
Moldova	1.179	1.332	1.521	1.707	0.610	0.554	0.855	0.761	0.009	1.656
Montenegro	0.860	0.891	1.276	1.294	0.600	0.594	1.154	1.138	#N/A	0.000
Oman	0.770	0.862	1.311	1.454	1.305	0.572	0.529	0.663	0.501	3.985
Nepal	0.983	1.097	1.741	1.919	0.686	0.598	0.514	0.465	0.876	0.528
Pakistan	1.345	1.432	0.839	1.140	0.597	0.639	0.277	0.299	0.084	0.037
The Philippines	0.834	0.860	0.636	0.903	1.371	1.310	0.306	0.418	0.197	0.080
Poland	1.240	1.180	1.400	1.447	1.004	0.979	0.936	0.982	0.543	0.372
Qatar	0.679	0.652	1.554	1.401	1.380	1.217	0.933	1.087	0.556	0.203
Romania	1.126	1.119	1.681	1.712	1.003	0.962	0.788	0.772	0.677	0.912
Russia	1.116	1.273	0.944	1.034	1.135	1.118	1.022	0.981	2.005	0.140

(continued)

Table 27 (continued)

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Saudi Arabia	0.883	0.845	1.466	1.320	1.236	1.224	0.768	0.779	0.570	0.773
Serbia	1.089	1.270	1.441	1.524	0.521	0.747	0.676	0.607	4.172	2.059
India	0.859	1.016	1.234	1.207	0.530	0.551	0.274	0.320	3.312	2.913
Singapore	0.582	0.641	0.486	0.580	1.349	1.272	0.650	0.728	0.972	0.640
Slovakia	0.739	0.749	1.209	1.262	1.251	1.266	0.968	1.052	0.094	0.091
Slovenia	1.193	1.273	1.525	1.588	0.878	0.838	0.911	0.803	0.102	0.093
Thailand	0.953	0.910	1.444	1.442	1.027	1.010	0.619	0.622	1.058	0.885
Macedonia	1.057	1.008	2.011	2.992	0.589	0.542	0.657	0.551	0.033	0.020
Turkey	1.180	1.174	1.362	1.406	0.846	0.845	0.575	0.556	2.014	3.413
Ukraine	1.241	1.507	1.142	1.137	0.569	0.571	0.555	0.450	0.244	0.181

industrial synergy advocated by the Belt and Road Initiative is achievable under the trade-based condition. As China is a global manufacturing power, through trade complementarity, the Belt and Road Initiative can fully promote the development of the three industries of the countries along the Belt and Road, and integrate the three industries of the region with those of China. Countries along the Belt and Road have different industrial structures due to their different economic development stages. As the manufacturing node and trade node under the dual circulation framework, China should understand its complementarity with these countries and drive industrial alignment with them. Through establishing an economic cooperation platform on import and export trade among more than 60 countries or even more countries in the future, China can give full play to the industrial advantages of each country and realize industrial cooperation, providing conditions for completing the transformation and upgrading of industrial structure of each country along the Belt and Road.

V. Industrialization Process of Countries along the Belt and Road

Industrial structure supererogation is an important index to measure the substantial progress of a country's economic development. Hollis B. Chenery et al.³ built a standard model of economic structure change in the process of industrialization by using econometric empirical method and input–output analysis method. It analyzes the industrialization process of the countries along the Belt and Road from the perspective of industrial structure by taking modern industrialization as the standard. Based on the research of Liu et al. (2008),⁴ the height of industrial structure here is expressed by two indicators: proportion relationship (i.e., the evolution of industrial proportion relation) and per capita economic gross (i.e., the improvement of GDP per capita). The

³ Chenery et al. (1986), Chenery and Syrquin (1997) and Fagerberg (2000).

⁴ Liu et al. (2008) (11).

Table 28 Complementarity of some countries along the Belt and Road with China in terms of primary goods export

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Afghanistan	1.636	3.389	0.000	0.020	14.499	18.985	0.000	0.363	0.000	0.000
Albania	0.197	0.424	0.113	0.088	11.380	7.676	1.100	0.926	0.159	0.001
Bahrain	0.086	0.164		0.534	6.435	3.036	4.396	3.913	0.002	0.015
Armenian	0.189	0.525	3.434	9.113	21.855	24.118	0.247	0.655	0.007	0.006
Bosnia and Herzegovina	0.283	0.510	0.215	0.331	10.487	10.117	0.924	0.737	1.752	2.804
Bulgaria	0.505	0.810	0.655	0.885	7.199	5.983	0.814	1.116	1.547	2.335
Belarus	0.590	1.115	0.059	0.278	2.089	2.217	1.700	3.063	0.509	0.876
Cambodia	0.046	0.331	0.083	0.164	2.044	2.048	0.000	0.000	0.422	0.349
Sri Lanka	1.258	1.769	0.214	0.514	3.763	2.586	0.010	0.186	0.344	2.685
Croatia	0.416	0.819	0.626	0.737	5.630	7.172	0.764	1.146	0.558	0.554
Czech Republic	0.142	0.282	0.190	0.417	2.417	2.033	0.225	0.312	0.402	0.714
Estonia	0.373	0.641	0.439	0.632	6.655	6.574	0.965	1.161	1.066	0.729
Georgia	0.507	1.152	2.634	5.946	14.008	13.817	0.270	0.648	0.192	0.810
Hungary	0.307	0.513	0.094	0.171	1.681	1.520	0.163	0.244	0.737	1.165
Israel	0.143	0.205	0.016	0.036	1.540	1.188	0.053	0.083	0.102	0.129
Kazakhstan	0.152	0.384	0.033	0.123	4.502	2.285	4.391	7.524	0.168	0.214
Jordan	0.697	1.407	0.379	0.698	5.854	7.592	0.058	0.014	0.424	0.218
Kyrgyzstan	0.524	0.596	0.601	1.024	2.984	4.131	0.483	0.549	0.002	0.045
Latvian	0.576	0.956	1.107	1.936	14.013	12.384	0.325	0.650	0.666	0.488
Lithuania	0.696	1.114	0.596	1.266	3.668	4.461	1.430	1.714	0.407	0.950
Malaysia	0.138	0.272	0.131	0.285	2.495	2.514	0.971	1.731	20.172	15.045
Moldova	1.220	1.928	3.945	4.117	7.842	10.293	0.031	0.054	7.281	8.202
Montenegro	0.352	0.645	1.895	4.093	11.290	18.482	0.617	1.557	0.916	0.432
Oman	0.097	0.279	0.085	0.261	0.523	1.633	4.147	6.517	0.911	1.429
Nepal	0.814	1.926	0.898	0.906	4.382	2.974	0.000	0.000	0.879	0.287
Pakistan	0.770	1.490	0.045	0.029	2.749	2.820	0.343	0.126	0.940	0.640
The Philippines	0.204	0.387	0.182	0.328	2.166	4.210	0.126	0.139	5.888	4.611
Poland	0.445	0.831	0.392	0.798	1.881	2.003	0.255	0.348	0.486	0.620
Qatar	0.000	0.016	0.000	0.001	0.228	0.656	5.518	8.701	0.002	0.006
Romania	0.241	0.520	0.356	1.928	5.326	3.678	0.325	0.469	0.883	0.776
Russia	0.076	0.287	0.045	1.713	2.616	3.268	4.021	6.606	0.349	1.127
Saudi Arabia	0.052	0.125	0.023	0.259	0.111	0.495	5.250	7.978	0.173	0.278

(continued)

Table 28 (continued)

Country	SITC0		SITC1		SITC2		SITC3		SITC4	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Serbia	0.876	1.210	0.702	1.621	3.956	3.091	0.313	0.298	3.521	2.669
India	0.341	0.772	0.135	1.697	5.846	3.237	1.055	1.248	0.841	0.900
Singapore	0.055	0.134	0.202	0.362	0.485	0.690	0.988	1.323	0.315	0.130
Slovakia	0.174	0.253	0.045	0.870	2.289	1.659	0.296	0.391	0.375	0.446
Slovenia	0.157	0.290	0.118	1.790	3.311	3.414	0.259	0.559	0.139	0.207
Thailand	0.595	0.982	0.102	0.342	4.765	3.935	0.302	0.413	0.455	0.360
Macedonia	0.476	0.585	1.792	2.332	6.470	4.447	0.470	0.123	0.801	1.047
Turkey	0.447	0.773	0.234	1.249	2.482	2.383	0.237	0.314	0.714	1.330
Ukraine	0.534	1.875	0.367	7.064	8.657	13.473	0.436	0.135	11.679	19.255

Source UN Comtrade Database

proportion relation is the quantity connotation of the industrial structure supererogation, and the per capita economic gross amount is the qualitative connotation of the industrial structure supererogation. The product of the ratio of industry to GDP and the per capita income index of industrialization process is taken as the measurement index of industrial structure height. Through this product relation, we can see the relation between the increase of per capita income in the whole process of industrialization and the ratio of industrial production to the total economic aggregate and then get the industrial height H as follows:

$$H = \sum v_{it} \times GDPpc_t$$

wherein, V_{it} is the proportion of industry i 's output value in GDP in time t , and $GDPpc_t$ is the increase degree of per capita economic aggregate in the process of industrialization in time t . The formula is as follows:

$$GDPpc_t^n = \frac{GDPpc_t - GDPpc_{begin}}{GDPpc_{finished} - GDPpc_{begin}}$$

wherein, $GDPpc_t^n$ is the stage change index of per capita economic aggregate in standardized time t in economy N , $GDPpc_{begin}$ is the GDP per capita at the beginning of industrialization, $GDPpc_{finished}$ is the GDP per capita at the completion of industrialization, and $GDPpc_t$ is the original and directly calculated GDP per capita of economy N . When $H = 0$, economy N begins to enter the early stage of industrialization; when $H = 1$, it indicates that economy N has completed the industrialization, that is, the closer to 1 the industrial structure height of economy N is, the closer it is to the goal of industrialization.

Table 29 Complementarity of some countries along the Belt and Road with China in terms of manufactured goods imports

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Afghanistan	0.070	0.052	0.813	0.907	0.276	0.092	0.543	0.810	0.203	0.198
Albania	0.442	0.410	2.344	2.283	0.797	0.590	2.288	2.008	0.000	0.067
Bahrain	0.187	0.288	0.809	1.191	0.942	0.956	0.901	1.350	0.000	0.009
Armenian	0.409	0.477	1.861	2.145	0.929	0.602	1.543	1.420	0.023	0.003
Bosnia and Herzegovina	0.527	0.550	1.897	2.591	0.778	0.683	1.895	1.647	0.000	0.001
Bulgaria	0.500	0.568	1.593	1.863	0.924	0.832	1.404	1.208	0.014	0.022
Belarus	0.452	0.460	1.463	1.456	0.811	0.645	0.804	0.944	0.023	0.020
Cambodia	0.275	0.282	4.445	5.327	0.870	0.734	1.480	1.386	0.015	0.025
Sri Lanka	0.489	0.485	2.754	2.984	0.898	0.903	0.861	0.890	0.003	0.001
Croatia	0.616	0.590	1.741	2.076	1.076	0.799	2.306	2.299	0.000	0.000
Czech Republic	0.443	0.475	1.652	1.986	1.776	1.509	1.968	1.861	0.015	0.001
Estonia	0.453	0.407	1.573	1.537	1.190	1.089	1.955	1.534	0.020	0.040
Georgia	0.457	0.697	1.531	1.701	1.015	0.815	2.056	1.564	0.002	0.003
Hungary	0.431	0.499	1.201	1.562	1.927	1.566	1.225	1.292	0.038	0.022
Israel	0.500	0.512	2.365	2.516	1.186	1.082	1.753	1.809	0.003	0.004
Kazakhstan	0.522	0.546	1.749	2.120	1.688	1.432	1.816	1.965	0.000	0.001
Jordan	0.494	0.444	1.660	1.778	0.964	0.764	1.415	1.218	0.007	0.028
Kyrgyzstan	0.438	0.461	1.375	2.467	0.903	0.651	1.706	1.692	0.003	0.015
Latvian	0.575	0.489	1.506	1.651	0.914	0.963	1.811	1.674	0.034	0.030
Lithuania	0.586	0.625	1.086	1.429	0.815	0.802	1.238	1.365	0.010	0.017
Malaysia	0.398	0.420	1.201	1.500	2.075	1.441	1.213	1.240	0.008	0.010
Moldova	0.591	0.659	1.852	2.326	0.878	0.688	1.857	1.547	0.000	0.031
Montenegro	0.431	0.440	1.554	1.763	0.863	0.739	2.506	2.311	—	0.000
Oman	0.386	0.426	1.597	1.982	1.878	0.711	1.150	1.346	0.009	0.074
Nepal	0.492	0.543	2.121	2.616	0.988	0.743	1.116	0.945	0.016	0.010
Pakistan	0.674	0.708	1.022	1.554	0.860	0.795	0.601	0.608	0.002	0.001
The Philippines	0.418	0.425	0.775	1.230	1.973	1.628	0.665	0.849	0.004	0.001
Poland	0.621	0.583	1.705	1.972	1.446	1.217	2.034	1.994	0.010	0.007
Qatar	0.340	0.322	1.893	1.909	1.986	1.512	2.027	2.209	0.010	0.004
Romania	0.564	0.553	2.048	2.332	1.443	1.196	1.711	1.569	0.012	0.017
Russia	0.559	0.630	1.149	1.409	1.634	1.389	2.220	1.992	0.036	0.003
Saudi Arabia	0.442	0.418	1.786	1.799	1.779	1.522	1.669	1.582	0.010	0.014

(continued)

Table 29 (continued)

Country	SITC5		SITC6		SITC7		SITC8		SITC9	
	2010	2015	2010	2015	2010	2015	2010	2015	2010	2015
Serbia	0.546	0.628	1.756	2.076	0.750	0.928	1.467	1.233	0.075	0.038
India	0.431	0.503	1.503	1.644	0.764	0.684	0.596	0.649	0.059	0.054
Singapore	0.292	0.317	0.591	0.790	1.941	1.581	1.411	1.478	0.017	0.012
Slovakia	0.370	0.370	1.472	1.719	1.800	1.573	2.104	2.138	0.002	0.002
Slovenia	0.598	0.630	1.858	2.163	1.264	1.042	1.979	1.631	0.002	0.002
Thailand	0.477	0.450	1.758	1.964	1.478	1.255	1.345	1.264	0.019	0.016
Macedonia	0.530	0.499	2.449	4.078	0.847	0.673	1.427	1.119	0.001	0.000
Turkey	0.591	0.581	1.659	1.916	1.217	1.050	1.249	1.129	0.036	0.064
Ukraine	0.622	0.745	1.391	1.550	0.819	0.709	1.205	0.915	0.004	0.003

Source UN Comtrade Database

Based on the standard structure model of economic stage division by Chenery et al. (1986), Liu et al. (2008) conducted international comparison of the industrial structure height by using the data of 2005⁵ and found that the evolution of industrial structure height is significantly correlated with the improvement of economic development level. The results show that the industrial structure height of developed economies is significantly greater than 1, while that of developing countries is significantly lower than 1.

The degree of industrialization is not very high in many countries along the Belt and Road except for some European countries. More than half of them are in the down circulation structure. The more than 60 countries along the Belt and Road have significantly diversified levels of industrialization, and they, as a whole, are still in the process of industrialization, covering all stages of the industrialization process. This fully demonstrates the major features of “wide coverage” and “strong inclusiveness” of the Belt and Road Initiative strategy. China is in the upstream position in terms of industrialization level among countries along the Belt and Road, which also illustrates its bridging role.

According to revenue classification (see Table 30), the industrial structures and economic development levels of countries along the Belt and Road are also in line with this relation. From the time dimension, in 2010 and 2015, the industrial structure height of some Central and Eastern European countries with small economic aggregate in high-income countries shows that they have completed the industrialization

⁵ The data is measured at the constant price in 2005. The per capita income in Chenery et al. (1986) Standard Model is USD1,141–2,822 as the starting point of industrialization, while the per capita income is USD5,645–10,584 as the end point of industrialization. (The data was originally calculated in the USD in 1970, but convert to the USD in 2005 accordingly in this paper. All other USD in the paper are calculated in the USD in 2005). After this point, the economy entered the stage of developed economy (the per capita income standard of developed and underdeveloped countries divided by the World Bank in 2005 was USD10,725, which is slightly different from USD10,584 in this paper and can be ignored).

goal, and some lower-middle-income and low-income countries have not yet entered the stage of industrialization. The ranking of the industrial structure height index of each country is basically in line with its revenue ranking. West Asian countries with high energy and resource endowment are in a dominant position in energy exploitation and other related industries, processing and manufacturing industries; and hold higher positions in the global industrial chain of such industries. Their industrial structure ranks high in the top, and some European countries also have high industrial structure index. Russia, with a higher position in heavy industrial production and already completing the industrialization goal, has become a country with industrial structure height greater than 1 in two observation years among upper-middle-income countries. Most of the middle-income countries have entered into industrialization, and have different degrees of completion based on their own advantages. According to the index of industrial structure supererogation, these countries are still in the middle and lower reaches of the global industrial chain, with production of labor- and resources-intensive primary goods as their main industry. These countries are mainly concentrated in Southeast Asia, South Asia and Central Asia. In the past five years, China's overall industrial structure has increased by about 30%. China, amid accelerated industrialization, is seeing an increasingly faster improvement of its industrial structure height, and is in the middle position among the countries along the Belt and Road. According to the dual circulation framework of global value chain, China is also in the center of the "8" shaped pattern of countries along the Belt and Road, and plays a pivotal role in the economic development of all countries along the Belt and Road. Therefore, China is giving play to its gradually improving manufacturing level, gradually narrowing its gap with countries with high industrial structure in the global industrial division system and exporting more value-added manufactured goods; and exports its own technology and knowledge, as well as the experience of industrialization process in the down circulation, and obtains the resources and energy needed for rapid development.

China has many internal consistencies with countries along the Belt and Road in term of the development, especially Southeast Asia, South Asia and Central Asia in the down circulation (Table 31) with undeveloped industry and under adjustment and upgrading of industrial structure. Such internal consistency determines that China and these countries are complementary and mutually reinforcing in their development. In the process of promoting the geographical advantages of countries along the Belt and Road, China can also realize its own industrial upgrading and adjustment. When providing products to the countries in upward circulation, China promotes the export products of countries with lower industrial structure through trade, thus promoting its own urbanization and industrial production. By combing the degree of industrialization in different countries, we can see that the Belt and Road Initiative can make the countries along the Belt and Road with different industrial structure heights highly pull each other, complement each other, and achieve industrial synergy under the dual circulation framework of value chain.

Table 30 Industrial structure height of countries (by income)

Country	2010	2014	Country	2010	2014
High-income countries			Lower-middle-income countries		
Kuwait	5.293	6.484	Albania	0.186	0.193
Qatar	5.203	6.454	Egypt	0.117	0.189
Singapore	3.078	3.972	Sri Lanka	0.101	0.185
UAE	2.906	2.907	Georgia	0.085	0.178
Bahrain	2.040	2.637	Ukraine	0.125	0.137
Czech Republic	1.620	1.648	Philippines	0.061	0.117
Saudi Arabia	1.149	1.381	Uzbekistan	0.000	0.056
Slovakia	1.112	1.360	Moldova	0.009	0.041
Poland	1.831	2.115	Laos	-0.008	0.020
Estonia	0.888	1.270	Pakistan	-0.027	-0.005
Hungary	0.837	0.941	Kyrgyzstan	-0.036	-0.006
Oman	0.915	0.898	Syria	-0.133	-0.123
Croatia	0.785	0.760	Tajikistan	-0.074	—
Bulgaria	0.355	0.424	Cambodia	-0.034	-0.019
Russia	1.310	1.742	Bangladesh	-0.039	-0.020
Kazakhstan	0.798	1.036	Afghanistan	-0.043	-0.040
Lithuania	0.606	0.851	Nepal	-0.122	-0.107
Romania	0.576	0.668			
Belarus	0.450	0.666			
China	0.351	0.657			
Latvian	0.379	0.595			
Upper-middle-income countries			Low-income countries		

(continued)

Table 30 (continued)

	Country	2010	2014	Country	2010	2014
	Turkey	0.655	0.542			
	Montenegro	0.471	0.502			
	Lebanon	0.525	0.497			
	Turkmenistan	0.199	0.459			
	Serbia	0.340	0.389			
	Maldives	0.290	0.381			
	Malaysia	0.288	0.374			
	Iran	0.491	0.373			
	Armenian	0.268	0.352			
	Mongolia	0.125	0.280			
	Jordan	0.197	0.248			
	Bosnia and Herzegovina	0.202	0.223			
	Thailand	0.253	n/a			

Note Sorted according to the calculated value in 2014

Source Based on the World Bank database

Table 31 Industrial structure heights of countries (by region)

Region	Country	2010	2014	Region	Country	2010	2014
Southeast Asia	China	0.351	0.657	Caucasus Region	Armenian	0.268	0.352
	Singapore	3.078	3.972		Georgia	0.085	0.178
	Malaysia	0.288	0.374	Central and Eastern Europe	Czech Republic	1.620	1.648
	Thailand	0.253			Slovakia	1.112	1.360
	The Philippines	0.061	0.117		Poland	1.831	2.115
	Laos	-0.008	0.020		Estonia	0.888	1.27
	Cambodia	-0.034	-0.019		Hungary	0.837	0.941
	Maldives	0.290	0.381		Lithuania	0.606	0.851
South Asia	Sri Lanka	0.101	0.185		Romania	0.576	0.668
	Pakistan	-0.027	-0.005		Poland	0.351	0.657
	Bangladesh	-0.039	-0.02	Southern Europe	Latvian	0.379	0.595
	Afghanistan	-0.043	-0.04		Russia	1.310	1.742
	Nepal	-0.122	-0.107		Belarus	0.450	0.666
	India	0.0002	0.0142		Moldova	0.009	0.041
Central Asia	Kazakhstan	0.798	1.036		Croatia	0.785	0.760
	Turkmenistan	0.199	0.459		Bulgaria	0.355	0.424
	Uzbekistan	0	0.056	Montenegro	0.471	24,615	
	Kyrgyzstan	-0.036	-0.006	Serbia	0.340	0.389	
	Tajikistan	-0.074		Bosnia and Herzegovina	0.202	0.223	
West Asia and North Africa	Kuwait	5.293	6.484	Albania	0.186	0.193	
	Qatar	5.203	6.454	Cyprus	1.156	0.651	
	UAE	2.906	2.907	Greece	0.955	0.760	
	Bahrain	2.040	2.637				
	Saudi Arabia	1.149	1.381				
	Oman	0.915	0.898				
	Turkey	0.655	0.542				
	Lebanon	0.525	0.497				
	Iran	0.491	0.373				
	Jordan	0.197	0.248				
	Egypt	0.117	0.189				

Note Sorted according to the calculated value in 2014

Source Based on the World Bank database

The industrialization of countries along the Belt and Road in different segments shows that South Asian countries are at the tail position of the early stage of industrialization, while resource-intensive West Asian countries and some European countries are at the late stage of industrialization. Most countries in Southeast Asia and South Asia are in the early stage of industrialization, while most of the countries in Central and Eastern Europe, West Asia and the Middle East are in the late stage of industrialization.

VI. Conclusions

The industrial and spatial synergy advocated by the Belt and Road Initiative is based on actual development. After several major changes and shifts in the world economy, China's economy has risen rapidly and has become the center of world economic development, with unprecedented heights in manufacturing scale, import and export volume and capital accumulation in recent decades. The review and analysis results of the historical data of the world economy show that the current global economy is at the turning point of transformation. From the perspective of sustainable development of major countries, this paper deeply studies the pivotal function of China in the dual circulation of global value and the synergetic development among countries in the world, especially among developing countries. On the other hand, it provides theoretical support and policy basis for the development of China's economic relations with foreign countries and the sustainable development of its overall economy; and on the other, it provides a fairer and win-win path for the stable development of the world economy and the promotion of industrialization in developing countries or regions.

In terms of regional space, the Silk Road Economic Belt covers the Central Asia, the South Asia and the Middle East, while the 21st Century Maritime Silk Road covers regions of Southeast Asia, the Indian Ocean, North Africa and West Africa. Countries in these regions have different development stages, different industrial structures and different resource endowments. However, due to the economic development potential, complete industrial system and huge consumer market, China has formed a certain degree of industrial trade complementarity with the countries along the Belt and Road. The purpose of this study is to promote the synergetic economic development in a wider space through in-depth study and comparison of the advantages and disadvantages of various countries in the production of various products.

The Belt and Road Initiative is China's first active attempt to transform from a regional power to a world power, trying to build an opener and more inclusive global governance mechanism suitable for its own development while sharing its development achievements. Whether in terms of economic development stages or industrial structures, China is at the level between developed countries and developing countries, which determines that China will play a bridging role in this system to undertake new technologies and new industries from North America and Western Europe, and carry out industrial-capacity cooperation with developing countries such as Asia, Africa and Latin America so as to achieve dual circulation of global value chain. From the trade complementarity of various products between China and the

countries along the Belt and Road, it can be seen that in the trade with developing countries in Asia, Africa and Latin America, etc., China has RCA in terms of manufactured goods, while the countries along the Belt and Road have RCA in primary goods, and have different advantageous products of their own. All these indicate that China and the countries along the Belt and Road have a good foundation and unlimited development space for industrial-capacity cooperation.

It is critical to realize regional modernization of the three industries especially the first industry and the tertiary industry based on China's status as a global manufacturer. That is about how to integrate the three industries in this region and China, and with China as the hub, to achieve the economic and regional integration under the Belt and Road Initiative. It is not only closely related to how China's economy solves the contradiction of economic development and realizes stable economic development under a new normal, but also inextricably bound up with how to accelerate the economic circulation in large regions and bring more countries into the division system of the global value chain. Therefore, through industrial and spatial synergy under the Belt and Road Initiative, China will lead the Asian economy to keep its world-leading position, and achieve win-win economic cooperation and common prosperity in a wider area.

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Part II

On Industrial Synergy

Adopting Law-Based Governance and Paying Equal Importance to Agriculture, Industry and Business

The industry underpins the economic development. The Belt and Road Initiative was born at the critical point of international industrial relocation and domestic industrial transformation. By starting with the industrial conditions of the world and China, this chapter thoroughly combs the global industrial value chain, and analyzes China's current industrial transformation and upgrading, and examines the problems existing in the current industrial development from the perspective of industrial synergy, as well as the industrial structure policies feasible under the Belt and Road Initiative.

Observation and Policy Recommendations for Industrial Relocation under the Belt and Road Initiative — From the perspective of international industrial-capacity cooperation



Jian Su and Huimin Hu

I. Research on Industrial Relocation in China

It is generally believed that the adjustment and upgrading of industrial structure is conducive to promoting economic growth. The industrial relocation is an important way for a region to upgrade its industry. From the experience of developed countries, international industrial relocation through foreign investment is also an effective way to promote the adjustment and upgrading of industrial structure. The development process of industrialized countries shows that, with the increase of economic activities, the economic growth of a country reflects two characteristics: the increase of economic aggregate and per capita, and the change of industrial structure. Industrial structure change and industrial relocation take place in both spatial and time dimensions, involving the changes in factor input, technology and institutional environment. However, the academic research on industrial relocation mainly focuses on spatial changes, that is, whether the core area is relocated or not, as well as the drive and mechanism of such relocation.

Petty-Clark Theorem and Kuznets Ratio (1985) described the changes in the proportion of the three industries in national income and the distribution of labor force among the three industries with the increase of per capita national income. Therefore, the academic research focused on the mechanism of action between the adjustment and optimization of industrial structure and the economic growth and development. Subsequent scholars (Chenery et al. 1986; Lin 2003) continuously explored the role of industrial structure change and evolution in promoting economic

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growth. Chenery et al. (1986) emphasized the contribution of industrial structure change formed by factor flow to economic growth (structural dividend). When factor input flowed from a low-efficiency production sector to a high-efficiency production sector, it would promote economic growth. Lin (2003) proposed that the evolution of industrial structure was a process of optimizing the allocation of resources and pursuing the improvement of the overall economy. Furthermore, the new structural economics has made it clear that the essence of economic growth lies in the process of continuous changes in technology, industry, infrastructure and institutional structure, emphasizing the decisive role of factor endowment structure on industrial technology structure at different development stages.

There have been a lot of empirical studies on the changes of China's industrial structure. Generally speaking, the changes and adjustments of industrial structure had short-term and long-term effects on economic growth (Zheng 2010a, b), had significant positive effects on China's economic growth (Liu and Zhang 2008), and had a significant role in promoting economic growth (Sun and Shi 2011). As for the causes of industrial structure change, existing studies found that the inter-industry factor relocation caused by the industrial structure reform played a role of promoting China's industrial growth during the reform and opening up period (Zhang et al. 2009), while Liu and Zhang (2008) believed that the flow of labor between industries had promoted China's economic growth, but this effect was weakening.

According to the theory of international industrial relocation, the change of comparative advantage leads to the industrial relocation. From the perspective of factor agglomeration, the relocation was first taken place in resource- and labor-intensive industries and then in capital- and technology-intensive industries (Lewis 1954; Kojima 1978). An industry was relocated from the region with higher economic development to one with lower economic development; and when the region with lower economic development saw rising costs and weakening comparative advantage, it would be relocated in the region with even lower development level, thus forming the Flying-Geese Paradigm of the industrial relocation (Akamatsu 1962; Kojima 1978). Sheng (2012) analyzed the direction and path of China's industrial upgrading based on the dynamic change theory of comparative advantage, and made it clear that in the new round of industrial structure adjustment, China should vigorously cultivate the intermediate sector, promote the agglomeration of capital and technology, and shape the dynamic comparative advantage, so as to break away from the division of labor featured by labor-intensive manufacturing created by traditional comparative advantage and achieve the optimization and upgrading of the current industrial structure.

The current research on China's industrial relocation finds out that the change of geographical location mainly shows the trend of transfer from the eastern coastal areas to the central and western regions. From the perspective of the relocated echelons, the trend is consistent with the relevant theories of international industrial relocation. However, academic research also tried to explain the conditions and order of China's industrial relocation and its impact on the regional economy. The results showed that the relocation of labor-intensive industries was against previous theoretical research. Wu and Li (2010) found, by using barycenter analysis method, that

after 2003, the spatial distribution and changes of some manufacturing industries in China showed the characteristics of “moving northward and westward”, and pointed out that due to the restriction caused by the cost of trans-regional relocation and the difference of natural resources and mineral resources endowment, the distribution of resource-dependent manufacturing industries was shifted westward and northward. In the process of regional coordinated development, the rising land and labor costs in southeast coastal areas have also resulted into the centrifugal force of industrial dispersion, leading to the transfer of labor-intensive manufacturing from coastal areas to inland areas. Feng et al. (2010) pointed out that most of the relocated industries transferred had absolute scale advantages, and most of the industries preferentially relocated were resource-dependent and some were technology-intensive, while the typical labor-intensive industries had not been relocated. As for another hot issue in academic research—whether the rapid rise of labor cost constitutes the main reason for industrial relocation, Sun and Peng (2012) analyzed the correlation between labor remuneration increase and industrial scale change in regional distribution, and pointed out that the industries that had been relocated in China were mainly resource-dependent and capital-intensive, and typical labor-intensive industries did not see relative relocation, and the rise of labor remuneration had not become the main reason of industrial relocation in China. Hu and Sun (2014) analyzed the mechanism of the order and spatial model of China’s manufacturing relocation by using the theoretical model of industrial relocation, and emphasized that the basis of industrial relocation was the outward relocation of industrial core areas, which confirmed that China’s manufacturing industry had experienced a large-scale relocation from eastern regions to central and western regions, which was mainly driven by the economic growth and communication of the recipient regions. The improvement of transportation infrastructure, on the contrary, promoted the outward diffusion of industries, which made it clear that industrial development rather than infrastructure promoted economic growth in central and western regions.

In addition, in developing countries like China, the government and its industrial policies have played a very important role in the industrial relocation. From the worldwide perspective, since the reform and opening up, labor-intensive industries in developed countries have been transferred to developing countries. China has made full use of late-mover advantages to undertake the relocation of the manufacturing industry. In terms of theoretical research, Lin Yifu’s new structural economics reveals the role of the government in the process of industrial upgrading, and emphasizes that under the condition of relatively stable social and political order, the “promising government” will promote the realization of a better speed of experimental and exploratory market-oriented reform to make up for its weakness in market failure. In reality, China’s regional industrial relocation presents the basic pattern of “moving northward and westward” and regional integration. The central government and local governments have intervened in the industrial relocation in the form of industrial policies to varying degrees. There are many researches on the government and its industrial policies on the regional economic development in China. Based on the normative analysis, the suggestions are mainly focused on park construction, supporting

infrastructure and government services of local governments in guiding industrial agglomeration.

Especially in recent years, in the face of the financial crisis and worldwide overcapacity, China's economic development has ushered in the "new normal", under which the traditional Keynesian demand management policies (through stimulating investment, stimulating domestic demand, increasing exports, etc.) became less effective. In addition to the demand factors, the new supply economics also analyzes the root causes of the new normal of China's economy from the aspect of supply, that is, the rising cost of labor, raw materials, energy and other factors, and the increase of the cost of technological progress. In recent years, the industrial restructuring was gradually incorporated into the framework of supply management and supply side reform (Liu and Su 2007; Sheng 2013). After the financial crisis, Lin Yifu pointed out that although the crisis originated from the financial sector, the real challenge came from the impact of overcapacity on the real economy (Zheng 2010a, b). Liu and Su (2011) further analyzed the mechanism of the financial crisis caused by overcapacity, and clearly pointed out that the root cause of the financial crisis was overcapacity, and discussed the policy management measures of demand management in response to the global financial crisis, which will lead to "obesity" in the economy, that is, huge asset bubbles, serious overcapacity and huge government debts, and thus gave feasible suggestions on the aspects such as removing excess money supply and industrial restructuring. Therefore, they advocated a more comprehensive and deeper reform, including fiscal and taxation, financial and land system reform. Sheng (2013) pointed out that in addition to the overcapacity caused by the market downturn, there was also a part of overcapacity caused by blind investment and forced elimination of backward capacity under the pressure of resources and environment. Sheng believed that while deepening industrial innovation and cultivating industrial competitiveness, comprehensive measures on the supply side and the management side should be taken so as to address overcapacity.

II. Innovation: International Industrial-Capacity Cooperation and Industrial Layout along the Belt and Road

The new normal has seen a decline in China's economic growth, slowdown in European and American economy and the restart of trade protection. Subject to the new trade rules of the TPP and TTIP led by US, China's export trade is facing more pressure. From the perspective of domestic investment demand, large-scale infrastructure investment has exerted a huge pressure on local debt, and played a weaker role in driving domestic economic growth. The unsustainability of traditional export and investment, the slow consumption upgrading and overcapacity hinder the transformation of the real economy. In addition, after long-term export trade, China has accumulated a lot of overseas financial assets and foreign exchange reserves, and the distribution of foreign investment has undergone profound changes.

Against this backdrop, China has put forward the Belt and Road Initiative and the idea of international industrial-capacity cooperation. International industrial-capacity cooperation refers to the joint action on transnational or cross-regional allocation of capacity supply and demand between countries or regions, and its

realization is the capacity relocation in the way of product output or industrial relocation. At the end of 2014, the Central Conference on Economic Work identified the Belt and Road Initiative as one of the three major strategies for optimizing the pattern of economic development. On May 19, 2015, the State Council printed and distributed *Made in China 2025*, which pointed out that China is still in the process of industrialization. Compared with the world's advanced level, the manufacturing industry is large but not yet strong. In the process of gradually addressing excess capacity, we should push forward traditional industries to intermediate and high ends, and promote the internationalization of key industries, actively participate in and promote international industrial cooperation, and implement the Belt and Road Initiative. The document points out that high-end equipment, advanced technology and strong industry will be transferred overseas, especially to neighboring countries.

China now puts forward the idea of international industrial-capacity cooperation, which aims to reorient traditional trade, and give consideration to the export of goods, capital and technology. The 13th Five-Year Plan blueprints international industrial-capacity cooperation in the next five years, which will take the forms of overseas investment, engineering contracting, technical cooperation, and equipment export to carry out international industrial-capacity and equipment manufacturing cooperation, and promote the export of equipment, technology, standards and services. The changed and improved policy of Chinese foreign trade export encourages the export of both terminal consumer goods and capital goods, and the absorption of more foreign capital.

According to Schumpeter's Theory of Innovation, the innovation is to establish a new production function, to make the production factors recombine and create a new economic growth and development power. Schumpeter categorized the innovation into product innovation, technological innovation, market innovation, resource allocation innovation and organizational (institutional) innovation. First, the industrial relocation under the background of international industrial-capacity cooperation is the market innovation aimed to explore the demand of countries along the Belt and Road. The Belt and Road, involving 65 countries, links the vibrant East Asian economic circle and the developed European economic circle, which account for 63% and 29% of the world's total population and total economic aggregate, respectively. These countries, which are in an important stage of industrialization and urbanization, have a huge market demand and economic growth potential. Second, countries along the Belt and Road have a large gap of demand for infrastructure investment. China's strong industries such as high speed rail, nuclear power and high-end equipment will be imported into these countries, which will lead to new technological innovation and product innovation. Third, the market opening and infrastructure investment of countries along the Belt and Road will also promote the effective allocation and utilization of local natural resources and achieve the innovation of resource allocation. Meanwhile, the exploration of international industrial-capacity cooperation in financing and services will also deepen China's various system reforms, so as to achieve institutional innovation.

III. The Possibility of Industrial Relocation

First, from the perspective of investment demand, the possibility of industrial relocation lies in the huge demand for infrastructure investment and the adjustment and growth of import and export trade. The innovation of industrial layout and relocation under the Belt and Road Initiative is achieved through reciprocal economic cooperation. The countries along the Belt and Road are connected to Central Asia, Southeast Asia, West Asia, North Africa, Central and Eastern Europe and even the European continent, and most of them are emerging markets and developing countries with strong late-mover advantages but seriously inadequate construction of transportation, electricity and information infrastructure. According to the forecast of the Asian Development Bank, the investment demand in the next decade is estimated to reach more than USD8 trillion, while among the Asian countries, the total GDP of China, Japan and South Korea is about the same amount, showing a huge gap with the investment demand. The World Bank statistics show that only 20% of the capital formation in lower-middle-income countries is used for infrastructure investment, which is about USD400 billion, also having a financing gap. From the infrastructure investment plans of the countries along the Belt and Road in recent years, these countries have a huge investment demand. Since 2011, Indonesia, Vietnam, Thailand and other Southeast Asian countries have issued infrastructure investment plans. Among them, the proportion of infrastructure investment in Indonesia's medium-term plan from 2011 to 2014 is as high as 40%. From 2011 to 2020, the Vietnamese government planned to invest USD400 billion in infrastructure construction, while Thailand approved a seven-year investment plan in 2013. However, the serious shortage of savings in these countries has resulted into an overall decline in their investment rate, seriously insufficient infrastructure investment and a large gap between the demand of regional funds for infrastructure and basic industries, making it difficult to complete the planning of large-scale strategic investments.

Second, China has a relatively strong demand for trade and investment with the countries along the Belt and Road. China's ODI continued to grow amid corrections. China's FDI and ODI flows were basically the same in 2014, and China realized the net export of capital for the first time in 2015. Moreover, China's trade with countries along the Belt and Road has maintained a relatively high growth rate. In 2014, when China's import and export growth rate dropped to only 2.3%, its export to the countries along the Belt and Road scored a growth of more than 10%, and the value of its import and export trade reached nearly USD7 trillion, accounting for about 25%. With the construction of economic corridors and economic cooperation zones along the Belt and Road, China's trade and investment with countries along the Belt and Road will continue to grow. Countries along the Belt and Road have a huge demand for infrastructure and foreign trade investment, but their investment capacity is weak, thus forming a huge investment gap.

Third, there is a large amount of high-quality excess capacity in China. In domestic industrial structure adjustment, Northeast China is facing greater pressure in terms of industrial relocation under the current overcapacity pattern. Since 2014, the growth

rate of fixed asset investment in Northeast China has continued to decline, especially in the de-capacity process in 2016. The growth rate of fixed asset investment in Northeast China had declined seriously, and especially from January to August, it decreased by nearly 30%. For a long time, heavy chemical and equipment manufacturing industries, such as oil and ferrous metal mining, processing and smelting, are the dominant industries in Northeast China. Heilongjiang ranks top in China in the field of oil and natural gas exploitation. Key pillar industries in Northeast China includes the petrochemical industry, ferrous metal smelting, general equipment and special equipment in Liaoning as well as the transportation equipment manufacturing in Jilin. Therefore, the complementarity of the high-quality excess capacity and the national infrastructure investment demand from countries along the Belt and Road, the comparative advantages of these countries in terms of natural resources and labor cost, etc., and China's rich experience and mature technology of high speed rail and rail transit projects, as well as the low trade costs form a possibility and advantage of the international industrial-capacity cooperation.

Fourth, China has a strong ability to support financing. The overseas industrial expansion and investment development of Chinese enterprises, as well as the internationalization of Renminbi have accumulated a large amount of capital support capacity for overseas investment. In terms of comprehensive financing capacity, China's total overseas financial assets exceed USD6 trillion and foreign exchange reserves exceed USD3 trillion. Overseas financial asset and foreign exchange reserve can serve to meet investment demand from the countries along the Belt and Road. Up to now, the capital reserve of the Asian Infrastructure Investment Bank, the Silk Road Fund, the New Development Bank and Maritime Silk Road Bank has reached about USD400 billion. Domestic policy banks, commercial banks and local governments are also working together to build local silk road funds. In addition, the overseas investment of private capital has gradually become dominant, and the PPP model will play a greater role of private investment in overseas infrastructure and trade investment. According to *2015 Statistical Bulletin of China's ODI*, the non-financial ODI of local enterprises reached USD93.6 billion, showing a YoY increase of 71%.

IV. Progress and Problems of Industrial-Capacity Cooperation along the Belt and Road

(I) Progress

Since the launch of the Belt and Road Initiative in 2013, the industrial-capacity cooperation has been mainly carried out in the form of industrial relocation. Within two years or so, Chinese enterprises have realized the rapid growth of foreign investment cooperation through "going global" strategy. Statistics from the Ministry of Commerce showed that by the end of December 2015, Chinese enterprises had made non-financial ODI totaling USD14.82 billion in 49 countries along the Belt and Road, with a YoY increase of 18.2%, accounting for 12.6% of the total. The investment mainly went to Singapore, Kazakhstan, Laos, Indonesia, Russia and Thailand. China's ODI in countries along the Belt and Road grew faster than its overall ODI (14.7%). In terms of engineering business, nearly half of China's new contracts were

signed with countries along the Belt and Road. In 2015, 3,987 new contracts were signed, and the new contractual amount was USD92.64 billion, accounting for 44.1% of the amount of China's newly contracted projects over the same period, showing a YoY increase of 7.4%. The total turnover of engineering business was USD69.26 billion, accounting for 45% of the total in the same period and showing a YoY increase of 7.6%.

The industries from which enterprises have transferred their business abroad mainly include electric power infrastructure industry, domestic industries with high-quality excess capacity and equipment manufacturing industry, and the relocation of domestic textile, clothing, light industry, household appliances and other industries are driven by such infrastructure and equipment investment. More than half of economic and trade cooperation zones constructed are related to processing and manufacturing industries. In the meantime, the industrial-capacity cooperation also promoted the spread of relevant technologies and standards. Among the enterprises going global, non-state-owned ones have more opportunities of participating in industrial-capacity cooperation, and investment entities keep optimizing their structures, but state-owned enterprises still take the dominant place, yet with a declining proportion of non-financial investment inventory. State-owned enterprises had strong advantages in going global, and their branches widely set up in countries along the Belt and Road provided better support services for their transnational industrial-capacity cooperation.

(II) Existing problems

The industrial-capacity cooperation under the Belt and Road Initiative can bring a lot of benefits. For instance, the industrial relocation to the countries along the Belt and Road can digest the existing high-quality excess capacity, raise the export grade and further promote the internationalization of Renminbi, so as to further address overcapacity caused by the economic downturn with market demand, thus promoting the sustained growth of China's economy, and meanwhile driving the development of infrastructure, trade and investment of the countries along the Belt and Road, and spurring local economy. However, the Chinese market and enterprises, undeniably, face many problems in their overseas business expansion, which more profoundly reflect the importance of China's supply-side structural reform. Meanwhile, geopolitical, cultural, public security, international capabilities and international trade rules also cause risks in the industrial-capacity cooperation with the countries along the Belt and Road.

Domestically, the factors of institutional reform play an obvious restrictive role in industrial-capacity cooperation and relocation. Although there are changes and relaxation in the long-term overseas investment restriction policy, the government information service, risk monitoring and supervision system for enterprises already going global are yet to be established. Therefore, these enterprises face relatively high overseas investment risks in the complex international competition. The differences between domestic and foreign institutional environments lead to the lack of adaptability and coping capacity of enterprises, the lack of international trade usages

habits and project experience, and the negligence of technical standards and specifications of contracts, which often cause contract failures or even economic losses to these enterprises. In addition, the lack of internationalization ability of these enterprises is mainly manifested in their lack of relevant talent teams, so that in the process of industrial-capacity cooperation and transfer, their gap in international market capacity and international business negotiation ability leads to investment decision-making mistakes.

As for the destinations of industrial relocation, the complicated overseas risks influence the transaction and trade costs of domestic enterprises under the industrial-capacity cooperation. Countries along the Belt and Road have a higher political risk. For example, geopolitical factors have led to the suspension of the Sino-Burmese Railway and the cancellation of the Mexico high speed rail project. In the meantime, enterprises in the source industries also suffer from the economic risks of trade protectionism, which restrict foreign competitors from tariff, technology and equipment standards, and localization production. Due to the differences in nationality, culture and religion, the misrepresentation of China by foreign political parties and media will also stimulate the hostile attitude of the people in the destination countries, and increase the friction and transaction cost of industrial-capacity cooperation. In addition, the poor sovereign credit rating of countries along the Belt and Road has brought great uncertainty to the expectation of ROI and great possibility of default.

V. Policy Recommendations

In view of the industrial-capacity cooperation with countries along the Belt and Road, during international industrial-capacity cooperation, the constraints on the enterprises going global are mainly from domestic institutional reform.

On the one hand, institutional reform and insufficient supply have resulted into the unmet demand for consulting, legal and professional technology services in the international industrial-capacity cooperation. Such services are demand of high quality and also the direction of industrial upgrading towards high-end service industry. On the other hand, the problems of government governance are consistent with China's supply-side reform, mainly manifested in the lack of soft infrastructure such as government services and relevant systems. In international industrial-capacity cooperation, government services, as a part of high-end services, should have a systematic information services and risk monitoring mechanism. Therefore, it is necessary to carry out in-depth comprehensive reform combining the service demand gap encountered in the outward industrial relocation.

In terms of international competition and coping ability, the gap between China's and the world's technology standards should be made up by encouraging R&D of enterprises. Due to the externality of R&D, the government should offer tax incentives and subsidies to encourage R&D investment by enterprises. The investment in basic scientific research and technology is also conducive to the refinement of industrial division and the high-end development of R&D services. In addition, enterprises improve their international market analysis and business ability, which is the key to their survival and development in transnational industrial-capacity cooperation, and is the basis of their market competitiveness. Meanwhile, China should vigorously

train and seek talents with a global vision and establish a mechanism of introducing high-quality overseas human resources, learn to master advanced technologies and experience, and form a supply mechanism of international talent and business talent.

Finally, as for the risks of the international environment, due to the changing and complex political, economic, cultural and religious environments in countries along the Belt and Road, we should comprehensively study and assess the investment risks of the destination countries of industrial relocation. We can transform intellectual resources into high-end decision-making services by encouraging the development of official and private think tanks.

Based on the above analysis, we should systematically consider and address industrial relocation along the Belt and Road, the domestic overcapacity and industrial upgrading. While transferring the high-quality excess capacity, we should use the supply-side reform measures to promote the upgrading of domestic enterprises and government in high-end service industries, deepen the reform, and improve the level of government services.

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Upgrading of Industrial Structure in China's Economic Growth and the Belt and Road Initiative



Zhizhou Cai

I. Economic growth and upgrading of industrial structure since the reform and opening up

(I) China's economic growth, upgrading of industrial structure and the Belt and Road Initiative

Since the reform and opening up, China has achieved a great economic growth, with an average annual rate of more than 9.6% from 1978 to 2015. Especially in the first decade of the twenty-first century, with the advancement of industrialization and urbanization, the average annual economic growth rate from 2000 to 2010 reached 10.47% (see Table 1), which laid a solid foundation for China's subsequent economic growth. Moreover, with the growing degree of marketization and level of macro-control in China, the stability of China's economy has greatly improved on the premise of maintaining high growth. On the one hand, the huge economic growth has improved China's overall national strength and people's living standards. It has also provided a strong material foundation for us to carry out large-scale economic construction (such as infrastructure construction, urban construction, etc.), respond to emergencies and solve various contradictions in development. On the other hand, we should also see that although China has entered the ranks of upper-middle-income countries after more than 30 years of rapid economic growth since the reform and opening up, it is still far behind developed countries by the level of economic development. In addition, to meet the needs of improving people's livelihood and enhancing overall national strength, China still needs a relatively long-term rapid growth with high speed or medium-to-high speed in order to support comprehensive economic and social development. The 18th CPC National Congress proposed that from 2010 to

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Table 1 China's GDP index from 1978 to 2015

Year	GDP index of the previous year = 100	Year	GDP index of the previous year = 100	Year	GDP index of the previous year = 100
1979	107.6	1992	114.2	2005	111.3
1980	107.8	1993	114.0	2006	112.7
1981	105.2	1994	113.1	2007	114.2
1982	109.1	1995	110.9	2008	109.6
1983	110.9	1996	110.0	2009	109.2
1984	115.2	1997	109.3	2010	110.4
1985	113.5	1998	107.8	2011	109.3
1986	108.8	1999	107.6	2012	107.7
1987	111.6	2000	108.4	2013	107.7
1988	111.3	2001	108.3	2014	107.4
1989	104.1	2002	109.1	2015	106.9
1990	103.8	2003	110.0		
1991	109.2	2004	110.1		
The multiple of 2015 over 1978					30.00
Annual average growth rate (%)					9.62
The multiple of 2010 over 2000					2.71
Annual average growth rate (%)					10.48

Source Based on data of past years in *China Statistical Yearbook*

2020, China should double its GDP and residents' income, and complete the building of a moderately prosperous society in all respects. In other words, the average annual growth rate of GDP and residents' income should reach 7.2% during this period, which actually put forward a new growth target for China (the growth of residents' income must be based on the growth of GDP, but the original macro-income distribution structure must be adjusted). In 2011, 2012, 2013 and 2014, China's economic growth rate reached 9.3%, 7.7%, 7.7% and 7.4%, respectively, which were higher than the projected rate of 7.2%. Therefore, in the next six years, if we want to achieve the goal of doubling GDP within 10 years put forward at the 18th CPC National Congress, an annual average GDP growth of 6.5% is enough. With the expansion of economic growth base and the change of economic structure, although China's current economic growth rate is somewhat lower than the long-term growth rate in the more than 30 years since the reform and opening up, it still belongs to a higher economic growth rate compared with other countries in the world. This shows that China's economic growth and economic development have sound fundamentals. As long as we can better deal with various kinds of contradictions and problems in the development, we will be able to achieve the economic growth target of 2020 and complete the building of a moderately prosperous society in all respects.

The report of the 15th CPC National Congress put forward the Two Centenary Goals for the first time. The report of the 18th CPC National Congress reiterated once

again: “we will surely complete the building of a moderately prosperous society in all respects when the Communist Party of China celebrates its centenary and turn China into a modern socialist country that is prosperous, strong, democratic, culturally advanced and harmonious when the People’s Republic of China marks its centennial.” However, when the 15th CPC National Congress was held in 1997, China still had 24 years to go before the Communist Party of China celebrates its centenary in 2021 and 52 years to go before the People’s Republic of China marks its centennial in 2049. Therefore, the two centenary goals were both long-term development goals. However, it is now a different case. The year 2016 was only four years away from 2020 and five years away from 2021. The goal of completing the building of a moderately prosperous society in all respects in the first 100 years has shifted from a long-term goal to a medium- and short-term goal. Although the year 2049 is still 33 years away, 33 years is also significantly shorter than the original 52 years. Therefore, the correct choice of economic development path and development strategy is very important for us to achieve these two goals. The Belt and Road Initiative opens up a new path for China’s sustainable economic growth from supply and demand aspects. From the perspective of supply, we can, first of all, effectively ease China’s energy and environment bottlenecks in economic development by cooperating with resource-rich countries. In the meantime, we can combine China’s advantages in production elements with the advantages of developing countries, newly industrialized countries and even developed countries to increase effective supply. From the perspective of demand, we can increase the demand of other countries for China’s investment, technology, goods and services, thus facilitating China’s long-term and sustainable growth.

Now, let’s look at the industrial structure. A country’s industrial structure may be defined as the relative distribution of its resources and total output among the several industries differentiated in the manner just suggested.¹ The industrial structure is studied from the perspective of industry, that is, to observe the influence of the activities and its distribution of industries (or sectors) on the activities of the national economy. Since the reform and opening up, the rapid growth of more than 30 years has turned China from a poor and backward low-income country to the world’s top-tier economy by economic aggregate and a middle-income country by per capita national income. Measured by specific indicators, the economic growth is reflected by the continuous expansion of GDP. However, in the process of growth, the unbalanced industrial expansion can result into industrial structure changes. Petty-Clark Theorem (Petty, 1691; and Clark, 1940) points out that: With the development of economy, the scale of the primary industry and the proportion of labor force will gradually decrease, while the scale of the secondary industry and the proportion of labor force will gradually increase. With the further development of the economy, the scale of the tertiary industry and the proportion of labor force will increase, forming an industrial structure in which the tertiary industry accounts for the largest share, followed by the secondary industry and finally the primary industry.

¹ Kuznets (1949).

The Petty-Clark Theorem is only a brief classification of industrial structures aimed to reveal the long-term trend of their changes. Specifically speaking, industrial structure changes of different countries, different economies and different economic development stages will have specific characteristics. And we can draw more conclusions through the breakdown of industries and further study of the production activities of different industries defined and their interrelations. This is the case with the change of industrial structure since China's reform and opening up, especially since the twenty-first century. After the reform and opening up, China, as a poor developing country, developed its primary industry to solve the food and clothing shortage of 1 billion people. Then, it took China more than a decade to transform from a planned economy to a market economy, during which China realized the economic growth and improved the distorted industrial structure under the planned economy. This improvement mainly took place in two aspects. Firstly, the growth of industries turned to serve the final needs of society under the condition of improving production efficiency rather than to meet the will of the chiefs under planned economy; and the priority of development was given to the industries with high efficiency and great development potential in resource allocation. Secondly, the market gradually became the main force for resource allocation, which also means that the price changes or supply–demand relationship of various commodities, services and production elements were gradually becoming the basic and important signal of resource allocation. After such a transformation, the added value of industries and their proportion to GDP can objectively and truly reflect the status of each industrial sector in the national economy and their interrelationship. Generally speaking, in national economic accounting, the economic growth and the growth of each sector are measured by comparable prices, while the changes in industrial structure are measured by current prices. This means that the change of industrial structure is not only affected by the actual growth due to the improvement of efficiency of each industrial sector, but also by changes of the general price level resulting from the changes in supply–demand relationship. However, after the marketization reform, the added value of each industry reflected by the current price and their proportion in the national economy can reflect the impact of these two factors on the industrial structure scientifically. In the middle and late 1990s, China clearly set the establishment of a socialist market economy system as the goal of its economic system reform. At the turn of the twenty-first century, China basically established the framework of socialist market economy system. Therefore, after China entered a new economic growth cycle featured by accelerated industrialization in 2003, the change of its industrial structure was no longer the distorted reflection of economic activities of various sectors and their interrelations under the planned economy, but an objective reflection of the status quo and development of the industrial structure. From the Petty-Clark Theorem, we can see that the output value of each industry and the change of their interrelationship are only one aspect of industrial structure. We can define it as industrial structure change in a narrow sense. The change of industrial structure in a broad sense also includes the change of employment structure. We will see that as for the growing equilibrium of economic activities, the changes of these two structures will eventually converge, that is, the employment structure will

eventually approach the value structure. But for developing countries, especially the newly industrialized countries amid accelerating economic growth, the change of value structure will lead to and drive the change of employment structure. In this process, the industrial sector with high labor productivity will grow first.

China's huge economic fruits achieved since the reform and opening up are mainly because of its upgrading of industrial structure in line with economic development and international market requirements, and it therefore promotes China's economic growth. Through international comparison, we can see that on the one hand, the change and upgrading of China's industrial structure conform to the general laws of economic growth and economic development, and we should study and learn from the experience of different countries to make our structural adjustment better serve the goal of modernization. On the other, China's economic growth has its particularity. We should take advantage of our comparative advantages in natural resources, human resources and production elements, etc. to develop the advantageous industries, thus making China's industrial development and structural changes meet the requirements of its steady and rapid economic growth and development.

In such a context, China put forward the Belt and Road Initiative, which reflects China's commitment to developing connectivity with countries from Asia, Europe, the African continent and the neighboring seas in the new era, establishing and strengthening the partnership of connectivity among countries along the Belt and Road, and building closer economic and trade ties between China and these countries. On the one hand, the Initiative shows that China will promote and realize the common development of countries along the Belt and Road with a more active spirit and a highly responsible attitude in international regional economic cooperation; and on the other hand, it also meets the requirements of China's economic development at this stage. With the economic growth and upgrading of industrial structure, China has entered the middle and late stage of industrialization, and has become a new manufacturing center in the world, playing an important role in the global economic development. In the past, China's export-oriented economy used to mainly rely on exports. But now, with the improvement of economic strength, the international advantages of China's economy no longer just lie in competitive products, but also in capital, technology and infrastructure construction. These advantages constitute China's overall competitiveness in foreign trade and economic cooperation, and enable China to achieve "win-win" and "multi-win" results between China and other countries along the Belt and Road through economic and trade cooperation amid economic globalization.

(II) The characteristics of industrial structure changes in different stages after the reform and opening up

For a big country with a low economic development level, to achieve the goal of catching up with the advanced countries, we need to accelerate economic growth first, catch up with or overtake the advanced countries in economic growth rate; then gradually catch up with them in terms of economic aggregate through continuous development; and finally, catch up with them in terms of per capita economic aggregate. The former Soviet Union and Japan experienced such a process. For a

backward country, the process of “catching up”, or to say the process of modernization, is actually the process of industrialization. In this process, firstly, the secondary industry, especially manufacturing, will develop rapidly and drive the development of the tertiary industry that serves the secondary industry correspondingly. The proportion of the primary industry will decrease accordingly. After the development to a certain stage, the service sector will see the proportion of its added value and employment exceed the primary and secondary industries and become the largest industrial sector. Up to now, the economic development and the simultaneous industrial structure improvement of all countries in the world have basically followed this rule except for the economies with a smaller size and singular national economy classification. China’s economic development has also proved this.

1. Five stages of economic growth after the reform and opening up

Unlike the general market economy countries, China’s economic takeoff and high-speed economic growth took place under the background of institutional transformation. Because the traditional planned economic system restricted the production enthusiasm and productivity of producers and workers, the Chinese economic reform has been characterized by the emphasis on improving the efficiency of the whole national economy from the beginning, including the growth’s time efficiency (rigid requirement on economic growth objectives to achieve high growth), institutional efficiency (stimulation of producers and workers’ enthusiasm), technical efficiency (equipment capacity and technological progress), management efficiency (improvement of management level), and market efficiency (optimization of resource allocation, etc.). For a long time, even until now, economic growth, namely GDP growth, has been the basic goal of China’s economic and social development. Although this has brought many problems, it has promoted China’s long-term economic growth. Therefore, in China’s economic growth, institutional factors played a very important role.

We divide China’s economic growth from the reform and opening up to now into five stages according to the staged characteristics of institutional reform and periodic characteristics of economic growth (see Table 2).

The first stage was from 1978 to 1984, which was the start stage of economic reform and high-speed growth. The Third Plenary Session of the 11th Central Committee of the CPC put economic construction as the focus of China’s development, while the development and deepening of rural economic system reform laid the foundation for China’s later reform and economic construction. In the first stage, that is, the start stage of economic growth, agricultural production was developed first because of the rural economic system reform, which led to the development of related industries. The productivity of the primary industry, especially the labor productivity, was low in each industry. In that background, the system of the people’s commune greatly restricted the farmers’ enthusiasm for production, so the institutional innovation could rapidly improve the agricultural labor productivity, which was also the basic reason why the rural economy became the most active part of the productivity in China at that stage. From 1981 to 1984, the primary industry maintained a growth rate of more than 7% for four consecutive years (see Table 3). Although it was still

Table 2 GDP and added value index of the three industries from 1978 to 2014 (the Previous Year = 100)

Year	GDP	Primary industry	Secondary industry	Tertiary industry
Average index from 1978 to 1984	109.2	107.3	108.9	111.9
Average index from 1985 to 1991	109.6	104.7	111.4	111.6
Average index from 1992 to 2002	110.2	103.8	112.7	110.3
Average index from 2003 to 2011	110.8	104.5	111.8	111.2
Average index from 2012 to 2014	107.6	104.2	107.7	108.1
Benchmark index from 1978 to 2014	2801.6	494.4	4405.0	3829.6
Average index from 1978 to 2014	109.7	104.5	111.1	110.7

Source Based on *China Statistical Yearbook 2014* and relevant GDP data released by the National Bureau of Statistics

lower than that of the secondary and tertiary industries, such growth rate was rare in the primary industry. The growth rates of the secondary and tertiary industries in this stage were not low either. Due to the concern about people's life, the annual growth rate of the tertiary industry even reached more than 10%. However, as for the long-term contribution to the reform and opening up and economic growth, the growth of the primary industry in this period had more profound and long-term significance.

The second stage from 1984 to 1991 was featured with the exploration of economic system reform and the adjustment of industrial structure. After the Third Plenary Session of the 12th Central Committee of the CPC, the focus of China's economic system reform was shifted from rural areas to cities, which led China's economic growth into the second development cycle after the reform and opening up. At the 13th CPC National Congress, Deng Xiaoping's three-step development strategy reflected by GDP was completely written into the report of the Congress as an important guiding ideology for the Party and the state to carry out modernization construction.² We have carried out a series of exploratory reforms on the financial and tax system, price system, enterprise management system, income distribution system, foreign trade system and even planning system aimed to mobilize the enthusiasm

² On April 30, 1987, when meeting with Spanish foreign guests, Deng Xiaoping said: "Our goal for the first step is to reach, by 1990, a per capita GNP of US\$500, that is, double the 1980 figure of \$250. The goal for the second step is, by the turn of the century, to reach a per capita GNP of \$1,000. When we reach that goal, China will have shaken off poverty and achieved comparative prosperity. ... The goal we have set for the third step is the most important one: quadrupling the \$1 trillion figure of the year 2000 within another 30–50 years. That will mean a per capita GNP of roughly \$4,000—in other words, a medium standard of living." See page 226, Volume 3 of *Selected Works of Deng Xiaoping*.

Table 3 GDP Index from 1979 to 2014 (the Previous Year = 100)

Year	GDP Index	Primary industry	Secondary industry	Tertiary industry
1979	107.6	106.1	108.2	107.9
1980	107.8	98.5	113.6	106.0
1981	105.2	107.0	101.9	110.4
1982	109.1	111.5	105.6	113.0
1983	110.9	108.3	110.4	115.2
1984	115.2	112.9	114.5	119.3
1985	113.5	101.8	118.6	118.2
1986	108.8	103.3	110.2	112.0
1987	111.6	104.7	113.7	114.4
1988	111.3	102.5	114.5	113.2
1989	104.1	103.1	103.8	105.4
1990	103.8	107.3	103.2	102.3
1991	109.2	102.4	113.9	108.9
1992	114.2	104.7	121.2	112.4
1993	114.0	104.7	119.9	112.2
1994	113.1	104.0	118.4	111.1
1995	110.9	105.0	113.9	109.8
1996	110.0	105.1	112.1	109.4
1997	109.3	103.5	110.5	110.7
1998	107.8	103.5	108.9	108.4
1999	107.6	102.8	108.1	109.3
2000	108.4	102.4	109.4	109.7
2001	108.3	102.8	108.4	110.3
2002	109.1	102.9	109.8	110.4
2003	110.0	102.5	112.7	109.5
2004	110.1	106.3	111.1	110.1
2005	111.3	105.2	112.1	112.2
2006	112.7	105.0	113.4	114.1
2007	114.2	103.7	115.1	116.0
2008	109.6	105.4	109.9	110.4
2009	109.2	104.2	109.9	109.6
2010	110.4	104.3	112.4	109.6
2011	109.3	104.3	110.3	109.4
2012	107.7	104.5	107.9	108.1
2013	107.7	104.0	107.8	108.3
2014	107.4	104.1	107.3	108.1

Source China Statistical Yearbook 2014

of production in all aspects and promote economic growth. Although the reform in this period did not have clear objectives, and resulted into many twists and turns in economic development, such as two higher inflations and a large fluctuation of economic growth, it did trigger a faster economic growth. Although the growth rate of the primary industry fell to about 4% and remained at this level for a long time, the secondary and tertiary industries picked up growth. Although the economic system still belonged to central planning system, the industrial and technical routes were significantly adjusted. In terms of industries, textile and other light industries closely related to people's lives developed rapidly, and the development of the new household appliances industry represented by TV, washing machine and refrigerator significantly upgraded the consumption structure of Chinese residents while the development of the defense industry and the heavy industry, which used to be attached more importance to, saw some adjustments. In terms of technologies, China began to emphasize the introduction of foreign advanced technologies (introduction, absorption, digestion and re-innovation) instead of closed door construction and R&D at a low level. From the perspective of upgrading of industrial structure in the accelerated industrialization period, in the second stage of economic growth after the reform and opening up, China has started the first industrial structure upgrading after the reform and opening-up, namely, the transformation from the agriculture-led economic growth to the economic growth dominated by textile and other light industries. The development of China's textile and other light industries in this period not only met the domestic demand, but also promoted the export of commodities. The export of many "white goods" (such as washing machines, refrigerators, TV sets, air conditioning systems, etc.) of China today can be traced back to that period. Many famous Chinese enterprises and brands in this field (such as "Haier") started their initial development in that period. Chinese light industrial products, in spite of poor quality, were competitive in price, so they could replace the import to some extent, meet the growing domestic demand, and then develop continuously in the market competition. Now, the quality of these products in China has reached the world's advanced level. This shows that it takes a long time for the manufacturing industry to mature. In this sense, we can say that the going global of China's manufacturing industry started there.

The third stage from 1992 to 2002 witnessed the deepening of the market-oriented reform and accelerated the start of industrialization. After Deng Xiaoping's talks in his Southern Tour, China entered a new round of economic growth and accelerated the pace of economic reform. In this period, the Party and the state clearly proposed that the goal of China's economic system reform was to establish a socialist market economy, and to absorb all human civilization that could improve China's productivity, especially the market economy system. To this end, China has carried out a series of profound market-oriented reforms, including the marketization of commodity as well as the marketization of production factors such as property rights, capital, labor and technology. Although such marketization was not complete yet, it helped build a basic framework of socialist market economy system, laying a good institutional basis for the subsequent economic growth and macro-control. At the

beginning of this stage, the light industry was still the mainstream of industrialization, but the specific leading industries had changed. The upgrading of consumer products had led to the upgrading of industrial products, driving the development of industrial products with high technology content, such as computers, telecommunication products, electronic products and air conditioning systems. The tertiary industry developed with new characteristics. The development of traditional tertiary industry was accompanied with the development of the modern tertiary industry (finance, communication, real estate, aviation and expressway transportation, etc.). By the end of this stage, that is, before and after the turn of the century, due to macro-control, Asian financial crisis and industrial adjustment, China's economic growth began to slow down, from more than 10% (before 1996) to about 8%, and inflation from 1992 also turned into deflation before and after the Asian financial crisis in 1998. In this case, the state adjusted the economic structure by increasing the investment in infrastructure and strengthening the shareholding system transformation of state-owned enterprises, which promoted the new round of upgrading of industrial structure or the second major upgrading of industrial structure, that is, the leading industry shifted from textile and other light industries to the heavy chemical industry. The new round of transformation was still taking place under the background of new consumption upgrading. Higher demand for automobiles and housing, as well as the expansion of Chinese manufactured products in the international market played a significant role in promoting the development of China's heavy chemical industry. The growing overall national strength contributed by China's two decades of economic growth after the reform and opening up also provided a solid material base for upgrading of industrial structure. From then on, the secondary industry grew faster than the tertiary industry, ushering the accelerated industrialization in China.

The fourth stage, which lasted from 2003 to 2011, was featured with accelerated industrialization under the market economy. In this period, we basically built the framework of socialist market economy, ensuring a better environment for state-owned, private and foreign-funded enterprises and developing macro-control based on a new micro basis. In addition, thanks to the comprehensive strength formed in the high-speed economic growth and the favorable international environment for China's export-oriented economic development, China's economic growth had made the greatest progress since the reform and opening up. From the second half of 2002, China's economy entered the fourth growth cycle, which was featured with a faster growth rate and quite different leading industries. In this stage, the output of raw materials such as steel, cement and building materials as well as the technical equipment rose rapidly. Many products ranked top in the world by output, and the heavy chemical industry achieved unprecedented development, turning China into a new international manufacturing center. If we say China started the second upgrading of industrial structure in the late period of the last cycle, then the upgrade was completed in this cycle. In terms of demand, the upgrading was driven by the growing domestic and foreign investment and consumption. In terms of supply, it was due to the accumulated production capacity because of the long-term growth and the improving technical level, enabling higher-level industrial development. In this period, with a high base and a large size, China's secondary industry, in spite of a growth rate similar

to that of the previous period, had a significant impact on the country's economic and social development, greatly enhancing the overall national strength, people's life and international status.

The fifth stage, which lasted from 2012 to now, was the stage in which China's macro stimulus policy "exited by chance" after the global financial crisis, and China's economic growth ushered in "new normal". In this stage, China's economic growth rate dropped significantly to less than 8% and stayed at the level for many years. In this period, China's development feature of various industries saw some changes, that is, the primary industry maintained its previous growth rate, but the secondary industry and the tertiary industry saw growth rates of as much as 2–3 percentage points lower. By comparison, the tertiary industry exceeded the secondary industry again. Although this phenomenon occurred in the early stage of the reform and opening up (in the first and second stages respectively), it was the adjustment of the "virtual height" of the industry before the reform and opening up, and the secondary industry would accelerate again after the relationship between the industries was straightened out. But it is a different case now. After a long-term industrialization process, in fact, China has gradually entered the post-industrialization development stage since 2010. This stage has two features: First, the tertiary industry overtook the secondary industry to become the fastest-growing leading industry in the national economy; second, the proportion of the tertiary industry in the national economy began to exceed that of the secondary industry. The change of industrial relationship and structure was inevitably reflected in the economic growth rate. Therefore, although the economic cycle and other reasons played a part in the economic growth slowdown in this stage, more importantly, with the improved economic development and faster industrialization, China entered a new stage of industrial development.

In Table 3, we can see that in the first four periods, China's economic growth rate kept increasing at 9.2%, 9.6%, 10.2% and 10.8%, respectively, showing accelerated economic growth. However, different periods saw great differences in the growth rates among industrial sectors. In the primary industry, the accelerated growth mainly occurred in the initial stage of the reform and opening up, with an annual growth rate of 7.3%. Since then, the annual economic growth rate had fallen to about 4%. From the nature of the primary industry, it is very hard to maintain such a growth rate for a long time. The secondary industry, with an annual growth rate of up to 11.4% in a long term, has been the fastest-growing industrial sector in China since the reform and opening up. Its growth rate kept growing in different stages, and reached more than 12% in the third and fourth stages, which was higher than that of the first and second stages. The long-term annual growth rate of the tertiary industry was 10.9%, only 0.5% lower than that of the secondary industry yet with no significant difference. But it has exactly different performance from the secondary industry in different stages. The tertiary industry saw much higher growth rates in the first and second stages than the third and the fourth stages, which means that China's economic growth was still in the stage of accelerated industrialization, and the secondary industry dominated by manufacturing and construction industries still led the economic growth of China. If we only factor in the impact of real growth on industrial structure, by multiplying the GDP in 1978 and the added value of each industrial sector by the fixed base index of

1978 in subsequent years, we can get the GDP and added value calculated at the price of 1978 as the base price in each year, and calculate the GDP composition of each year based on these data (see Table 4). If the growth rate of the primary industrial sector was slow by comparable price, by 2010, the proportion of the primary industrial sector in the whole economy would have dropped to 5.1%, down by 23.1%; that of the secondary industrial sector would have increased to 66.3%, up by 18.4%; and that of the tertiary industry would have increased to 28.6%, up by 4.7%. From the analysis above, we can see that after the reform and opening up, the secondary industrial sector was the biggest contributor of real growth to GDP, while the tertiary industry had a relatively slow real growth. The primary industry was also growing, but its growth rate was significantly lower than that of the other two industries, leading to its much smaller proportion in the national economy. This showed that the rapid industrialization process had contributed a lot to the economic growth of our country.

If excluding the price factor, the secondary industry expanded the most among the three industries. It maintained a relatively stable growth in the early stage of the reform and opening up (1978–1984), just with some ups and downs around 1980, but began to expand continuously after then. Its proportion in GDP by constant price kept growing from about 48% in 1985 to around 66% in 2011. By contrast, the proportion of the primary industry kept declining. In the early period of the reform and opening up, the rural economy in China developed a lot. Even so, because of its lower growth rate than the secondary and tertiary industries, its proportion kept falling from 28% to 4.6%, approximately presenting a downward diagonal trend. As for the tertiary industry, it grew faster than the primary and secondary industries in the period before the 1990s. Therefore, by 1990, its added value by constant price accounted for 30%, the highest in history. After that, due to its relatively lower annual growth rate than the secondary industry, its proportion by constant price rebounded after a small decline, and in the long run, it has never broken the record set in 1990. This showed that in the economic growth of China after the reform and opening up, the secondary industry (mainly manufacturing) led China's economic growth all the way and showed the best efficiency. As China's economy began to enter a new growth stage, the secondary industry began to see a slowdown in its growth due to the changes of domestic and foreign demand and the requirements of upgrading of industrial structure itself, which is in line with the law of economic development. In this process, the secondary industry seemingly showed some overcapacity, that is, "excess" capacity under constant domestic and international market conditions. However, the expansion of foreign economic cooperation could still receive great international demand. Therefore, we should not only expand the market in traditional ways, but also expand our international market through national drive and enterprise support. The Belt and Road Initiative is a great practice in this regard.

2. The impact of price change on industrial structure

In the usual industrial structure analysis, the structural change is calculated at current prices rather than comparable prices. That's because structural relationship should reflect both the growth of various industrial sectors and their interrelationship. In

Table 4 Structural changes of the three industries from 1978 to 2014 at comparable prices

Year	Added value by the price of 1978 (RMB100 million)				GDP composition (%)			
	GDP	Primary industry	Secondary industry	Tertiary industry	GDP	Primary industry	Secondary industry	Tertiary industry
1978	3645	1028	1745	872	100	28.2	47.9	23.9
1979	3920	1090	1888	941	100	27.8	48.2	24.0
1980	4216	1074	2144	997	100	25.5	50.9	23.7
1981	4435	1149	2185	1101	100	25.9	49.3	24.8
1982	4832	1282	2306	1244	100	26.5	47.7	25.8
1983	5367	1389	2545	1433	100	25.9	47.4	26.7
1984	6192	1568	2914	1710	100	25.3	47.1	27.6
1985	7072	1596	3455	2021	100	22.6	48.8	28.6
1986	7722	1649	3808	2265	100	21.4	49.3	29.3
1987	8646	1727	4329	2590	100	20.0	50.1	30.0
1988	9659	1771	4958	2930	100	18.3	51.3	30.3
1989	10,057	1825	5144	3088	100	18.1	51.2	30.7
1990	10,426	1959	5307	3160	100	18.8	50.9	30.3
1991	11,489	2006	6043	3440	100	17.5	52.6	29.9
1992	13,290	2100	7321	3868	100	15.8	55.1	29.1
1993	15,314	2199	8775	4339	100	14.4	57.3	28.3
1994	17,494	2287	10,387	4821	100	13.1	59.4	27.6
1995	19,524	2402	11,828	5295	100	12.3	60.6	27.1
1996	21,578	2524	13,260	5794	100	11.7	61.5	26.9
1997	23,677	2612	14,649	6415	100	11.0	61.9	27.1
1998	25,610	2704	15,955	6952	100	10.6	62.3	27.1
1999	27,633	2780	17,253	7601	100	10.1	62.4	27.5
2000	30,067	2846	18,879	8342	100	9.5	62.8	27.7
2001	32,596	2926	20,473	9197	100	9.0	62.8	28.2
2002	35,654	3011	22,485	10,158	100	8.4	63.1	28.5
2003	39,544	3086	25,335	11,123	100	7.8	64.1	28.1
2004	43,672	3281	28,150	12,242	100	7.5	64.5	28.0
2005	48,742	3452	31,551	13,739	100	7.1	64.7	28.2
2006	55,082	3625	35,776	15,681	100	6.6	65.0	28.5
2007	63,113	3760	41,165	18,188	100	6.0	65.2	28.8
2008	69,274	3963	45,231	20,080	100	5.7	65.3	29.0
2009	75,856	4128	49,727	22,000	100	5.4	65.6	29.0
2010	84,304	4305	55,897	24,102	100	5.1	66.3	28.6
2011	92,512	4490	61,654	26,368	100	4.9	66.6	28.5

(continued)

Table 4 (continued)

Year	Added value by the price of 1978 (RMB100 million)				GDP composition (%)			
	GDP	Primary industry	Secondary industry	Tertiary industry	GDP	Primary industry	Secondary industry	Tertiary industry
2012	99,592	4694	66,535	28,492	100	4.9	66.6	28.5
2013	107,231	4882	71,755	30,849	100	4.7	66.8	28.6
2014	115,167	5082	76,993	33,348	100	4.6	66.9	28.8

modern economy, the relationship between various industrial sectors is established through commodity transactions on the market, and the prices of commodities (including goods, services and production elements) are the basis of such transactions or sectoral linkages. Industrial structure should not only reflect the growth of various industrial sectors, but also the changes in the relationship between social supply and demand. Therefore, it is more necessary to study on the basis of current prices. If calculated at current prices, the proportion of the added value of the three industries in GDP in 2014 is not 4.6:66.9:28.8 in Table 4, but 9.1:42.6:48.2 (see Table 5).

The data in Table 5 shows that the proportion of the secondary industry with the highest long-term growth rate saw no increase but a decline compared with that in 1978. The proportion of the primary industry also decreased, but the decline was lower than the result calculated at comparable prices, while the proportion of the tertiary industry rose at a rate about 20% higher than the result calculated at comparable prices. The difference was caused by the price changes of different industrial sectors. Intuitively, the influence of price factors on each industrial sector (i.e. the difference of results between the constant price and the current price in 2014) was 4.8%, -24.2% and 19.2% respectively, which influenced the composition of the secondary industry most, followed by the tertiary industry and the primary industry. Comparison of Tables 4 and 5 shows that although the price level of almost all industrial sectors increase in the process of high-speed economic growth, the price level of the industrial sectors with a high annual growth rate generally rise more slowly than that of the industrial sectors with a low growth rate. However, the change in the proportion of each industry is subject to the combined impact of the actual growth and price change of each industry.

Table 6 shows the deflator and CPI of China's GDP and three industries from 1978 to 2014, and the difference in price changes of the three industries can be observed in detail.

Similarly, we divide them into five periods and observe the changes of the overall price level of the three industries and the whole national economy in each period (see Table 7).

First, we should look at the long-term changes in the overall price level of China since the reform and opening up. From 1978 to 2014, the annual average increase of China's overall price level reflected by GDP deflator was 5.2%, of which the

Table 5 Industrial change of the three industries calculated at current prices from 1978 to 2014

Year	Total (RMB100 million)				Composition (%)		
	GDP	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
1978	3645	1028	1745	872	28.2	47.9	23.9
1979	4063	1270	1914	879	31.3	47.1	21.6
1980	4546	1372	2192	982	30.2	48.2	21.6
1981	4892	1559	2256	1077	31.9	46.1	22.0
1982	5323	1777	2383	1163	33.4	44.8	21.8
1983	5963	1978	2646	1338	33.2	44.4	22.4
1984	7208	2316	3106	1786	32.1	43.1	24.8
1985	9016	2564	3867	2585	28.4	42.9	28.7
1986	10,275	2789	4493	2994	27.2	43.7	29.1
1987	12,059	3233	5252	3574	26.8	43.6	29.6
1988	15,043	3865	6587	4590	25.7	43.8	30.5
1989	16,992	4266	7278	5448	25.1	42.8	32.1
1990	18,668	5062	7717	5888	27.1	41.3	31.6
1991	21,781	5342	9102	7337	24.5	41.8	33.7
1992	26,923	5867	11,700	9357	21.8	43.4	34.8
1993	35,334	6964	16,454	11,916	19.7	46.6	33.7
1994	48,198	9573	22,445	16,180	19.8	46.6	33.6
1995	60,794	12,136	28,679	19,978	19.9	47.2	32.9
1996	71,177	14,015	33,835	23,326	19.7	47.5	32.8
1997	78,973	14,442	37,543	26,988	18.3	47.5	34.2
1998	84,402	14,818	39,004	30,580	17.6	46.2	36.2
1999	89,677	14,770	41,034	33,873	16.5	45.8	37.7
2000	99,215	14,945	45,556	38,714	15.1	45.9	39.0
2001	109,655	15,781	49,512	44,362	14.4	45.1	40.5
2002	120,333	16,537	53,897	49,899	13.7	44.8	41.5
2003	135,823	17,382	62,436	56,005	12.8	46.0	41.2
2004	159,878	21,413	73,904	64,561	13.4	46.2	40.4
2005	184,937	22,420	87,598	74,919	12.1	47.4	40.5
2006	216,314	24,040	103,720	88,555	11.1	48.0	40.9
2007	265,810	28,627	125,831	111,352	10.8	47.3	41.9
2008	314,045	33,702	149,003	131,340	10.7	47.5	41.8
2009	340,903	35,226	157,639	148,038	10.3	46.3	43.4
2010	401,513	40,534	187,383	173,596	10.1	46.7	43.2
2011	473,104	47,486	220,413	205,205	10.0	46.6	43.4

(continued)

Table 5 (continued)

Year	Total (RMB100 million)				Composition (%)		
	GDP	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
2012	519,470	52,374	235,162	231,934	10.1	45.3	44.6
2013	568,845	56,957	249,684	262,204	9.4	43.7	46.9
2014	636,463	58,332	271,392	306,739	9.2	42.6	48.2

Source *China Statistical Yearbook 2014*. The data in 2013 are adjusted after the national economic census. The data in 2014 are the preliminary accounts of the Statistical Bulletin

price of the primary industry increased the most, with a price over 11 times that in 1978, showing an annual increase of 7.0%; followed by the tertiary industry, with a price 9.18 times that in 1978, showing an annual increase of 6.4%; and finally the secondary industry, with a price 3.53 times that in 1978, showing an annual increase of only 3.6%. If the secondary industrial sector is taken as the benchmark, the general price level of the tertiary industry is twice as high as that of the secondary industry, and the primary industry is three times that of the secondary industry. The price rise of the three industrial sectors compared with their growth rate is consistent with the conclusion drawn from the comparative analysis of the two structural differences: In the process of China's high-speed growth, the faster an industrial sector's long-term annual growth, the smaller its relative range of price rise; on the contrary, the slower an industrial sector's long-term growth, the bigger its range of price rise. Figure 1 directly reflects the deflators of China's GDP and the three industries as well as the long-term trend of CPI after the reform and opening up. Figure 1 shows that the GDP deflator and CPI are the closest in the long run. However, before the 1990s, the slope of CPI curve was greater than that of GDP deflator, while after entering the twenty-first century, the slope of GDP deflator curve was greater than that of CPI, and they are close between these two periods. This shows that in the early stage of reform and opening up, the consumer price was higher than the overall price level of the whole national economy. However, in the twenty-first century, especially after 2003, the overall price of the national economy went higher than CPI due to the investment pulling. By industries, the overall price level of the primary industry increased greatly with much fluctuation; that of the secondary industry increased in a small and stable range; while that of the tertiary industry saw a large and stable increase.

Secondly, the paper analyzes the characteristics of price changes in five different historical periods:

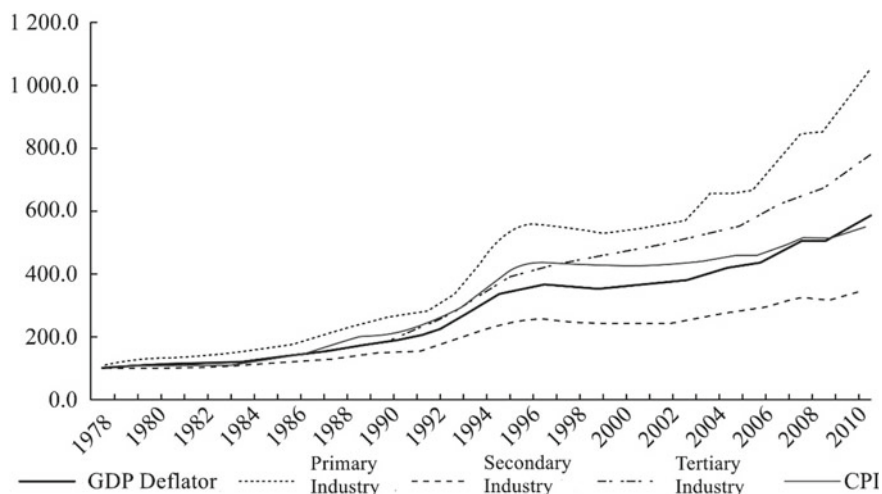
In the first development stage (1978–2004), the annual average increase in the overall price level reflected by GDP deflator was only 2.6%. The price rise in this period mainly took place in the primary industry, with agricultural products as the biggest contributor. The reform of rural economic system helped lift the price control on agricultural products, leading to a sharp increase in the price of agricultural products, with an annual increase of 6.7%. Agricultural products saw the smallest price

Table 6 The deflator of China's GDP and three industries and CPI from 1978 to 2014 (Previous Year = 100)

Year	GDP deflator	Primary industry	Secondary industry	Tertiary industry	CPI
1979	103.6	116.5	101.3	93.4	102.0
1980	103.8	109.6	100.9	105.4	106.0
1981	102.2	106.3	101.0	99.3	102.4
1982	99.8	102.2	100.1	95.7	101.9
1983	101.0	102.7	100.7	99.9	101.5
1984	105.0	103.7	102.5	111.8	102.8
1985	110.2	108.7	105.0	122.5	109.3
1986	104.8	105.3	105.5	103.4	106.4
1987	105.1	110.7	102.8	104.4	107.3
1988	112.1	116.6	109.6	113.5	118.8
1989	108.5	107.1	106.5	112.7	118.0
1990	105.8	110.6	102.8	105.6	103.1
1991	106.9	103.1	103.6	114.4	103.4
1992	108.2	104.9	106.1	113.4	106.4
1993	115.2	113.4	117.3	113.5	114.7
1994	120.6	132.2	115.3	122.2	124.1
1995	113.7	120.7	112.2	112.4	117.1
1996	106.4	109.9	105.2	106.7	108.3
1997	101.5	99.5	100.4	104.5	102.8
1998	99.1	99.1	95.4	104.6	99.2
1999	98.7	97.0	97.3	101.3	98.6
2000	102.1	98.8	101.5	104.1	100.4
2001	102.0	102.7	100.2	103.9	100.7
2002	100.6	101.8	99.1	101.8	99.2
2003	102.6	102.5	102.8	102.5	101.2
2004	106.9	115.9	106.5	104.7	103.9
2005	103.9	99.5	105.8	103.4	101.8
2006	103.8	102.1	104.4	103.6	101.5
2007	107.7	114.8	105.5	108.4	104.8
2008	107.7	111.7	107.8	106.8	105.9
2009	99.4	100.3	96.2	102.9	99.3
2010	106.6	110.4	105.9	106.7	103.3
2011	107.8	112.4	106.7	108.0	105.4
2012	102.0	105.5	98.9	104.6	102.6
2013	101.7	104.6	98.5	104.4	102.6
2014	100.8	101.3	98.5	102.9	102.0

Table 7 The deflators of China's GDP and three industries and CPI from 1978 to 2014 (Previous Year = 100)

Year	GDP deflator	Primary industry	Secondary industry	Tertiary industry
The average index in 1978–2014	102.6	106.7	101.1	100.7
The average index in 1985–1991	107.6	108.8	105.1	110.7
The average index in 1992–2002	106.0	106.8	104.3	107.9
The average index in 2003–2011	105.1	107.6	104.5	105.2
The average index in 2012–2014	101.6	104.1	98.8	104.0
The fixed base index in 1978–2014	623.2	1148.3	353.0	918.0
The average index in 1978–2014	105.2	107.0	103.6	106.4

**Fig. 1** Deflator of China's GDP and three industries and CPI from 1978 to 2011 (1978 = 100). Source Based on the Fixed Base Index based on data in Table 6

rise in this period compared with subsequent periods, yet still with the biggest gap from other industries in terms of price rises. Such reform changed the “price scissors between industrial products and agricultural products” under the traditional planning system. The prices of commodities, especially agricultural products, could reflect the supply–demand relationship of the market. In the meantime, the government adjusted the prices of some industrial products and services, driving up the prices of the secondary and tertiary industries by a slight annual increase of 1.1% and

0.7%, respectively. In spite of a small extent, such rises were of great significance, as they marked some changes in China's decades-old commodity price pattern. Generally speaking, the commodity price of our country was still under the governmental control in this period, and the commodity price failed to fully reflect the supply and demand.

In the second development stage (2005–1991), China began to accelerate the pace of economic system reform. During this period, the state launched many reform measures, such as launching the pilot of increasing enterprise autonomy, changing the free use of enterprise working capital into bank loans, changing the profits paid by enterprises to paying taxes to the state, etc. Among them, the biggest reform was the price system reform, which liberalized the price of most consumer goods, and carried out the pilot of “double track system” for the price of the means of production in a bid to make the prices of commodities better reflect their values. In today's words, it was to realize the price balance through market supply and demand. This reform has played a positive role in promoting the economic growth of China. Although the growth rate of the primary industry has fallen, the growth rate of the secondary industry and the tertiary industry has been significantly improved. If we followed the “three-step” development strategy, we hoped that the annual growth rate would reach more than 7.2%. However, in fact, through the reform of economic system, the economic growth in this period went far beyond the target, reaching 9.6%, and the growth rate of the secondary industry and the tertiary industry exceeded 10%. The rise and fluctuation of commodity prices in this period were also significant. The average annual increase of the overall national economic price reached 7.6%, becoming the period of the largest average increase after the reform and opening up. During this period, the average annual increase of the primary industry reached 8.8%; that of the tertiary industry, even more than 10%; and that of the secondary industry, 5%. The price level changes of various industrial sectors brought by this reform have improved the distorted price system under the planned system on the one hand, and promoted the rapid development of the secondary industry (especially the textile industry) and the tertiary industry through the function of market mechanism; on the other hand, it has put some impacts on the normal activities of the national economy. This was a pain in the process of China's reform and development, and such a pain has led to China's rapid economic development. Therefore, it was of great significance to reform the price system in China at this stage, which has made a useful exploration for us to establish and develop the socialist market economy system later.

In the third development stage (1992–2002), China's price level reflected by GDP deflator rose slightly, down from the previous stage, with an annual increase of 6%, of which that of the primary industry was 6.8%, that of the secondary industry, 4.3%, and that of the tertiary industry, 7.9%. From this we can see that the annual increase of the tertiary industry was still large. Specifically, the overall price level of this stage first rose sharply. In 1994, the price level reached the highest point. The average deflators of GDP and the added value of the three industries reached 21%, 32%, 15% and 22%, respectively. The consumer price index rose by 24%, and then began to fall back. In 1998, due to a series of regulatory measures and coupled with the economic cycle itself, the inflation began to turn into the deflation. Except for the tertiary industry, other deflators saw negative growth, and the deflation continued till 2002. In this period, the overall price level and the price change of the three industries in China have taken place under the background that the establishment of socialist market economy was clearly taken as the goal of economic system reform. To this end, we not only promoted the market-oriented reform (the price control on the means of consumption and the means of production was fully lifted, and the prices of more than 95% commodities were market-oriented), but also carried out the market-oriented reform of the production elements such as property rights, labor, technology and capital, and preliminarily completed the transition from the planned system to the market system, and the price has begun to become the basic signal of market-based resource allocation. The phenomenon of price distortion under the planning system has been changed effectively. During 1998–2002, China carried out a series of deeper economic system reforms, such as the reform of state-owned economy and financial system, but none of these reforms drastically changed the price system in China. It is safe to say that after the reform from the early 1980s to the early twenty-first century, the prices of various commodities in China have basically realized market pricing, and the structure of the three industries reflected thereby can more objectively reflect the development of the three industries and their interrelationships.

In the fourth development stage (2003–2011), the rise of China's overall price level slowed down further than the previous two periods, with a 5.1% average annual increase reflected by GDP deflator and an evidently narrower range of fluctuations. No matter the deflator of value added or CPI, an increase of more than 10% was not seen in any year of this period as in the previous two periods. If the price level changes in the market had been influenced by institutional factors to a certain extent in the first two periods, then in this period, the changes were more affected by the supply–demand relationship. Some of the energy and service prices regulated by the state, as well as commodities related to the price of production elements regulated by the state (such as land, mineral resources, etc.), such as the real estate price that needs to be further improved in the price formation mechanism, could affect the change of the overall price level of the whole national economy in different aspects. However, the price of most goods and services has reflected the supply–demand relationship, and the price transmission mechanism between different goods and services has been formed, making it large-scale and long-term price distortion unsustainable. Specifically, the primary industry saw an annual price increase of

7.6%; the secondary industry, 4.5%; and the tertiary industry, 5.2%. These increases were consistent with China's supply–demand imbalance in that period. Because the market-oriented reform at the end of the twentieth century had established a better micro basis for the national macro-control, the monetary policy could play a greater role in the national macro-control, while macro-control was mainly aimed to improve the balance among economic growth, inflation and structural upgrading, and maintain stable and rapid economic growth. In contrast, China's relatively loose macro-control policy promoted economic growth, but, due to the relatively loose money supply, it also led to a higher annual average increase of overall price level than that in the developed market economy countries which control it at around 2%.

In the fifth development stage (since 2012), China actually entered a new round of transformation from inflation to deflation, and its economic growth entered the adjustment period. In this period, its average CPI was 102.4%, whose growth was significantly slower than the figure after the implementation of macroeconomic stimulus policy after the global financial crisis. The GDP deflator from 2012 to 2014 was 101.6%, higher than that in the first development stage in the early stage of the reform, lower than that in the later three development stages, and significantly lower than the growth of CPI. By industry, the primary industry had the highest deflator, which was 104.1%, followed by the tertiary industry, slightly lower at 104.0%, while the secondary industry had the lowest deflator, which was only 98.8%. In terms of the supply–demand relationship reflected in price changes, the primary industry and the tertiary industry were in short supply, while the secondary industry was in excess of demand. This explains why under the “new normal” of economic growth, agriculture and the secondary industry saw a growth slowdown, while the tertiary industry still maintained a fast growth. In the long term, this is the result of the economic growth to a certain height; while in the short term, it is the reflection of the supply–demand relationship in the market.

The analysis results of the general price level of each industry show that after more than 30 years of reform and opening up and economic development, the prices of goods and services in various industries in China have basically realized market pricing. This kind of market pricing is influenced by both domestic and external factors, such as foreign direct investment, energy and natural resources prices, and prices of similar products abroad. Since its accession into the WTO, China has greatly reduced trade protection and actively joined the division of labor and exchange of economic globalization, and the Chinese market and the world market have been integrated, with the manufacturing industry in particular. Agricultural products (mainly fresh products) and service products, are mainly consumed locally, while manufactured products can be sold and used in faraway regions, allowing them to be used widely and consumed abroad. From the analysis above, we can see that the general price level of the secondary industry in China has seen the smallest rise in the past 30 years. This small increase shows the rapid increase of labor productivity of this industry. In the meantime, due to the comparative advantage of the production elements in China, the price level formed thus makes us still have comparative advantages in the world, which is also why we should launch the Belt and Road

Initiative and develop economic and trade cooperation with all countries around the world, especially developing countries.

3. Summary

After the reform and opening up, China's industrial structure first experienced a process of adjustments, followed by continuous improvement. The direct influencers of such structural upgrading were industrial growth and price change, reflecting the efficiency growth in the process of transformation. The reform of economic system and the government-led macro-control promote the positive role in resource allocation under the market economy, thus promoting the rapid expansion of the economic aggregate and the continuous improvement of the industrial structure. Similar situations were seen after entering the twenty-first century, during which as China became a new global manufacturing center, the secondary industry experienced accelerated growth, again with a rate faster than that of the tertiary industry. Table 8 shows similar proportion growths of the secondary industry and the tertiary industry (both 1.8%) in 2002–2011, while the proportion growth of the tertiary industry was mainly due to price changes rather than higher growth rate, and the proportion growth of the tertiary industry was lower than that in the previous periods since the reform and opening up. However, this does not mean that the growth of China's height of industrial structure has slowed down, but is determined by the specific development conditions and influencers in this period. For example, the export-oriented economic development under the strategies of accelerating industrialization, urbanization and globalization all determines the leading role of the secondary industry in China's economic growth. In this sense, developing countries would experience the proportion decline of the primary industry and the proportion growth of the secondary industry in the process of modernization, and then the proportion growth of the tertiary industry and the proportion decline of the secondary industry. However, due to different starting points and development conditions in the specific period, some development process could be repeated. If the repeated process meets the objective needs, it will instead be conducive to long-term economic growth.

Table 8 Proportion of added value of the three industries in GDP in each key period after reform and opening up (Unit: %)

Year	Primary industry	Secondary industry	Tertiary industry	GDP
1978	28.2	47.9	23.9	100
1984	32.1	43.1	24.8	100
1991	24.5	41.8	33.7	100
2002	13.7	44.8	41.5	100
2011	10.0	46.6	43.3	100
2014	9.2	42.6	48.2	100

Source Based on data in Table 5

Specifically, in the first economic growth cycle, the proportion of the primary industry in GDP increased greatly, from 28.2% to 32.1%, up nearly 4 percentage points due to the reform of rural economic system in China. After entering the second economic growth cycle, the focus of China's economic system reform was shifted from rural to urban, and the primary industry, which is mainly agriculture, entered a stable development stage. In the second cycle, the proportion of the primary industry in GDP began to decline due to the slowdown in the annual growth rate and the price rise of the primary industry. The proportion of the secondary industry experienced a gradual decline and a rise from 47.9% in the initial period after the reform and opening up to the lowest point of 41.8% by the end of the second cycle, with a decline of about 6%. This was a kind of correction to the pursuit of industrial development without considering social demand under the planned economy before the reform and opening up. From the third cycle, the growth of China's secondary industry started to accelerate. Although the price level of the secondary industry grew more slowly than that of other industries, its proportion still kept rising due to its higher growth rate. This period was featured with China's overall market reform and the rising proportion of the secondary industry again. It showed that after the market-oriented reform, the secondary industry, especially the manufacturing industry, had ushered in the uptrend again after full adjustments. In the process of accelerating industrialization, which was represented by the development of the heavy chemical industry in the late period of this cycle, price signal played a guiding role in resource allocation due to the result of commodity market-oriented reform. The change and upgrading of industrial structure basically helped overcome the "virtual height" before the reform and opening up. In the fourth economic growth cycle, the proportion of the primary industry continued to decline, yet at a pace obviously lower than in the second and third cycles, while the proportions of the secondary and the tertiary industries increased by a similar extent. In the fifth cycle, China's industrialization process and industrial structure upgrading entered a new stage of development. From the perspective of industrialization process, China has now entered the later stage of industrialization. In terms of the industrial structure, China has taken on the industrial structure features of a modern country (that is, the tertiary industry has the largest proportion in GDP, followed by the secondary industry and finally the primary industry). From this point of view, China's modernization process has entered the final stage of development. At this stage, China needed to make use of both domestic and overseas resources and both domestic and overseas markets by leveraging China's new advantages in production elements (capital, technology, management, commodities, especially complete equipment and construction teams, etc.), so as to bring economic development to a new level.

II. International Comparison of Industrial Structure Changes

As mentioned above, the distribution and change of industrial structure of an economy is related to its economic development level. A major indicator of this level is the proportion of the tertiary industry in the economy. Generally speaking, the higher the level of economic development, the greater the proportion of the tertiary industry in the national economy. Currently, the proportion of the tertiary industry in the major

developed countries reaches more than 70%. As for the reasons, first, with the development of division of labor, specialization and scale operation, the processing of natural products and finished products (i.e. the so-called secondary industry) needs more and more service departments to provide technical and service support to improve the efficiency of enterprises. The production process of the primary and secondary industries and the process of product delivery and use will create added value for the tertiary industry due to the access to these services. Second, under an open economy, developed countries can make more use of their advantages in international division of labor (including capital advantages, technical advantages and management advantages, etc.), transfer lower-level industries (such as labor-intensive industries) to developing countries, and provide services to the world through the development of the modern service industry, and raise the income level through exchanging high-value-added products and services with low-value-added products of developing countries. Finally, the overseas income of developed countries needs to be redistributed through services among different sectors in their own countries, and is especially reflected in rising labor cost and service price, which will also promote the increasing proportion of added value of the service sector.

(I) Changes of industrial structure in the USA

Table 9 shows the comparison of the added value structure between 2000 and 2010 in the USA, which reflects two characteristics of industrial structure in developed countries: first, the proportion of the tertiary industry is quite high, reaching 80% in 2010; second, the proportion of the primary industry is very low, at only about 1%. China has a different industrial structure. Its secondary industry has the largest proportion, while although the proportion of output value of the primary industry is the smallest, it is still far higher than that of the USA. Dynamically, the proportion of China's secondary industry is still increasing, that of the primary industry is declining rapidly, while the development of the tertiary industry is relatively slow. This shows that there are significant differences between China and USA in terms of the stage of economic development and the height of industrial structure. The industrial structure and changes of the USA clearly reflect the characteristics of the post-industrialization period of developed countries, while China's case highlights the characteristics of emerging industrialization as developing countries in the process of surpassing. The comparison of industrial structure and its changes between the two countries on the one hand shows that China's economic development level is still relatively low, but on the other hand, also shows that China is still in a period of rapid economic growth and has great development potential. As shown in Table 9, the proportion of the primary industry in the USA reached about 1% in 2000, and has remained stable for 10 years. Its change of industrial structure is mainly reflected in the decline of the proportion of the secondary industry and the rise of the proportion of the tertiary industry. In this decade, the proportion of the secondary industry has decreased by 3.1% (from 21.7 to 18.6%), while that of the tertiary industry has risen by 3.2% (from 77.2 to 80.4%). This also explains to some extent why the imbalance of import and export of goods between the world's largest two economies keeps expanding. China's manufacturing industry is expanding rapidly, while that of the USA is shrinking. This is the combined

Table 9 Changes in the structure of value added in the USA from 2000 to 2010 (Unit: %)

	2000	2002	2004	2006	2008	2010
GDP	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry, fishing and hunting	1.0	0.9	1.2	0.9	1.1	1.1
Total of the primary industry	1.0	0.9	1.2	0.9	1.1	1.1
Mining	1.1	1.0	1.3	1.7	2.2	1.6
Public utilities	1.7	1.7	1.8	1.8	1.8	1.8
Construction	4.7	4.6	4.7	4.9	4.3	3.5
Manufacturing	14.2	12.7	12.5	12.3	11.4	11.7
Total of the secondary industry	21.7	20.0	20.3	20.7	19.7	18.6
Wholesaling	6.2	5.8	5.8	5.8	5.8	5.5
Retailing	6.9	6.9	6.7	6.5	5.9	6.1
Transportation and warehousing	3.0	2.8	2.9	2.9	2.9	2.8
IT Industry	4.2	4.7	4.7	4.4	4.5	4.3
Finance, insurance, real estate and leasing	20.1	20.9	20.3	20.7	20.4	20.7
Professional and business services	11.2	11.3	11.4	11.7	12.5	12.3
Education, health and social services	6.8	7.4	7.6	7.6	8.1	8.8
Arts, entertainment and catering	3.8	3.9	3.9	3.8	3.8	3.8
Services other than government	2.8	2.7	2.5	2.5	2.4	2.5
Government services	12.2	12.7	12.7	12.5	13.0	13.6
Total of the tertiary industry	77.2	79.1	78.5	78.4	79.3	80.4

Source Based on NIPA data of the Bureau of Economic Analysis, Department of Commerce, USA

result of the trade problems and the long-term industrial structure changes of the two countries. For the USA, the decline of the proportion of the secondary industry and the rise of the proportion of the tertiary industry have hindered its employment improvement. For these developed countries, how to increase the competitiveness of manufacturing and the whole secondary industry and improve their ability to accommodate employment is a problem worthy of study.

European and American developed countries have some differences in their industrial structures. For instance, Germany has a higher proportion of its secondary industry than other countries, and the proportion of the primary industry in some developed countries is even lower than that of the USA (see Table 13). However, generally speaking, they have similar development trends, that is, the proportion of the primary industry is mainly less than 5% and that of the secondary industry is 20–30%, while that of the tertiary industry is about 70%.

Table 10 shows the changes in the employment structure in the USA in recent years. In 2000, the employment population of the primary industry in the USA dropped to 1.33 million, and its proportion declined to 1%, similar to the proportion of added value. In the past decade, the size of employment continued to decline, down by 60,000, but there's no significant change in its proportion. The obvious changes

still occurred in the secondary and tertiary industries. The employment proportion of the secondary industry decreased from 18.4% in 2000 to 13.6% in 2010, down 4.8% (higher than the decrease of the proportion of added value), while the employment proportion of the tertiary industry increased by 4.8%. For the USA, the rapid decline of the proportion of secondary industry in a short term has had a negative impact on the employment of the USA. From 2000 to 2010, the tertiary industry in the USA employed 5.52 million more people, but the secondary industry employed 6.8 million fewer (5.76 million alone in the manufacturing industry), which led to the dwindling employment of the USA. With the economically active population basically unchanged, such structural change actually well explained the rise of unemployment rate in the USA. This also shows to some extent that the economic recession in the USA was the combined result of financial problems and the imbalance of development of the industrial structure. On the one hand, it shows that the economic development of a country usually accompanies the increase of the proportion of the tertiary industry (including added value and employment); on the other hand, it also indicates that too fast external transfer of the manufacturing industry and the whole secondary industry may also negatively impact economic growth and employment.

(II) Changes of industrial structure in Japan

Japan was the first country to achieve high-speed economic growth after WWII. Japan became a developed country after rapid economic growth for more than two decades from the mid-1950s to the mid-1970s. Although Japan began to catch up with the Western powers since the Meiji Restoration in the nineteenth century and expanded its international influence through the foreign invasion to other countries, Japan could not be called as an industrialized country in terms of industrial structure until the 1950s. Table 11 shows that the employment structure of Japan's three industries in 1950 was 48.5:21.8:29.6, while that of China's three industries was 49.8:23.5:26.7 in 1998 and 49.1:21.6:29.3 in 2003. That is, the employment structure in the early stage of the post-war economic start of Japan was very close to that of China at the turn of the century. In 1955, the added value structure of Japan's three industries was 19.2:33.7:47.0, while that of China's was 19.7:46.6:33.7 in 1993 and 18.3:47.5:34.2 in 1997. That is to say, in terms of the proportion of the added value of the primary industry in GDP, the added value structure of Japan in the mid-1950s was close to that of China in the mid-1990s. However, in terms of the proportion of the added value of the tertiary industry in GDP, China's development was lagging behind, and in 2014, it only reached 48.2%, which was only equal to the level of Japan in the 1950s and 1960s. One of the major reasons was that before China's transition from planned economy to market economy, the market mechanism played a limited role in the development of national economy; while in the process of industrialization and modernization in market economy countries such as Japan, the industrialization must be realized on the basis of the market development, or, in other words, the marketization should go ahead of the industrialization. One of the characteristics of such marketization was the development of commerce and the tertiary industry. However, in the early stage of industrialization in China, the economic resources were

Table 10 Employment and composition by industry in the USA from 2000 to 2010

		2000	2002	2004	2006	2008	2010
Size of Employment (10,000 People)	Total employment	13,769	13,658	13,781	14,224	14,328	13,634
	Agriculture, forestry, fishing and hunting	133	128	124	130	125	127
	Total of the primary industry	133	128	124	130	125	127
	Mining	52	51	52	62	72	65
	Public utilities	60	59	56	55	56	55
	Construction	688	699	728	795	744	577
	Manufacturing	1729	1527	1431	1417	1343	1153
	Total of the secondary industry	2530	2336	2267	2328	2214	1850
	Wholesaling	578	567	569	594	602	552
	Retailing	1548	1522	1528	1561	1554	1474
	Transportation and warehousing	446	429	432	451	456	423
	IT industry	362	336	311	305	300	272
	finance, insurance, real estate and leasing	786	796	814	843	822	774
	Professional and business services	1673	1611	1649	1762	1796	1697
	Education, health and social services	1547	1637	1718	1802	1905	1975
	Arts, entertainment and catering	1183	1217	1267	1322	1358	1321
	Services other than government	673	689	698	697	710	674
	Government services	2309	2390	2405	2430	2487	2497
	Total of the tertiary industry	11,106	11,194	11,391	11,767	11,989	11,658
Composition (%)	Total employment	100.0	100.0	100.0	100.0	100.0	100.0
	Agriculture, forestry, fishing and hunting	1.0	0.9	0.9	0.9	0.9	0.9
	Total of the primary industry	1.0	0.9	0.9	0.9	0.9	0.9
	Mining	0.4	0.4	0.4	0.4	0.5	0.5

(continued)

Table 10 (continued)

	2000	2002	2004	2006	2008	2010
Public utilities	0.4	0.4	0.4	0.4	0.4	0.4
Construction	5.0	5.1	5.3	5.6	5.2	4.2
Manufacturing	12.6	11.2	10.4	10.0	9.4	8.5
Total of the secondary industry	18.4	17.1	16.4	16.4	15.5	13.6
Wholesaling	4.2	4.1	4.1	4.2	4.2	4.0
Retailing	11.2	11.1	11.1	11.0	10.8	10.8
Transportation and warehousing	3.2	3.1	3.1	3.2	3.2	3.1
IT industry	2.6	2.5	2.3	2.1	2.1	2.0
finance, insurance, real estate and leasing	5.7	5.8	5.9	5.9	5.7	5.7
Professional and business services	12.1	11.8	12.0	12.4	12.5	12.4
Education, health and social services	11.2	12.0	12.5	12.7	13.3	14.5
Arts, entertainment and catering	8.6	8.9	9.2	9.3	9.5	9.7
Services other than government	4.9	5.0	5.1	4.9	5.0	4.9
Government services	16.8	17.5	17.5	17.1	17.4	18.3
Total of the tertiary industry	80.7	82.0	82.7	82.7	83.7	85.5

Source Same as Table 9

mainly allocated by the government (even now, the degree of direct governmental participation in economic activities is much higher than that of the market-oriented countries). In the case of low marketization level, the development of the tertiary industry is naturally lagging behind. After the reform and opening up, China re-started the economic modernization and promoted the marketization process, and then the tertiary industry developed first. But later, in order to pursue high growth, China shifted its focus to industry and the secondary industry. Therefore, the development of the tertiary industry has been lagging behind in general.

Comparison of the overall structures, especially the position of the primary industry in the employment structure and the added value structure, it shows that Japan's industrial structure and economic development in the early and mid-1950s was similar to that of China around the period of the marketization reform in the late 1990s. Japan at that time still belonged to a developing country by the present criteria. Therefore, the history of Japan's economic development after the war can be

Table 11 Employment and value added structure by three industries in Japan (1950–2010) (Unit: %)

Year	Composition of employment			Composition of value added		
	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
1950	48.5	21.8	29.6	—	—	—
1955	41.1	23.4	35.5	19.2	33.7	47.0
1960	32.7	29.1	38.2	12.8	40.8	46.4
1965	24.7	31.5	43.7	9.5	40.1	50.3
1970	19.3	34.0	46.6	5.9	43.1	50.9
1975	13.8	34.1	51.8	5.3	38.8	55.9
1980	10.9	33.6	55.4	3.5	36.2	60.3
1985	9.3	33.1	57.3	3.0	34.9	62.0
1990	7.1	33.3	59.0	2.4	35.4	62.2
1995	6.0	31.3	62.7	1.8	30.4	67.8
2000	5.2	29.5	65.3	1.7	28.5	69.8
2005	4.9	26.3	68.6	1.2	25.8	73.0
2010	4.2	25.2	70.6	1.2	25.2	73.6

Source Bureau of Statistics, Japan, <http://www.stat.go.jp/english/data/handbook/c03cont.htm>

regarded as a classic example of the transformation from a developing country with a higher economic development level to a developed country. During the process of its development, the change of industrial structure is reflected in the added value structure first, that is, the secondary and the tertiary industries develop in turn, the proportion of the primary industry gradually decreases, and then the labor structure changes similarly. However, the change of labor structure lags behind the change of the added value structure. When the change of the added value structure tends to be stable, the employment structure will continue to change because of the average profit law. That is, the labor force of the industrial sector with low per capita income will continue to move to the industrial sector with high per capita income, and finally, the convergence of employment structure to industrial structure of each industrial sector will be realized when the per capita income level of each industrial sector is close. This is the common law of industrial structure evolution in developed countries.

Similar to China, Japan also realized its high-speed economic growth under the background of market-oriented reform and export-oriented economic development. This shows that institutional innovation is of great significance to economic takeoff and high-speed economic growth. The period 1950–1980 was Japan's prime time of economic development. While achieving high-speed economic growth, Japan saw great changes in its structures of added value and employment. The proportion of added value of the primary industry in GDP decreased from more than 20% to less than 5%, while the employment proportion decreased from 48.5% in 1950 to 10.9% in 1980. This further indicates that economic growth is not only reflected by the change

in aggregate, but also accompanied with the upgrading of industrial structure. That is, the upgrading of industrial structure is a prerequisite for long-term economic growth.

The oil crisis in the early 1970s and the yen appreciation after the Plaza Accord in 1980s put an end to Japan's golden age of economic growth. Over the past three decades from 1980 till now, the Japanese economy has entered the post-industrialization era, with a significant decline in the economic growth rate. Especially during 2000–2010, Japan's economic growth stepped into a slow growth period with an annual rate of 0.7% only. However, Table 11 shows that the industrial structure of Japan is still changing, with the proportion of added value of the primary industry falling to 1.2%, close to the level of the USA; the proportion of the secondary industry has dropped to 25.2%, already under the 30% mark; that of the tertiary industry has risen to 73.6%. The employment structure changes similarly. The proportion of employment in the primary industry has decreased from 10% to 4.2%, that of the secondary industry has decreased to about 25%, and that of the tertiary industry is more than 70%, which shows the typical industrial structure of developed countries. However, the economic growth of Japan is driven by manufacturing and export, which is greatly different from that of the US economic growth driven by financial, high-tech and cultural industries. Therefore, the upgrading of Japanese industrial structure is more reflected in the increase of added value of manufactured products in the service industry, or, more simply, consumers need to purchase various kinds of services at higher cost or prices, rather than improving the structure by the development and export of the modern service industry itself. As a result, the upgrading of Japanese industrial structure was accompanied by high labor cost, high service cost and high price. This has a significant impact on the competitiveness of Japanese manufactured products, which is also an important reason for its slow growth in recent 30 years.

(III) Comparison between China and other countries in the world

Although China's industrial structure has been greatly improved after more than 30 years of rapid economic growth (see Table 12), there is still a big gap between China and developed countries in terms of value-added structure, employment structure, or the relationship between added value structure and employment structure.

Firstly, from the perspective of the primary industry, the proportion of added value had fallen to about 10%, but the employment proportion was still over 30%. By comparison, the industrial structure of China was about the same as that of Japan around 1963, which was the most dynamic stage in an industrialized country. Secondly, as for the tertiary industry, although the added value and employment proportions of the tertiary industry were higher than those of the secondary industry, there was still a big gap in either of the two proportions compared with the developed countries, which generally had a proportion of more than 70%. Finally, China's added value of the secondary industry accounted for 42.6%, 20% higher than that of Japan and nearly 30% higher than that of the USA. As a result, China had a far larger

Table 12 Changes in added value and employment structures in China from 1978 to 2014 (Unit: %)

Year	Composition of added value (total 100%)			Composition of employment (total 100%)		
	Primary industry	Secondary industry	Tertiary industry	Primary industry	Secondary industry	Tertiary industry
1978	28.2	47.9	23.9	70.5	17.3	12.2
1980	30.2	48.2	21.6	68.7	18.2	13.1
1985	28.4	42.9	28.7	62.4	20.8	16.8
1990	27.1	41.3	31.6	60.1	21.4	18.5
1995	19.9	47.2	32.9	52.2	23.0	24.8
2000	15.1	45.9	39.0	50.0	22.5	27.5
2005	12.1	47.4	40.5	44.8	23.8	31.4
2010	10.1	46.8	43.1	36.7	28.7	34.6
2014	9.2	42.6	48.2	–	–	–

scale of the secondary industry than Japan, and even the USA.³ This was where the advantage of China's economic development lies, as it can maintain comparative advantage in the global commodity market competition including domestic market through mass production and export of commodities. However, because of the much bigger employment size in China's secondary industry than that of Japan and the USA and higher employment proportion (28.7% in 2010), the average value added or labor productivity of Chinese employment personnel still lagged far behind that of the developed countries.

As proven by Japan's experience, the period of high-speed economic growth of a country is also a period of drastic changes in its industrial structure. Of course, China has different resources, history and international environment, and very different economic development. For example, Japan used low-cost crude oil resources in the world market in the process of modernization, but China mainly relies on its own energy production to support its high-speed economic growth. As reflected in the industrial structure, China may have increased the proportion of the secondary industry because of its mining development. Compared with other countries, China and Japan, both oriental countries, have more similar economic growth, and the only difference is that Japan has taken a step earlier in the process of modernization. Therefore, from the perspective of the evolution of China's industrial structure, the change and upgrading of industrial structure, including the added value structure and employment structure, will also go through an evolution process similar to that of Japan. This is also the way that the larger emerging economies, such as South Korea, have taken. For smaller economies with a relatively homogeneous industrial structure, such as Hong Kong China and Singapore, their economies have characteristics of urban economy, which is featured with a developed export-oriented economy and

³ In 2011, according to the World Bank's GDP data in US dollars, the added value of China's secondary industry was about USD3.4 trillion, while that of the USA was about USD2.7 trillion.

an industrial structure determined by the demand of world market for their products, so the change and promotion of their industrial structures are not typical.

1. Value added structure

After accelerated industrialization since 2003, China's secondary industry has experienced the prime time, with still sustainable rapid development. However, structurally, it has entered the middle and late stage of expansion, in which the employment proportion may also rise yet with a small margin, because labor-intensive manufacturing enterprises, which may have advantages in the short term, will be replaced by capital- and technology-intensive large-sized enterprises in the long run, while the tertiary industry will play the role of absorbing more labor force in the primary industry. Through the data comparison in Table 15, we can see that the proportion of added value of China's secondary industry is higher than that of Japan in any period of development after WWII. During the process of high-speed economic growth, Japan also experienced a stage of rapid development of the secondary industry, which was accompanied with the expansion of the tertiary industry. In comparison, the development of China's tertiary industry was relatively slow. If the development of China's tertiary industry has not improved obviously in the new economic development period, and thus promoted the overall technological progress and transformation of economic development mode, the development of its secondary industry may also slow down.

Table 13 shows the value added structure in some countries and regions of the world in 2010. As shown in Table 13, due to the development of the world economy, the general level of global industrial structure has been significantly improved compared with that in the past. It is logical that the proportion of the primary industry in high-income countries has fallen below 2%, the average national income of middle-income countries and low-income countries is about 10%, the per capita gross national income (USD4,940) in that year in China just exceeded the standard of middle-income countries of the World Bank (USD4,200), and the proportion of the primary industry is also about 10%. It should be seen that in addition to individual products such as soybean, grains and other foods are basically guaranteed by domestic production, and there is still a large labor force in the primary industry of rural areas. In this context, the proportion of China's primary industry may stay stable at around 10% for a period of time.

As for the proportion of the secondary industry, the figure is about 25% in high-income countries, 34.3% in middle-income countries, and 44.6% in China.⁴ In Table 13, only the proportion of the secondary industry in low- and middle-income countries in East Asia and the Pacific can reach such a high level. This shows that in spite of a higher-than-average per capita GNI than middle-income economies, China has an industrial structure similar to that of low- and middle-income countries announced by the World Bank. The specific countries and regions listed in Table 13 belong to the larger economies in the world (smaller economies such as Singapore and Hong

⁴ The data is slightly different with that in *International Statistical Yearbook 2012*, which is 46%. In the international comparison, we still use the unified data issued by the international organization.

Table 13 GDP composition of some countries and regions in the world in 2010 (Unit: %)

	Primary industry	Secondary industry	Tertiary industry
High-income countries	1.5	25.1	73.4
OECD high-income countries	1.5	24.9	73.6
Non-OECD high- income countries	1.4	31.1	67.5
Middle-income countries	9.7	34.3	55.9
Upper-middle-income countries	7.8	35.3	57.0
Lower-middle-income countries	15.5	31.3	52.8
Low- and middle-income countries	10.0	34.1	55.8
East Asia and the Pacific	10.7	44.0	44.9
Europe and Central Asia	7.4	30.2	62.4
Latin America and the Caribbean	6.4	29.8	63.8
Middle East and North African countries	11.6	40.6	47.9
South Asia	17.0	27.9	55.2
Sub Saharan Africa	13.1	29.6	57.3
Low-income countries	25.7	24.4	49.9
Least developed regions: by the UN criteria	25.3	27.1	47.6
Heavily indebted poor countries	27.0	25.9	47.1
Britain	0.7	21.1	78.2
Germany	0.8	26.5	72.7
USA	1.2	21.4	77.4
Japan	1.5	28.0	70.5
Netherlands	1.7	23.9	74.4
France	1.8	19.0	79.2
Italy	1.8	25.1	73.1
Czech Republic	2.3	37.2	60.5
Australia	2.5	29.1	68.4
South Korea	2.6	36.4	61.0
Spain	2.6	26.1	71.3
South Africa	3.0	31.3	65.7
Poland	3.6	30.2	66.2
Mexico	4.1	34.8	61.1
Russia	4.7	32.8	62.5
Kazakhstan	5.4	42.4	52.2
Brazil	6.0	26.0	68.0
Ukraine	8.1	29.0	62.8
Argentina	9.4	30.2	60.4

(continued)

Table 13 (continued)

	Primary industry	Secondary industry	Tertiary industry
China	9.5	44.6	45.9
Malaysia	9.5	44.3	46.2
Turkey	9.8	28.0	62.2
Iran	10.1	44.9	45.0
Egypt	10.1	29.0	60.9
The Philippines	12.3	32.6	55.1
Thailand	12.4	44.7	42.9
Sri Lanka	13.6	26.9	59.5
Indonesia	15.9	48.8	35.3
India	16.2	28.4	55.4
Mongolia	18.1	36.8	45.1
Bangladesh	18.8	28.5	52.6
Vietnam	19.8	39.6	38.9
Pakistan	21.8	23.6	54.6
Laos	31.3	31.8	36.9
Cambodia	35.3	22.6	42.0

Note The data of some countries are data of 2009 or even 2008 (see relevant notes in the *International Statistical Yearbook 2011*, but due to the relative stability of industrial structure, this does not affect the horizontal comparison of industrial structures among countries)

Source World Bank WDI Database, *International Statistical Yearbook 2011* compiled by the National Bureau of Statistics

Kong, China are not included). We can see that in six countries, the proportion of the secondary industry is over 40%, and they are Iran, Indonesia, Thailand, Kazakhstan, Malaysia and China. These countries are all developing countries and have a dynamic economic growth.

Table 13 is sorted by the proportion of added value of the primary industry to GDP, which is correlated with the economic development level of specific countries. That is, countries with a more sophisticated industrial structure (the primary industry accounts for a relatively small proportion) generally have a higher development level. Take Russia as an example. After the collapse of the Soviet Union, its economic growth has stagnated, and its total economic volume has now been surpassed by China. However, as the Soviet Union started to promote the industrialization process as early as the 1930s, when the Soviet Union disintegrated, its economic development level had reached a certain height. As far as per capita income level and industrial structure were concerned, its development was ahead of China. With the proportion of the primary industry below 5%, that of the secondary industry below 35%, and that of the tertiary industry more than 60%, its industrial structure belonged to a type typical in the late period of the industrialization or the post-industrialization era. It is a similar case with Mexico. As for the height of industrial structure, China is in the middle of

these countries, i.e. behind the Soviet Union and middle-income countries in Latin America, but ahead of developing countries in Asia, Africa and Latin America. From the perspective of China's economy, due to the uneven development, different regions vary a lot in terms of development and structure. Some of the advanced regions have reached a higher level in the world, but many places are in a similar stage with the developing countries of Asia, Africa, and Latin America. Improving the instability of economic development is an important task of China in the next stage of economic development.

2. Employment structure

Over the past 10 years, we have also made great achievements in promoting employment, thanks to the great progress made in accelerating industrialization. The transfer of agricultural population to non-agricultural population and the migration of rural labor force to cities all require the economic growth to create a large number of job opportunities. Otherwise, we will face great new employment pressure. China is a populous country, and the modernization of agriculture liberates a large number of agricultural labor force, which makes increasing non-agricultural employment an increasingly important economic development goal in China. In this regard, China and developed economies are very different. In those countries and regions, the industrial structure and employment structure have been relatively stable. To ease employment pressure, they should solve the employment problem of labor force on the stock or relatively static basis. Or, the key is to reduce unemployment. The registered unemployment rate of cities and towns in China is relatively stable and a more important task at present is to solve employment problems in terms of flow or dynamically. So currently, the key of employment in China is employment rather than unemployment, which also partly explains why China's economy must maintain a certain growth rate. From the perspective of the development of all countries in the world, the higher the level of economic development of a country, the higher the importance it attaches to employment, and economic growth should meet the needs of employment growth and the change of employment structure. Before 2010, we paid much more attention to the growth than to the employment. But after China's economic growth entered the "new normal", the employment became a concern of China in economic growth. China no longer pursues economic growth rate, but is more concerned about how economic growth meets the needs of employment, especially the employment needs of the continuous transfer of agricultural labor to non-agricultural industries. As a whole, the tertiary industry can accommodate more non-agricultural employment, but the development of the tertiary industry is not isolated, it is related to the development of various industries, especially the secondary industry, in the process of industrial structure upgrading. This promotion depends not only on domestic demand, but also on our development of international market (Table 14).

Table 14 Employment structure of some countries or regions in the world in 2008 (Unit: %)

	Primary industry	Secondary industry	Tertiary industry
Argentina	0.8	23.7	75.2
USA	1.4	20.6	78.0
Britain	1.4	21.4	76.9
Israel	1.6	21.9	75.6
Germany	2.2	29.7	68.0
Canada	2.5	21.6	75.9
The Netherlands	2.7	18.2	73.1
France	3.0	23.1	72.9
Czech Republic	3.3	40.5	56.1
Australia	3.4	21.2	75.1
Italy	3.8	29.7	66.3
Japan	4.2	27.9	66.7
Spain	4.3	27.8	67.9
New Zealand	7.2	21.9	70.5
South Korea	7.4	25.9	66.6
Venezuela	8.7	23.3	67.7
South Africa	8.8	26.0	64.9
Russia	9.0	29.2	61.8
Mexico	13.5	25.9	59.9
Poland	14.7	30.7	54.5
Malaysia	14.8	28.5	56.7
Ukraine	16.7	23.9	59.4
Brazil	19.3	21.4	59.1
Iran	22.8	32.0	45.1
Turkey	26.2	25.7	48.1
Egypt	31.2	22.0	46.6
Sri Lanka	31.3	26.6	38.7
The Philippines	36.1	15.1	48.8
China	38.1	27.8	34.1
Mongolia	40.6	15.2	44.2
Indonesia	41.2	18.8	39.9
Thailand	41.7	20.7	37.4
Pakistan	43.6	21.0	35.4

Source World Bank Database; data of some countries is from 2006 to 2007, which are quoted from *China Statistical Yearbook 2011*

III. The Promotion of China's International Economic Status and the New Characteristics of International Economic and Trade Cooperation

Since the reform and opening up, we have promoted modernization construction through opening up, bringing in and going global, utilizing domestic and foreign resources, and using domestic and foreign markets. After more than three decades of efforts, China's economic development level has been significantly improved compared with the initial stage of reform and opening up. Opening up remains the most important drive behind China's economic growth and economic development, but its content has changed greatly. The Belt and Road Initiative is right a new development idea of opening up to adapt to the new situation. The long-term high-speed economic growth has resulted into China's rapidly growing share of the world economic volume, which has become more prominent in the twenty-first century. From Table 15, we can see that in 1978, China's GDP was only USD150 billion, with a share of only 1.8% in the world's total, ranking 10th, which did not match China's status as the world's most populous country. The large population further dragged down China's GDP per capita, making it a low-income poor country. In the following two decades, although China achieved and maintained high-speed economic growth, its GDP still accounted for only 3.7% of the world's economy, ranking sixth after the traditional developed countries such as Japan, Germany, Britain and France. Although it had moved up by 4 spots, China still had limited international influence. After entering the twenty-first century, this situation has changed obviously. Because the development base has been greatly improved, coupled with strong economic growth, China's economic aggregate has surpassed France, Britain, Germany and Japan, becoming the second largest economy in the world after the USA only. In 2010, with its GDP reaching USD9.4 trillion, 9.4% of the world's GDP, China became a major economic power with great influence in the world. By 2013, the proportion continued to increase to 12.2%. In terms of foreign trade, the proportion of China's exports in global trade in the initial period of reform and opening-up was almost negligible. By 2000, China's export share in the world had increased to 3.9%, ranking 7th in the world. After China's accession into WTO, its export commodities received much less policy discrimination internationally. Couple with the competitive advantage of Chinese commodities, the development of export-oriented economy experiences an unprecedented golden period. With an export growth rate of over 30% for many years after 2003, China rapidly became a new global manufacturing center, which not only had an important influence on the world's economic pattern but also greatly promoted the growth of the secondary industry and the whole economy in China. According to the data issued by WTO, in 2009, China's total export goods exceeded Germany and ranked the first in the world; in 2013, China (USD4.16 trillion) overtook the USA (USD3.91 trillion) to become the largest country by the total import and export goods, and its share in the total world trade in goods almost doubled from 5.5% in 2003 to 11% in 2013.

The preliminary estimates in 2010 showed that China's GDP by exchange rate exceeded Japan's, establishing China's international status as the world's second largest independent national economy. According to the results of the final

Table 15 GDP and changes of 20 major countries in the world in the past 30 years

Country	2010			2000			1978		
	Rank	GDP (USD1 trillion)	Share (%)	Rank	GDP (USD1 trillion)	Share (%)	Rank	GDP (USD1 trillion)	Share (%)
USA	1	14.59	23.1	1	9.90	30.7	1	2.28	27.1
China	2	5.93	9.4	6	1.20	3.7	10	0.15	1.8
Japan	3	5.46	8.6	2	4.67	14.5	2	0.98	11.7
Germany	4	3.28	5.2	3	1.89	5.9	3	0.72	8.5
France	5	2.56	4.1	5	1.33	4.1	4	0.50	5.9
Britain	6	2.25	3.6	4	1.48	4.6	5	0.33	3.9
Brazil	7	2.09	3.3	9	0.64	2.0	8	0.20	2.4
Italy	8	2.05	3.2	7	1.10	3.4	6	0.30	3.6
India	9	1.73	2.7	13	0.46	1.4	13	0.14	1.6
Canada	10	1.58	2.5	8	0.72	2.2	7	0.21	2.6
Russia	11	1.48	2.3	19	0.26	0.8	—	—	—
Spain	12	1.41	2.2	11	0.58	1.8	9	0.16	1.9
Mexico	13	1.03	1.6	10	0.58	1.8	15	0.10	1.2
South Korea	14	1.01	1.6	12	0.53	1.7	27	0.05	0.6
The Netherlands	15	0.78	1.2	16	0.39	1.2	11	0.15	1.7
Turkey	16	0.73	1.2	18	0.27	0.8	22	0.07	0.8
Indonesia	17	0.71	1.1	28	0.17	0.5	26	0.05	0.6

(continued)

Table 15 (continued)

Country	2010			2000			1978		
	Rank	GDP (USD1 trillion)	Share (%)	Rank	GDP (USD1 trillion)	Share (%)	Rank	GDP (USD1 trillion)	Share (%)
Switzerland	18	0.53	0.8	20	0.25	0.8	0.00	—	
Poland	19	0.47	0.7	25	0.17	0.5	0.00	—	
Belgium	20	0.47	0.7	22	0.23	0.7	16	0.10	1.2
Total	50.13	79.4	26.81	83.2	6.48	77.0			
World	63.12	100.0	32.24	100.0	8.42	100.0			

Source: World Bank Database (GDP in current US dollars)

Table 16 Comparison of total GDP of China, Japan and the USA from 1998 to 2014 (Unit: USD1 trillion)

Year	GDP by exchange rate			GDP by PPP method		
	China	Japan	USA	China	Japan	USA
1998	1.05	3.91	9.09	2.98	3.05	9.09
1999	1.10	4.43	9.66	3.25	3.09	9.66
2000	1.19	4.73	10.28	3.61	3.24	10.28
2001	1.32	4.16	10.62	4.00	3.32	10.62
2002	1.46	3.98	10.98	4.43	3.38	10.98
2003	1.65	4.30	11.51	4.97	3.51	11.51
2004	1.94	4.66	12.27	5.62	3.69	12.27
2005	2.29	4.57	13.09	6.46	3.86	13.09
2006	2.79	4.36	13.86	7.50	4.04	13.86
2007	3.50	4.36	14.48	8.79	4.24	14.48
2008	4.55	4.85	14.72	9.83	4.28	14.72
2009	5.11	5.04	14.42	10.81	4.08	14.42
2010	5.95	5.50	14.96	12.09	4.32	14.96
2011	7.31	5.91	15.52	13.48	4.39	15.52
2012	8.39	5.94	16.16	14.77	4.53	16.16
2013	9.47	4.90	16.77	16.15	4.67	16.77
2014	10.36	4.77	17.42	17.63	4.79	17.42

Note The data in 2014 in the table are the forecast data of IMF

Source IMF World Economic Outlook Database, <http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/index.aspx>

accounting, in 2009, China's GDP by exchange rate had surpassed that of Japan (see Table 15). In 2013 and 2014, due to Japan's economic recession and the depreciation of the Japanese yen, China's GDP by exchange rate was about twice that of Japan, and China's international status as the second largest economy in the world was beyond all doubt. Table 16 also lists the GDP of China, Japan and the USA by the World Bank's purchasing power parity (PPP) method. According to this algorithm, China's GDP in 2014 exceeded that of the USA and was more than three times that of Japan. Although the results obtained by this method are widely used in the world, they are still controversial. We think that GDP by exchange rate can better reflect a country's international status, but GDP by PPP method can play a reference role in evaluating the actual economic scale of a country.⁵

With the development of economic scale and the improvement of international status, the way and content of China's opening up are changing, showing new characteristics. In terms of economic and trade partners, in the early period of reform and opening up, China mainly developed economic and trade relations with western

⁵ Wei and Zhizhou (2015a).

market economy countries and regions (the USA, Japan and Europe), and obtained foreign exchange through exporting primary or low-level products to these countries and importing advanced equipment and technology, thus promoting China's modernization. With the long-term high-speed economic growth and the increase of the economic aggregate and development level, China is seeing changes in its partners and ways of economic and trade cooperation.

Firstly, the composition of import and export products has changed greatly. From the perspective of export, the content, quality and quantity of export goods have been greatly improved. Export products have gradually developed from primary products and processed products to a complete export product system including large-scale complete equipment, high-tech products and ordinary manufactured products. The proportion of primary products is declining, while that of industrial finished products keeps rising. In all trade, the proportion of processing trade is declining, while that of general goods is increasing. As mentioned above, China has developed into the new and largest global manufacturing center in the world. China's rising international status of its manufacturing industry was the combined result of its improving domestic demand, and growing international share due to the current specific comparative advantages of Chinese commodities. As for import, in the early stage of reform and opening up, China needed to introduce a large number of advanced technology and equipment from abroad to improve the level of manufacturing technology. However, with the continuous improvement of its manufacturing level and the continuous expansion of production scale, China's domestic resources can no longer sustain its production expansion, resulting into the rising proportion of import on energy and other natural resources. This leads to the transformation of the main source countries of Chinese import goods from developed countries to resource-rich countries.

Secondly, the way of international economic and trade cooperation is changing. In the early stage of reform and opening up, China increased its production capacity by expanding export for foreign exchange and purchasing advanced technical equipment from developed countries through foreign exchange. Later, with the development of opening up, China increased the pace of attracting FDI, and became one of the largest FDI recipient countries in the world. FDI and foreign trade have become two drives of international economic and trade cooperation in China. However, with its rapidly-growing outward FDI (ODI) in recent years, especially after the global financial crisis, China has become one of the world's largest ODI source countries. These ODIs are often closely related to the infrastructure construction of the source countries, the export of China's machinery and equipment and related commodities, foreign contracted projects and labor services export, etc., forming a comprehensive foreign economic and trade cooperation. In the vast majority of developing countries in Central Asia, South Asia, ASEAN, Latin America and Africa, such cooperation has developed very quickly and has become a new form of China's foreign trade and economic cooperation.

Thirdly, with its expanding export-oriented economy and growing international status, China is participating in global economic governance in a new way.

With an improving international status, China began to actively participate in international affairs more in recent years. The Communiqué of the Fifth Plenary Session of the 17th Central Committee of the CPC held in 2010 for the first time proposed that China would “actively participate in global economic governance and regional cooperation”, which symbolized China’s more active participation in international economic and political affairs. After the global economic crisis, China first maintained a steady and rapid economic development with proactive fiscal and monetary policies, which helped strengthen the confidence of all countries in the world, and led the recovery of a group of countries with close economic and trade ties with China, contributing a lot to the development of the world economy. On the international stage, China has played an increasingly important role in global economic governance by promoting politics with economy and driving economy with politics. China has actively participated in each APEC summit, playing a positive role in the economic development of the Asia Pacific Region, the most active region in the world. In its support to the USA in the fight against the financial crisis and the EU in the response to the sovereign debt crisis, China has collaborated to the extent we can. China announced its participation in the IMF’s capital increase and expanded investment cooperation in Central and Eastern Europe, which strongly supported European countries’ efforts to deal with the crisis. China is playing an active role among the SCO and BRICs countries. China has also continued to deepen economic and trade cooperation with the vast number of developing countries in Asia, Africa and Latin America, and has been promoting cooperation in various fields with countries in Africa, Latin America and Arab, promoting the economic development of these countries in the development of bilateral and multilateral relations. China has become a new and important force in global economic governance.

Therefore, China has no longer tried to gain market and resources in the international commodity market and capital market dominated by the USA, Europe, Japan and other countries in the opening-up and international economic and trade cooperation as in the early stage of reform and opening up, but rather to establish new competitive and cooperative relations with the western developed market economy countries represented by the USA, Germany and Japan, the emerging countries represented by BRICs countries, blocs of nations represented by the EU and ASEAN, and the vast majority of developing countries, participate in leading the international economic and political order and play an important role in global economic governance. The Belt and Road Initiative, put forward in such a context, reflects both China’s need for development as an export-oriented economy and its broad mind as a developing country. Some countries and regions in East Asia (such as Japan and the “Four Asian Tigers”) had developed their economy earlier than China. After they have developed, these countries and regions gained more benefits for their own development mainly through foreign trade and foreign investment. However, in fact, in today’s rapid development of international division of labor and economic globalization, the development of a country will be limited without the development of neighboring countries and regions. The Belt and Road Initiative proposed by China has received active response from relevant countries from the very beginning, and has achieved positive results due to its consideration of the common development of neighboring

countries. Unlike the previous international economic cooperation, the main focus of the Belt and Road Initiative is regional economic cooperation, characterized by cooperation through “policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds”. In the reality, the smooth cooperation is realized through the construction of domestic and foreign roads, railways, airports, ports and other infrastructure, which smoothen other aspects. In the long-term economic construction after the reform and opening up, we have accumulated a lot of experience in infrastructure construction (especially traffic infrastructure). We have formed a great strength in design, technology, equipment, construction and financing, and made great achievements in the construction of roads, railways, airports, ports, communications, Internet and so on. In the meantime, as far as the development level of manufacturing, domestic supply of the main materials (steel, cement, transmission lines, etc.) used in the construction of these facilities is also guaranteed. China has also made great progress in the construction of its financial system and the internationalization of RMB. As long as we reach consensus through policy communication with countries along the Belt and Road, we will have sufficient conditions for constructing and developing the Belt and Road Initiative. In terms of economic and trade cooperation, the Belt and Road Initiative expands economic cooperation not only by the traditional way of expanding trade, but also through outbound investment, foreign contracted projects, export of materials needed for projects and cooperation with local governments in the construction process, which involve foreign affairs, finance, technology, trade, construction and other aspects. The quantity and level of economic and trade exchanges with countries along the Belt and Road will be significantly improved, which will make the flow of goods, personnel, funds and information between countries along the Belt and Road smoother and resource allocation more efficient, thus significantly promoting regional economic development.

IV. China's Advantages and the Belt and Road Initiative

(I) Comparative advantage of China from the perspective of manufacturing scale and industrial structure

Since the reform and opening up, China has driven economic growth through rapid industrialization, which helped it gradually realize modernization. After entering the twenty-first century, China achieved robust economic growth from both supply and demand aspects. In terms of supply, through establishing and developing a socialist market economy, deepening the reform of property rights system of state-owned enterprises and developing private economy, China has greatly mobilized the enthusiasm for production of producers and workers and increased the total domestic supply. In terms of demand, China has promoted economic growth through new consumption upgrading (especially the popularization of domestic cars and the huge housing demand of residents after the reform of housing commercialization); internationally, after its accession into WTO, China has rapidly expanded its international market share by seizing the favorable opportunity of accelerated economic growth in the twenty-first century. After the acceleration of industrialization in the first decade

of the twenty-first century, China entered the late stage of industrialization,⁶ during which China significantly improved its total capital, technical level, operation and management level, equipment level and output capacity, as well as its share in the global economy, and saw unprecedented promotion of its international status. In terms of scale, China's GDP by exchange rate in 2010⁷ was only 40.3% of that of the USA, but its added value of the secondary industry surpassed that of the USA as the first in the world (see Table 17),⁸ and China's scale of the manufacturing industry was more than 10% higher than that of the USA. In 2013, the GDP of the USA increased by USD2.2 trillion to USD16.8 trillion compared with 2010, while that of China reached USD9.2 trillion, which was equivalent to 55.1% of the USA's, showing an increase of 15 percentage points in the share. The added value of China's secondary industry has now reached more than USD4 trillion, exceeding that of the USA's by more than 30%, higher than the GDP of all countries in the world (Germany, USD3.7 trillion; France, USD2.8 trillion; the UK, USD2.7 trillion; and Brazil, USD2.2 trillion) except for the USA and Japan (whose GDP is USD4.9 trillion). In terms of the overall economic scale, China's gap with the USA no longer lies with the backward industrial development (China also has a bigger scale of agriculture than the USA), but China's undeveloped tertiary industry. This on the one hand means that China is below the advanced level of the world; and on the other hand, it reflects the comparative advantage of China as a big country in the world economy in transition from a developing country to an emerging country. China has a bigger manufacturing industry than the USA, but with a lower cost and improving quality. It also has such advantages compared with other developed countries in the world. Therefore, we may play a greater role in the new international governance structure.

(II) On the Belt and Road Initiative from the perspective of the development of domestic regional economy

After the reform and opening up, China's regional development was uneven, as a combined result of many factors. In the early stage of the reform and opening up, due to its limited financial resources, the state had to encourage the development of different regions through special policies, such as the construction of special economic zones and the construction of coastal open cities later. These regions have obtained priority of development thanks to policy advantages, geographical advantages and traditional economic development advantages, resulting into China's unbalanced regional economic development. Table 18 shows the change of GDP per capita of provinces, municipalities and autonomous regions in China from 2009 to 2013 (ranking according to the level of 2009). Table 18 shows that in 2009, the GDP per capita in Shanghai, the highest level nationwide, was 6.3 times that in Guizhou, the lowest level. If the GDP per capita in Shanghai was calculated by the average exchange rate of the year (USD1 vs. RMB6.83), the figure was more than

⁶ Wei and Zhizhou (2015b).

⁷ The three-year average exchange rate used by the World Bank for international comparison.

⁸ GDP data of various countries are world bank data. Please refer to <http://data.worldbank.org/indicator/NY.GDP.MKTP.CD>.

Table 17 Added value and structure comparison of the three industries between China and USA in 2010

	Added value (USD1 trillion)		China's percentage in the USA (%)	Composition (%)	
	China	USA		China	USA
GDP	5.9	14.6	40.3	100.0	100.0
Primary industry	0.6	0.2	370.0	10.1	1.1
Secondary industry	2.7	2.7	101.1	46.7	18.6
Industry	2.4	2.2	106.9	40.0	15.1
Mining	0.3	0.2	131.4	5.2	1.6
Manufacturing	1.9	1.7	111.8	32.5	11.7
Production and supply of electricity, gas and water	0.1	0.3	52.8	2.4	1.8
Construction	0.4	0.5	76.5	6.6	3.5
Tertiary industry	2.5	11.7	21.7	43.2	80.3
Transportation, warehousing and postal services	0.3	0.4	68.6	4.8	2.8
Information transmission, computer service and software industry	0.1	0.6	20.7	2.2	4.3
Wholesale, retail, accommodation and catering	0.6	2.1	30.5	10.9	14.4
Finance and real estate	0.6	3.0	21.2	10.9	20.7
Subtotal of above sectors	1.7	6.2	27.5	28.8	42.2

Source China's structural data are from China's industry-specific GDP data in *China Statistical Yearbook 2014*, and USA structural data are from the official website of NIPA data of the Bureau of Economic Analysis, the U.S. Department of Commerce. In order to facilitate comparison, some industries in the tertiary industry of the two countries are consolidated. The GDP data for the two countries are the official international comparison data released by the World Bank

USD10,000. According to the World Bank criteria for that year, it was close to the standard of high-income economy (USD12,195), but the GDP per capita in Guizhou was only USD1,600, still at a lower level (USD996-USD3,945) in the income spectrum of lower- and middle-income economies. By 2013, the gap between the two had narrowed to 3.93 times, mainly through accelerated development of underdeveloped areas. Table 18 shows that the average annual nominal growth rate of GDP per capita in Shanghai was 6.83% in that period, while that of Guizhou Province was 20.23%, which was 3 times that of Shanghai. The correlation coefficient between the GDP per capita of each region in the table and the nominal growth rate of 2009–2013 is -0.8138, which indicates a strong negative correlation between the two. That is, in this period, generally speaking, the lower the level of GDP per capita of a region, the faster the development speed. On the one hand, China gives more preferential

policies to the underdeveloped areas in terms of policy (while in the early stage of reform, it encouraged regions with ripe conditions and launched preferential policies for relatively developed or better developed regions); on the other hand, as a result of China's unbalanced regional economic development, some of the more developed regions were losing their comparative advantages (such as the comparative advantages in land use, resources, labor, transportation and other aspects), thus creating better conditions for the development of manufacturing and investment promotion in the underdeveloped areas, and accelerating the development of these areas.

Although the gap between the economic development levels of various regions in China kept shrinking in recent years, the static comparison shows that the gap is still very large. According to the average USD vs. CNY exchange rate in 2013 (USD1 = RMB6.1932), the highest per capita income (reflected by GDP per capita) in Tianjin, Beijing and Shanghai was USD16,083, USD15,051 and USD14,547 respectively, which has exceeded the World Bank's bottom limit of USD12,746 for high-income economies, while that of Guizhou, Gansu and Yunnan, the three provinces with the lowest per capita income, were respectively USD3,701, USD3,923 and USD4,050, which remained at the lower-middle income level (USD1,045–USD4,125). The correlation coefficient of GDP per capita in 2009 and 2013 was 0.9831, which reflects high correlation. This shows that although the ranking of GDP per capita in some developed areas such as Beijing, Shanghai and Tianjin has changed slightly with shrinking differences, the overall pattern has not changed significantly. The income of areas originally with a low economic development level is still lower, while the income of high-income areas is still higher. This also well explains the continuous flow of labor and population to developed areas in recent years. On the other hand, due to the backward development advantages or comparative advantages of production elements in underdeveloped areas, some production elements are relocated to underdeveloped areas. For instance, some capital, technology, equipment, enterprises, etc. are moving to underdeveloped areas or areas with a low development level to promote win-win or multi-win results of regions with different development levels through gradient transfer and resource reallocation, which serves the sustainable development of the whole national economy. In the process of resource reallocation, the key to comprehensive development is the development of areas with a low economic development level. The backwardness of these areas is the result of China's imbalanced economic development, but now it has become the development advantage of China as a big country. The areas with a low development level need to solve many problems, and have a big development potential too. They can attract more investment and promote the development of manufacturing, so as to realize development by leaps and bounds, which is the main driving force of the current economic growth in China.

The slow development of low-level economic areas is mainly caused by backward infrastructure, especially transportation facilities. Due to poor highway, water transportation, railway and air transportation conditions, the production cost (especially transportation cost) in these areas is higher, which weakens the competitiveness of their production activities, and hinders their participation in the production division system of the whole country and even the world. From the perspective of the role

Table 18 Changes on the growth of GDP per capita of provinces in China from 2009 to 2013

Province	GDP per capita (RMB)					Average annual nominal growth rate (%)
	2009	2010	2011	2012	2013	
Shanghai	69,164	76,074	82,560	85,373	90,092	6.83
Beijing	66,940	73,856	81,658	87,475	93,213	8.63
Tianjin	62,574	72,994	85,213	93,173	99,607	12.32
Jiangsu	44,253	52,840	62,290	68,347	74,607	13.95
Zhejiang	43,842	51,711	59,249	63,374	68,462	11.79
Inner Mongolia	39,735	47,347	57,974	63,886	67,498	14.16
Guangdong	39,436	44,736	50,807	54,095	58,540	10.38
Shandong	35,894	41,106	47,335	51,768	56,323	11.92
Liaoning	35,149	42,355	50,760	56,649	61,686	15.10
Fujian	33,437	40,025	47,377	52,763	57,856	14.69
Jilin	26,595	31,599	38,460	43,415	47,191	15.42
Hebei	24,581	28,668	33,969	36,584	38,716	12.03
Chongqing	22,920	27,596	34,500	38,914	42,795	16.89
Hubei	22,677	27,906	34,197	38,572	42,613	17.08
Heilongjiang	22,447	27,076	32,819	35,711	37,509	13.70
Shaanxi	21,947	27,133	33,464	38,564	42,692	18.10
Ningxia	21,777	26,860	33,043	36,394	39,420	15.99
Shanxi	21,522	26,283	31,357	33,628	34,813	12.78
Henan	20,597	24,446	28,661	31,499	34,174	13.49
Hunan	20,428	24,719	29,880	33,480	36,763	15.82
Xinjiang	19,942	25,034	30,087	33,796	37,181	16.85
Qinghai	19,454	24,115	29,522	33,181	36,510	17.04
Hainan	19,254	23,831	28,898	32,377	35,317	16.38
Sichuan	17,339	21,182	26,133	29,608	32,454	16.97
Jiangxi	17,335	21,253	26,150	28,800	31,771	16.35
Anhui	16,408	20,888	25,659	28,792	31,684	17.88
Guangxi	16,045	20,219	25,326	27,952	30,588	17.50
Tibet	15,295	17,319	20,077	22,936	26,068	14.26
Yunnan	13,539	15,752	19,265	22,195	25,083	16.67
Gansu	13,269	16,113	19,595	21,978	24,296	16.33
Guizhou	10,971	13,119	16,413	19,710	22,922	20.23
The multiple of Shanghai over Guizhou	6.30	5.80	5.03	4.33	3.93	

Source China Statistical Yearbook 2014

of market economy, even if there is no external force, when the cost of production elements in developed areas rises to a certain level, the gradient transfer of industries among regions will occur late or early. However, such transfer may be non-directional. For instance, foreign-invested enterprises and industries in the coastal areas of China can be transferred to India, Southeast Asia and other areas, and the domestic transfer can be unbalanced, too. In this case, it is necessary for China to strengthen the guidance and intervention on the direction of economic resources, especially the flow direction of production elements. In addition, it is necessary to create conditions, especially through infrastructure, to encourage various economic resources to flow to the central and western regions with a lower level of development, and to improve the unbalanced pattern of China's economic development by promoting the development of these regions. In the meantime, the improvement can contribute to the sustainable development of the whole national economy. The ancient Silk Road in China originated from the central and western regions. Though the Belt and Road Initiative under construction covers all Chinese provinces, including developed areas, for instance, the construction of the Maritime Silk Road involves the more developed coastal areas in China, its construction priority should still be the vast central and western regions of China. It is of great significance for China to improve the transportation conditions, realize better connectivity between them and strengthen ties with Central Asia, South Asia and Europe, so as to promote the economic development of these regions. Internationally speaking, the Belt and Road Initiative reflects the common development vision of China and countries along the Belt and Road. To this end, relevant countries and regions should join hands. However, domestically speaking, the Belt and Road Initiative should be an important economic development strategy in China at present. Only by building relevant areas in China, especially in the central and western regions, can we establish a solid foundation for the Belt and Road Initiative and can the Belt and Road be extended well and become more popular among the countries around the world. Therefore, the Belt and Road Initiative will inevitably lead national infrastructure investment in the areas along the Belt and Road, which will help both the opening up and economic development of these areas.

(III) Promote opening up through the reform and promote the Belt and Road Initiative

Since the global financial crisis, the economy of Europe and America has been hovering in a state of recession. Although there has been some improvement in recent two years, the economy hasn't got out of the predicament yet, which has a certain impact on the development of China's export-oriented economy. After entering the twenty-first century, due to the accession of WTO, China's gate to the world, which had been closed or semi closed by the developed countries of Europe and America, was opened at once. In addition, the economic boom of the western developed countries and China's surging trade with them have brought the development of China's export-oriented economy to a new level. However, due to their sluggish economy, the developed countries in Europe and America have seen slowdown in the growth of their demand for Chinese goods. However, the economy of countries along the Belt and Road, such as those in Asia and Africa, has become more active. These

countries, with advantages in resources, production elements, market and development potential, are very complementary with China, which has advantages in capital, infrastructure construction and manufacturing. Under this condition, taking new development strategy, mastering the initiative of developing economy in international market, strengthening economic and trade cooperation with neighboring countries, especially those along the Belt and Road, in the framework of actively participating in global economic governance, and realizing economic development through closer cooperation with emerging countries and developing countries, will become a new idea of development for China's export-oriented economy. If we say China mainly developed its export-oriented economy through "absorbing foreign investment" in the first three decades after the reform and opening up, then "going global" now occupies a more important position in China's export-oriented economic development strategy. We should see that compared with most countries in the world, whether from the perspective of domestic economic development or the development of export-oriented economy, we are still in the uptrend of economic development, and have a good development prospect. At the time of China's reform and opening up, the world entered a period of vigorous development of new technology revolution, and peace and development became the theme of the world at this stage, which provided a favorable external condition for our high-speed economic growth and social progress. But fundamentally speaking, the main reason for the takeoff and development of China's economy lied not externally but internally. China's economy has made such great achievements because we had carried out and deepened the reform of economic system and other related fields, mobilized the enthusiasm of the economic construction of all the people, and developed the socialist system with Chinese characteristics and the socialist market system. Therefore, China's progress is mainly based on its own reform and opening up, not only to benefit from the economic prosperity of the world. Therefore, despite of adverse external economic environments, the potential of China's sustainable development remains great.

We should notice that in the case of the overall economic recession and decline in developed countries, the economy of developing countries and emerging industrialized countries is starting and accelerating, which has a huge demand of infrastructure construction and export-oriented economic development. China, leveraging its experience, technology and capacity accumulated in its long-term construction, can support their development, which will create new demand for China as an export-oriented economy. Domestically speaking, since the 18th CPC National Congress, we have provided a new foundation for economic development and completing the building of a moderately prosperous society in all respects through deepening economic system reform and ruling the country by law. In terms of external development, our comparative advantages still exist, but we should keep pace with the times and adjust our development strategy according to the changes of the situation and market. First of all, in the current balance of payments, China only realizes free exchange under current account, and still controls the transactions under funds and financial items. Therefore, the negative impact of changes in the external financial environment on us is limited, and only the fluctuation of the entity economy can affect the short-term demand for Chinese commodities, without causing direct impact on

China in the financial field. This shows that China's reform and opening-up policies, which are based on its own national conditions, meet the requirements of China's economic development. On the contrary, with the development of financial system, we should attach great importance to the control of financial risks within the system, and only a stable financial environment can ensure the economic development of China and the surrounding countries. Secondly, it should be seen that the rapid development of China's export-oriented economy in recent years after entering the twenty-first century was mainly because Chinese goods, with a higher performance-price ratio, won over the market share of the products from other countries, but not the growing demand caused by the economic growth of those countries drove up the demand for Chinese goods. In the process of China's export-oriented economy development, especially in the early and medium-term of its growth as an export-oriented economy, China's export commodities (mainly light industrial products and processing products) met more needs of the low- and medium-end markets, so they have gained a bigger market share in developed countries and developing countries. However, now with the economic growth of some developing countries with a lower development level than China, the comparative advantage of their low-end products is reflected. In this case, China cannot continue to expand the market with the price advantage of Chinese goods, but must improve the technical content and quality of its products and gradually develop to medium and high-end products that can create more added value. The stagnation and recession of the world economy brought by the global financial crisis actually provides China with a rare opportunity for development. After the global financial crisis, with a decline in growth rate, China's economy remains dynamic, making the country the greatest contributor to the world's economic growth. In the next few years, such a landscape may continue. This well demonstrates and consolidates China's status as a real economic power. In general, in the current development of China's export-oriented economy, opportunities and challenges coexist. We should turn challenges into opportunities and seize the opportunities to advance our global strategy. The construction of the Belt and Road and the establishment of Asian Infrastructure Investment Bank are the major measures in our strategy. Under the Belt and Road Initiative, we are no longer developing economic and trade relations with countries along the Belt and Road by exporting low- and medium-end commodities, but through various economic and trade cooperation in investment, construction and trade, we should develop the relations with relevant countries in an all-round way, so as to promote the development of the whole regional economy. This also means that with its current economic scale and economic development level, China should not rely solely on our own development and participation in international markets in the medium term and long term, but should play an important role in global economic governance and achieve common development through cooperation with other countries.

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Beijing's Integration into the Belt and Road Initiative



Jing Han

I. The Belt and Road and the Regional Economic Development

The Belt and Road, the collective name of the “Silk Road Economic Belt” and the “21st Century Maritime Silk Road Economic Belt”, is the development concept and initiative proposed by President Xi Jinping when he visited Central Asian and Southeast Asian countries. This initiative covers most Chinese provinces, and integrates and connects China's multilateral economic and trade relations with Central Asia, Northeast Asia, Southeast Asia and West Asia via land and sea. Its wide coverage has a profound impact on the regional economic development of Eurasia.¹

(I) The framework of the Belt and Road Initiative

In the face of the current weak economic recovery globally, strengthening regional cooperation has become an important driving force for the world's economic development. The Belt and Road Initiative was put forward by the Chinese government in the context of profound international and regional changes on economy, politics and society. It reflects the Chinese government's commitment to maintaining the global free trade system and open economic system, and expresses China's cooperative development concept of promoting cooperation, overcoming difficulties and seeking common development among countries along the Belt and Road.

The Belt and Road, originating in China, connects Central Asia, Southeast Asia, South Asia, Western Asia and some parts of Europe, neighbors the Asia Pacific Economic Circle in the east and links with the European economic circle in the west. It is the economic belt with the most development potential in the world. Along the Belt and Road there are mostly emerging economies and developing countries, with a total population of about 4.4 billion, accounting for 63% of the world's total;

¹ The Belt and Road research series of the Chinese Academy of Social Sciences: China Think Tank [J]. *Economic Research Journal*, 2015 (6): 194.

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and an economic aggregate of about USD21 trillion, accounting for 29% of the world's total. Countries in the economic belt have different development stages, different natural resource endowments, obvious trade comparative advantages, strong economic complementarity, and broad prospects for reciprocal cooperation.²

There are three key cooperation directions for the Silk Road Economic Belt: the northern route is from China to Europe (Baltic Sea) via central Asia and Russia; the middle route is from China to Central Asia and West Asia to the Persian Gulf and Mediterranean Sea; and the southern route is from China to Southeast Asia, South Asia and the Indian Ocean. In the twenty-first century, there are two key cooperation directions for the maritime Silk Road: the western route is from China's coastal ports across the South China Sea to the Indian Ocean and extends to Europe; and the eastern route is from China's coastal ports to the South Pacific via the South China Sea.

Following the directions of the Belt and Road and relying on the great international channels, the Belt and Road Initiative aims to jointly create the New Eurasian Continental Bridge, China-Mongolia-Russia, China-Central Asia-Western Asia, China-Indochina Peninsular, and other international economic cooperation corridors by taking the central cities along the Belt and Road as backup and key economic and trade industrial parks as cooperation platforms; and jointly build safe and efficient transportation corridors by taking key ports as nodes. The two directions eventually lead to Europe, forming a closed loop of sea and land.

Innovation is the biggest drive of economic growth. In fact, the Belt and Road Initiative is the exploration and innovation of China on the regional cooperation mode and the economic growth mode. In the post financial crisis era, as the locomotive of world economic growth, China has transformed its own advantages in production capacity, technology and capital, experience and mode into market and cooperation advantages, and opened up comprehensively. Through the Belt and Road Initiative, China shares with its neighboring countries the dividend of China's reform and development, the experience and lessons of China's development. The Belt and Road Initiative has innovated on inter-regional economic cooperation patterns, and, different from the "economic zone" and "economic alliance",³ the concept of economic belt and economic corridor put forward by the Belt and Road Initiative is designed to explore the cultivation of economic growth poles to radiate the surrounding areas and promote economic development. It is more flexible, applicable and operable.

The Belt and Road Initiative aims to improve regional infrastructure and build a safe and efficient land, sea and air access network as soon as possible, so as to achieve regional connectivity and bring investment and trade facilitation to a new level, forming a high-standard free trade area network, making the economic ties between countries closer to each other, and deepening mutual trust and cultural

² The Seminar on the "Belt and Road" and Economic Development [J]., *Comparative Economic & Social Systems*, 2015 (3): 2.

³ The Economic zone is a regional economic unit with different levels and characteristics formed on the basis of regional division of labor. The; economic alliance is an organization that establishes some supranational regulatory structures, such as ASEAN, the Gulf Co-operation Council, the Organization of American States, etc.

exchanges. The new pattern of regional economic integration, which covers a wider range, involves a wider range of fields and is featured with a deeper level, will promote the rise of Asia and realize the rebalancing of globalization.

(II) Priorities of the Belt and Road Initiative

The connotation of the Belt and Road Initiative can be summed up as “five-pronged approach and three communities”. The “five-pronged approach” are policy coordination, connectivity of infrastructure and facilities, unimpeded trade, financial integration, and closer people-to-people ties. The “three communities” refer to communities of shared interests, shared future and shared responsibility. This is an undividable unity. Only through all-round practical cooperation based on the “five-pronged approach”, can countries along the Belt and Road work to build a community of shared interests, destiny and responsibility featuring mutual political trust, economic integration and cultural inclusiveness. Therefore, the realization of the “five-pronged approach” are the strategic focus of the Belt and Road Initiative.⁴

1. Enhancing policy coordination is an important guarantee for implementing the Initiative

The Belt and Road Initiative involves multilateral cooperation in many countries, which may have different policies on related issues, and even different technical standards and quality standards. Therefore, it's necessary to promote intergovernmental cooperation, build a multilevel intergovernmental macro policy exchange and communication mechanism, expand shared interests, enhance mutual political trust, and reach new cooperation consensus. Countries along the Belt and Road may fully coordinate their economic development strategies and policies, work out plans and measures for regional cooperation, and negotiate to solve cooperation-related issues. In communication, they should not only make good use of positive factors, but also try to resolve negative ones, so as to form the “biggest common denominator” for cooperation, seek common ground while shelving differences, and jointly provide policy support for the implementation of practical cooperation and large-scale projects.

2. Facilities connectivity is a priority area for implementing the Initiative

Countries along the Belt and Road are generally underdeveloped in infrastructure, especially transportation facilities. The mountains, deserts and rivers are blocking traffic from time to time, causing inconvenience to the flow of goods and personnel. These countries should jointly promote the construction of infrastructure network. In terms of traffic facilities construction, we should give priority to linking up unconnected road sections, removing transport bottlenecks, advancing road safety facilities and traffic management facilities and equipment; push forward port infrastructure construction, build smooth land–water transportation channels, and enhance information technology cooperation in maritime logistics; expand and build platforms and mechanisms for comprehensive civil aviation cooperation, and quicken the pace in improving aviation infrastructure. In the construction of energy and power facilities,

⁴ This part is based the Baidu Encyclopedia on the “Belt and Road”.

it is necessary to promote cooperation in the connectivity of energy infrastructure, work in concert to ensure the security of oil and gas pipelines and other transport routes, build cross-border power supply networks and power-transmission routes, and cooperate in regional power grid upgrading and transformation. In terms of construction of communication facilities, it is necessary to jointly advance the construction of cross-border optical cables and other communications trunk line networks, plan transcontinental submarine optical cable projects, improve spatial (satellite) information passageways to expand information exchanges and cooperation, and create an Information Silk Road.

3. Investment and trade cooperation is a major task in building the Belt and Road

In recent years, the trade between China and the countries along the Belt and Road has made great progress, but various trade barriers still hinder the expansion of exchanges. Therefore, it is necessary to facilitate trade, investment and personnel exchanges, and strengthen cooperation in information exchange, customs, certification and other aspects to broaden trade and investment. Countries along the Belt and Road should organically combine investment and trade, drive trade development with investment, and conduct in-depth cooperation in the fields of agriculture, forestry, animal husbandry and fisheries, agricultural machinery manufacturing and farm produce processing, exploration, development and deep processing of energy resources, information, biology, new materials, etc. It is necessary to improve trade structure, explore new growth areas of trade, and develop cross-border e-commerce and other modern business models. It is necessary to increase the openness of the service industry to each other to accelerate the development of regional service industries; explore a new mode of investment cooperation, working together to build all forms of industrial parks such as overseas economic and trade cooperation zones and cross-border economic cooperation zones, and promote industrial cluster development.

4. Financial integration is an important underpinning for implementing the Belt and Road Initiative

The Belt and Road Initiative involves investments amounting to hundreds of billions of dollars or even trillions of dollars. No country can afford such a huge amount, which can only be raised through market operation. On the one hand, it plans to establish the Asian Infrastructure Investment Bank (AIIB), BRICS New Development Bank and the Silk Road Fund, and negotiate on establishing SCO financing institution. On the other hand, it will carry out multilateral financial cooperation in the form of syndicated loans and bank credit, support the efforts of governments of the countries along the Belt and Road and their companies and financial institutions with good credit-rating to issue bonds at home and abroad. The Belt and Road Initiative is to arouse the enthusiasm of all countries to enter private capital and guide commercial equity investment funds and social capital to participate in “the Belt and Road Initiative”. All the relevant countries can reduce costs by means of local currency swap. In the meantime, it is necessary to strengthen the financial regulation cooperation and build a regional financial risk early-warning system.

5. People-to-people bond provides the public support for implementing the Initiative

It is self-evident that the Belt and Road Initiative will progress smoothly with the extensive support of the peoples along the road and belt, otherwise it cannot move a single step. Therefore, we should carry forward the spirit of friendly cooperation of the Silk Road and promote extensive cultural and academic exchanges, scientific and technological cooperation, personnel exchange and cooperation, media cooperation, public health management cooperation and volunteer services to enhance mutual cooperation and understanding so as to jointly promote the construction of the Belt and Road.

(III) Impact of the Belt and Road Initiative on regional economic development.

The Belt and Road Initiative responds to the call of the times and meets the desire of countries for faster development, and fully takes into account both domestic and overseas strategic needs. Following the millennium-old tradition of “economy, culture and commerce” along the Silk Road and relying on the existing regional cooperation platform, the establishment of the economic corridor along the land and maritime “Silk Roads” in the new historical period brings common development opportunities to and expands broader development space for China and the countries and regions along the routes. This is of great strategic significance to the economic construction of the countries along the Belt and Road, regional prosperity and even the balance of the world economy, and will bring about the integration and comprehensive rejuvenation of Eurasia, the largest continent in the world.⁵

1. Maintaining an open economic system and promoting the orderly and free flow of economic factors in the region

Strengthening regional cooperation has become a major trend of world economic development. China, as the source of the Belt and Road, and its neighboring countries signed open economic cooperation agreements such as the Asia Pacific Trade Agreement and China ASEAN Free Trade Area. However, there are still trade barriers and other factors hindering the development of open economic cooperation among these regions. The Belt and Road links countries along the route to form a regional economic cooperation organization across the Eurasian Continent, which has protected the development of open economy in the region, facilitated the exchange of resources between the countries along the Belt and Road, and promoted the orderly and free flow of economic elements in the region.

Domestically, over the more than 30 years after the reform and opening up, eastern regions have been leading China's economic development by virtue of its regional advantages and economic polarization effect. Although the Chinese government supports the economic development of the central and western regions through policies such as the large-scale development in the western region and the strategy for the rise of central China, due to the incomplete infrastructure, poor attractiveness to talents, and high transportation and logistics costs, the western regions failed to effectively curb the eastward transfer of talents, resources and other elements.

⁵ Sun Wei (2015).

The Belt and Road Initiative emphasizes regional linkage, links the various sectors through economic ties, and promotes regional interaction through market forces. Domestic segments of the Belt and Road cover most parts of central and western China, bringing the vast region from the original “inland hinterland” to the current “open front”, providing an opportunity for the central and western regions to further open up and promote their steady and healthy economic development.

2. Building a new Flying-Geese Paradigm⁶ to realize the efficient allocation of resources in the region

As China kept upgrading its industrial structure and Japan’s economy declined continuously, the mode of industrial division and industrial relocation in Asia, which used to be dominated by Japan, was gradually broken. If the Silk Road Economic Belt aims to connect Central Asia and other vast Asian hinterland, the basic requirement is “road connectivity”, which means that the countries along the Belt and Road will soon usher in a construction climax of transportation infrastructure. Southeast Asia is rich in labor force and has obvious comparative advantages in export-oriented economy. It is one of the key regions for industrial relocation of various countries. Some industries with no comparative advantage can be transferred from eastern China through the maritime Silk Road. China’s steel, cement and other industries currently with relative overcapacity may well meet infrastructure construction needs of developing regions such as Central Asia, Southeast Asia, South Asia and Africa. Moreover, infrastructure construction needs a lot of capital investment, while China, with the largest foreign exchange reserve in the world, is abundant in capital. Therefore, the Belt and Road Initiative will shift some of China’s surplus capacity to these countries, which can not only promote the transformation and upgrading of China’s economy, but also provide a rare opportunity for the development of the countries along the Belt and Road.

According to the comparative advantage of labor cost and natural resources endowment of countries, China’s labor- and capital-intensive industries are expected to be transferred to countries along the Belt and Road in the next few years, forming the new Flying-Geese Paradigm with China as the leading goose. In the meantime, the development of high-speed rail in landlocked countries will make up for the disadvantage of economic geography. India and Southeast Asian countries are more suitable to undertake the textile industry because of low labor cost and abundant labor. The Seven Countries Across the Middle East, which are rich in oil and other resources, are suitable for undertaking the oil processing and coking industry, the chemical and chemical products industry, rubber and the plastic products industry. The five countries in central Asia, which are rich in mineral resources and have a wide area, are more suitable for the development of metals and metal products, means of transportation and equipment. The Caucasus, with a certain industrial base

⁶ The Flying-Geese Paradigm, originated from theory of “the Flying-Geese Patterns of Industrial Development” put forward by Japanese economist Kaname Akamatsu. It is roughly expressed as that Japan’s industrial development has gone through four stages: import, import substitution, export and re-import, which is similar to the flying geese on the chart.

and a higher wage level, is suitable for undertaking electrical, electronic, optical and mechanical equipment industries.

3. Expanding multi-level exchanges among countries along the Belt and Road, and promoting a high degree of market integration within the region

The cooperation between China and countries along the Belt and Road is extensive and deep. There are complementary advantages and dislocation competitions between China and other emerging market economics and some developed countries along the Belt and Road. China has technological advantages in high-speed rail, highway, nuclear power, hydropower, equipment manufacturing and other fields. It can export technology and infrastructure to emerging markets and some developed markets, well meeting the needs of these emerging markets and developed countries. The Middle East countries have obvious technological advantages in the fields such as the water-saving agriculture in Middle East countries and the information industry in India create a great potential for cooperation and exchange. Central Asia has abundant technological and cultural heritages from the Soviet Union in the fields such as aerospace and precision machinery, and even now, some of their technical equipment still leads the world's level. However, the industrial structure and market demand of Central Asia have made the local technology and equipment stagnate for a long time. The Belt and Road links East Asia to the vast areas of Europe. Huge market space and technological cooperation potential will revitalize these technological heritages. However, there are still many obstacles for European advanced technology and talents to enter China, while the Belt and Road Initiative has provided wide room of transition between China and Europe.

II. The Logical Structure of Integrating Beijing into the Belt and Road Initiative

At the end of 2014, the Belt and Road Initiative, the Coordinated Development of the Beijing-Tianjin-Hebei Region and the Yangtze River Economic Belt as the three major strategies for optimizing the economic development pattern were established in the Central Conference on Economic Work.⁷ The state has given Beijing the statuses of “four centers”, i.e. the national political center, cultural center, center for international exchanges, and center for science and technological innovation. It is right because of such positioning that Beijing, which is not along the Belt and Road, can be integrated into the Belt and Road Initiative by insisting on promoting the construction of the “four centers” and the coordinated development for the Beijing-Tianjin-Hebei region.

⁷ The Central Conference on Economic Work was held in Beijing from December 9 to 11, 2014.

(I) Beijing and “Coordinated Development of the Beijing-Tianjin-Hebei Region”.

1. The dilemma of the Beijing-Tianjin-Hebei regional development

The Beijing-Tianjin-Hebei region, located in the center of the Bohai Rim region, is an important engine of national economic development and a leading region for participating in international competition and cooperation. As one of China’s three major economic growth poles, the Beijing-Tianjin-Hebei region accommodates 8% of the country’s population with 2.3% of the country’s land, and creates 11% of the country’s GDP. The economy of the Beijing-Tianjin-Hebei region plays an important role in China’s economic map.

Since the reform and opening up, the development of regional economic integration of the Beijing-Tianjin-Hebei region has drawn much attention and involved a lot of planning. However, it is a pity that after more than 20 years of development, this regional economic integration is still in the stage of natural development, with greater regional economic decentralization than integration, stronger segmentation than dependence, and more exclusion than cooperation. Some unreasonable and unequal factors within the region, especially between urban groups, are still playing a role and constantly strengthening, forming a spatial form featured with “dual centers, two extremes and decentralization”.

At present, the development of the Beijing-Tianjin-Hebei region is facing an urgent dilemma. Firstly, compared with the Yangtze River Delta and the Pearl River Delta, the Beijing-Tianjin-Hebei region has poor transportation infrastructure and low expressway density, and has just started the integration of high-speed rail, ports and airports, showing a prominent contradiction between the connectivity of transportation facilities and the acceleration of economic integration. In the case of core cities-based outward radiation of both railway and highway networks in the Beijing-Tianjin-Hebei region, the internal and external exchanges (passenger and freight exchanges between Northeast China, Inner Mongolia and the Yellow River, Yangtze River Basin and Southeast Coast) must pass through Beijing hub or Tianjin hub. A huge amount of transit transportation seriously interferes with the smooth operation of the transportation system of Beijing and Tianjin. Secondly, the internal development of the Beijing-Tianjin-Hebei region is unbalanced. Such imbalance is firstly manifested in the imbalance of economic development. The two municipalities directly under the central government have not driven the economic growth of Hebei Province, and even formed a “poverty belt around Beijing and Tianjin” rarely seen in the world.⁸ The imbalance is also manifested in the unbalanced distribution of resources. The suction of talent, capital, water resources and land resources by Beijing and Tianjin has weakened the foundation of Hebei’s economic development. In addition, the imbalance of development within the region is also reflected in the serious administrative barriers. For a long time, the confrontation of administrative

⁸ According to the survey of Asian Development Bank, there are 25 impoverished counties and more than 2 million people living in poverty in Hebei Province around Beijing and Tianjin, which are concentrated in contiguous areas. These areas are at the same level of development as the poorest Hexi region, Dingxi region and Xiji-Haiyuan-Guyuan region in the western area. Therefore, the concept of “poverty belt around Beijing and Tianjin” is put forward.

status in the Beijing-Tianjin-Hebei region has led to that the situation of “division of labor—cooperation—common development” cannot be formed. The old pattern of economic closure in the administrative region still has a strong influence, and there is a lack of internal motivation for cooperation among the three regions. Administrative functions and institutional barriers have become the main problems to be overcome in the process of integration within the Beijing-Tianjin-Hebei Cluster. Thirdly, in the Beijing-Tianjin-Hebei region, the urban structure has an unreasonable gradient. Beijing and Tianjin are in the absolute advantage, there are no transitional medium-sized cities, and the relatively independent small urban agglomerations in the surrounding areas are divorced from each other and seek closed development, failing to form a perfect network system. The most direct outcome is that the industrial agglomeration, industrial scale and industrial chain formed in the developed areas are unable to spread to the surrounding backward areas because they cannot find a suitable environment for survival and development. Fourthly, the lack of cooperation concept and the division of administrative divisions have resulted into the convergence of leading industries in the process of regional economic development. Moreover, the long-lasting dominant position of state-owned enterprises and separated regional economic development have resulted into a large industrial gradient gap between Beijing and Tianjin and the surrounding areas, the more than enough “dual-core” competition and insufficient complementary power between Beijing and Tianjin. Many industries have been in a state of low-level competition for a long time, which is not conducive to the coordinated development of regional economy and the sustainable development of urban agglomeration. Fifthly, the current situation of ecological environment in the Beijing-Tianjin-Hebei region urgently needs joint prevention and control of environmental protection. The overall terrain of the Beijing-Tianjin-Hebei region is high in the northwest and low in the southeast, which is basically composed of southeast plain area, western Hebei and northern Hebei mountain area, and Bashang Plateau area. Northwest Hebei is not only the ecological hinterland of the whole Beijing-Tianjin-Hebei region, but also the core area of the poverty belt around Beijing and Tianjin. How to achieve the dual goals of poverty alleviation, income increase and environmental protection is a big problem.

2. The strategic significance of “coordinated development of the Beijing-Tianjin-Hebei region”

The strategy of “Coordinated Development of the Beijing-Tianjin-Hebei Region” is right a solution to the above problem. This strategy makes it clear that the construction goal of the region is to build a world-class metropolitan area with capital as the core, and to build a networked spatial pattern with “one core, two cities, three axes, four districts and multiple nodes” as the skeleton, with important cities as the fulcrum, strategic functional area platforms as the carrier, and transportation trunk lines and ecological corridors as the link.⁹

⁹ This part is based on the Outline of the Plan for Coordinated Development for the Beijing-Tianjin-Hebei Region deliberated and approved by the Political Bureau of the CPC Central Committee on April 30, 2015.

The rapid development of the “Pearl River Delta” and “Yangtze River Delta” economic zones has gradually pushed up the investment costs of foreign enterprises in the land, labor, infrastructure, etc. of these two regions and accelerated the momentum of foreign capital’s northward migration and inter-regional industrial relocation. The national departments concerned pay more and more attention to the “third pole” of the development of the Beijing-Tianjin-Hebei region, which is an inevitable choice in line with the objective law of the regional economic development and the industrial relocation. As the core area of the northern economic territory, the Beijing-Tianjin-Hebei region occupies an irreplaceable position in the regional planning of China.

To a certain extent, the “Coordinated Development of the Beijing-Tianjin-Hebei Region” is also a national exploration to establish a scientific and sustainable, coordinately developed, mutual benefit and win-win regional development demonstration zone. On the one hand, in view of the deep-seated contradictions and problems in terms of the system and mechanism of cross-provincial regional cooperation between Beijing, Tianjin and Hebei, efforts should be made to explore the new mechanism of inter-regional governance, collaborative development and the combination of government and market regulation; on the other hand, efforts should be made to explore a model, i.e. building a eco-friendly and harmonious society with a beautiful and livable environment to tackle the prominent contradiction between the rapid economic and social development of Beijing, Tianjin and Hebei and the serious situation of resources and environment. In the meantime, efforts should be made to explore a new path to realize symbiotic interaction between the center and its periphery through decentralization of non-essential functions and optimization of special layouts, aiming to tackling the “big city diseases” such as smog pollution and water shortage in Beijing.

3. Beijing’s important position in the strategy of “Coordinated Development of the Beijing-Tianjin-Hebei Region”

The importance of Beijing in this strategy is self-evident. In the construction of regional network spatial structure, “one core”, “two cities” and “three axes” are closely related to Beijing.

First, as the core of development, Beijing has entered a post-industrialization society and has incomparable advantages in innovation, finance, commerce, information, education and culture, as well as other high-end service industries. With Beijing as the core, it can attract international high-end elements to gather and enhance international status and functions, optimize regional resource allocation, and relieve the incompatible functions of the central city in its economic and social development stage, so as to lead the whole urban agglomeration to achieve comprehensive, coordinated and sustainable development. To this end, the core functions of the capital as the country’s political center, cultural center, center for international exchanges, and center for science and technological innovation (“Four Centers”) should be strengthened, and the primary tasks of the coordinated development of the Beijing-Tianjin-Hebei region should serve to orderly relieve Beijing of functions nonessential to its role as the capital, optimize and improve its essential functions as the capital, and solve the problem of “big city disease”.

Secondly, Beijing, one of the “two cities”, is the main engine for the coordinated development of the Beijing-Tianjin-Hebei region. The linkage effect between Beijing and Tianjin is related to the breadth and depth of all-round cooperation. Tianjin is a mature central city in the urban system of the Beijing-Tianjin-Hebei region. It has unique advantages in port trade, R&D of productive technology, modern manufacturing and logistics. In the meantime, it also has the potential to cultivate high-end service industries such as finance, information, business, and exhibition which are relied on the local advantages. In the urban system, Tianjin is not only the center that plays a radiating role and drives the development of surrounding secondary cities such as Cangzhou, Langfang and Tangshan, but also a core city that carries on some of Beijing's roles and gives full play to the advantages of port and economic foundation and assists Beijing to drive the coordinated development of the whole Beijing-Tianjin-Hebei urban cluster. The two places can accelerate development as a city cluster, and jointly play a leading and radiating role in high-end development.

Thirdly, Beijing also plays the role of the axis of Beijing-Tianjin, Beijing-Baoding-Shijiazhuang, and Beijing-Tangshan-Qinhuangdao industrial development belts and urban agglomeration axis, supporting the main framework of the coordinated development of the Beijing-Tianjin-Hebei region. The Beijing-Tianjin development axis, which is distributed in Beijing, Langfang, Tianjin and other nodes, is an important support for the Beijing-Tianjin-Hebei region to communicate inside and outside, radiation driven, and scale growth. Qinhuangdao, Tangshan and other nodes are distributed along the Beijing-Tangshan-Qinhuangdao development axis, including Qinhuangdao, Tangshan and other nodes, connects the new growth areas such as Beidaihe New Area and Caoheidian New Area in turn, and is an important support for the industrial development of the Beijing-Tianjin-Hebei region. There are great spaces and development potential in port logistics development, intensive and economical utilization of coastline resources, protection of beach, wetland and aquatic biological resources. The Beijing-Baoding-Shijiazhuang development axis extends along Taihang Mountains, with Beijing, Baoding, Shijiazhuang and other nodes. The node cities of this economic belt take the heavy chemical industry as the leading industry. Affected by Taihang Mountains and Yanshan Mountain, the air pollution caused by the heavy chemical industry in these cities cannot spread outward, which aggravates the air pollution in the Beijing-Tianjin-Hebei region. Therefore, industrial transformation and upgrading and environmental protection in the Beijing-Tianjin-Hebei region have become top priorities of joint prevention and control.

(II) The Belt and Road Initiative, Coordinated Development of the Beijing-Tianjin-Hebei Region, and the interaction between the “Four Centers”

Although in the Belt and Road Initiative, the Beijing-Tianjin-Hebei region has not been directly designated as a province, there is a big triangle interaction between “the

Belt and Road Initiative”, “Coordinated Development of the Beijing-Tianjin-Hebei Region” and the city development strategy of “Four Centers” in Beijing.¹⁰

1. The Belt and Road Initiative and “Coordinated Development of the Beijing-Tianjin-Hebei Region” share the same goal of economic development.

The Belt and Road Initiative and “Coordinated Development of the Beijing-Tianjin-Hebei Region”, as related strategies for developing regional economy, in spite of their different sizes of coverage, share the same goal of promoting regional economic integration.

On the one hand, in order to achieve this goal, it is necessary to firstly promote transportation-based infrastructure construction. Countries and regions along the Belt and Road, especially less developed ones, are eager to improve their infrastructure and build a road to wealth and prosperity through the construction of the Belt and Road. In the Beijing-Tianjin-Hebei region as a whole, the layout of traffic network is unreasonable. Due to the restriction of administrative region, there are more than 2,300 km of “dead-end roads” to be built and improved, failing to form an efficient, economic and reliable transportation system.

On the other hand, the regional economic integration is aimed to efficiently allocate resources in the region, which needs to be completed through industrial relocation. Along with the external transfer of China’s excess capacity, the economic fruits of the Belt and Road Initiative is right the result of industrial relocation featured with the new Flying-Geese Paradigm with China as the leading goose. The Beijing-Tianjin-Hebei region is not only a region with obvious economic development gradient and a great potential for coordinated economic development, but also a region with prominent overcapacity problem and great pressure for transformation and upgrading. The coordinated development of the Beijing-Tianjin-Hebei region will promote industrial gradient relocation, orderly resolve excess capacity and drive industrial transformation and upgrading, which will provide many useful references for China’s connotative economic growth.

2. Defining the positioning of Beijing’s “Four Centers” as the core content of “the Coordinated Development of the Beijing-Tianjin-Hebei Region”

The urban development strategy of the “Four Centers” defines the functional orientation of Beijing. At present, Beijing’s “big city diseases” are obvious to all. Carrying too much functional positioning, it is just like a bloated giant that moves slowly and only the relief can solve the problem. It is the most important task for the coordinated development of the Beijing-Tianjin-Hebei region to orderly relieve Beijing of functions nonessential to its role as the capital. The key is to adjust the economic structure and spatial structure, to control and relieve the basic industries that are not in line with the functional orientation of Beijing, and then to control its population size. Therefore, we need to take industrial relocation as a breakthrough. From

¹⁰ Three “points” which are not on the same straight line are connected with each other to form a triangle with “stability”. For Beijing specifically, the connection between the Belt and Road Initiative, the “Four Centers” and the “Coordinated Development of the Beijing-Tianjin-Hebei Region” illustrates their interaction, and implies “stability”—the consistency of economic goals.

the perspective of economic development stage, Beijing is at the highest level of the regional economic gradient of the Beijing-Tianjin-Hebei region. Some general manufacturing industry, regional logistics base and regional wholesale market, some public service functions such as education and medical care, and some administrative and institutional service institutions are not the necessary resources of Beijing. If they are transferred to Tianjin and Hebei, they will generate greater economic effects.

3. Beijing's "Four Centers" are the development drive of the Belt and Road Initiative.

As the political center of the country for formulating guidelines and policies on domestic and foreign development, Beijing is like a bridge tower of China to strengthen communication on policies with countries along the Belt and Road. In addition to the role of business and trade, the "ancient Silk Road" played a more important role in cultural communication in history. The ancient land and maritime silk roads not only carried silk and porcelain of China, alfalfa and grapes of the western regions, treasures of South Asia and Southeast Asia, glass and sculpture of Europe, but also carried cultural exchanges of technology, music, painting, dance, religion and so on. Beijing, as an ancient capital of civilization with a long history on the "Silk Road", witnessed Marco Polo's visit to the Yuan Dynasty and the western science and technology brought by Western missionaries. Zheng He's seven voyages to the west also started here, pushing the ancient "maritime Silk Road" to the peak. Beijing, as a cultural center, center for international exchanges, and center for science and technological innovation, connects the past and the present, and inherits the millennium-old tradition of friendly exchanges on commerce, culture and technology along "the Silk Road", creating a better platform for the cultural exchanges among countries along the Belt and Road.

(III) The alignment of Beijing with the Belt and Road Initiative.

Although the Belt and Road Initiative does not mention the role and positioning of Beijing, as the capital and municipality directly under the central government, it has always been very special in the regional strategy because of its dual attributes. For the Belt and Road as a development strategy between countries and regions focusing on economic cooperation, if Beijing wants to actively get integrated into it, it must grasp the conjunction of Beijing's advantages as a capital city, its economic advantages and location advantages.

1. Getting integrated into the Belt and Road Initiative based on Beijing's advantages as the capital

The capital is usually the seat of a country's central government, the central city of political and economic activities, and the centralized location of various state-level organs. From the worldwide perspective, whether it is a single functional capital city cluster like Washington or a comprehensive multi-functional capital city cluster like London, the capital city cluster with the capital as the core of development is an important development pole in the regional development. As the capital, Beijing

shoulders the functions of national politics, culture, science & education, international exchanges and so on. To actively get integrated into the Belt and Road Initiative, it should first of all build well the platform for political communication and cultural exchange between the countries along the Belt and Road. Internationally, Beijing is a business card of China, and a China's portal to all directions along the Belt and Road. In the future, Beijing will surely be an active participant in multilateral economic and trade negotiations, international students exchange and scientific and technological cooperation under the Belt and Road Initiative.

2. Getting integrated into the Belt and Road Initiative based on its economic advantages.

Beijing is one of the few cities in China that have entered the post-industrialization stage. Beijing's economic advantages are not only reflected in the economic aggregate, but also in the economic structure, and in the nationally leading modern industrial pattern. The tertiary industry has occupied a major position in Beijing's economic structure, and industries such as high-tech, modern finance, modern information, modern culture, modern consumer industry and Internet take a leading and dominant position across the country. Beijing has made full use of its advantages in the concentration of cultural and scientific research resources and transformed them into intangible wealth. The software development of Zhongguancun, the Internet O2O business in Wangjing, the capital wealth creation of the Financial Street, the convention and exhibition economy of Ya'ao New Village, and the cultural and creative parks scattered throughout the city are all concentrated representatives of knowledge economy, brain economy, and wisdom economy. Moreover, Beijing's economic advantage is reflected in the pooling of the world's excellent enterprises. Besides a large number of headquarters of domestic central enterprises, more and more foreign enterprises have settled their headquarters in China, East Asia and Asia Pacific in Beijing after entering the Chinese market. In the process of integration into the Belt and Road Initiative, Beijing will attract high-quality elements from both domestic and overseas markets, and continue to export high-end services such as cultural and technological capital to participate in the industrial division and cooperation in the areas along the Belt and Road.

3. Getting integrated into the Belt and Road Initiative based on regional advantages

In the roadmap of the Belt and Road Initiative, Beijing stands on the starting point of the middle route and North Line B of the Belt and Road. In the North Line B, Beijing connects Russia, Germany and Northern Europe; in the middle route, Beijing connects Xi'an, Urumqi, Afghanistan, Kazakhstan, Hungary and Paris, so it is an important node connecting Eurasia. Geographically speaking, the east of Beijing connects Tianjin Port at the northern end of the maritime Silk Road, connects the China-Mongolia-Russia Economic Corridor to the north, and connects with the New Eurasian Continental Bridge to the South via the Beijing-Guangzhou Railway. Beijing is the core of the Belt and Road transportation network and the center of the Northeast Asian Economic Circle. Therefore, Beijing can make use of such advantages in geographical location to get integrated into the Belt and Road Initiative

and play an important role in the trade and international exchanges between Beijing and other countries in Asia and Europe through connection with Central Asia, Eastern Europe, Northern Europe and Western Europe. This will allow Beijing to achieve all-round opening up to Northeast Asia, Central Asia and Europe, and then to promote the economic growth of surrounding countries of China and expand the scope of influence of China's economy.

III. The Basic Positioning of Beijing under the Belt and Road Initiative

Beijing aims to become not only the “national Beijing” but also the “international Beijing”. Therefore, to integrate Beijing into the Belt and Road Initiative, it is necessary to identify its own cooperation orientation, city development orientation, industry positioning, cultural orientation and market positioning from the international and domestic perspectives, and the perspectives of the Beijing-Tianjin-Hebei region and Beijing itself, so as to participate in the industrial division and cooperation in the areas along the Belt and Road, and play the greatest role and value.¹¹

(I) Beijing's position in its integration into the Belt and Road Initiative

Now, Beijing must define its role and make full use of its comparative advantages in the process of integration into the Belt and Road Initiative.

Beijing's greatest advantage and resources for economic development are the capital advantages or resources. The capital advantages lie with Beijing's special functional orientation as the national political center, which is an important and unique influencer of Beijing's development. Thanks to its advantages as the capital city, Beijing's economic development receives the central government's policy and fund support. As the capital, Beijing has become a business card for the world to understand China, which is easier to get public attention, that is, it can get the effect of “attention economy”, which is conducive to attracting a lot of domestic and foreign tourists, foreign capital and headquarters economy. In addition, it is necessary to grasp Beijing's advantages in economy, culture, technology and talents.

Therefore, internationally, Beijing's position is to build an international exchange platform, establish an open, friendly and civilized city image and serve as an important window for external publicity, so as to provide services for policy communication, cultural exchange, and scientific and technological cooperation between the countries along the Belt and Road and China. Domestically, Beijing needs to adhere to the “Four Centers” strategy, and play the important roles of the country's political center, cultural center, center for international exchanges, and center for science and technological innovation. In terms of coordinated development of the Beijing-Tianjin-Hebei region, it is necessary to fully cooperate with the work of orderly relieving Beijing of functions nonessential to its role as the capital, so as to realize the optimization and upgrading of regional economic structure. As far as Beijing is concerned, it is necessary to strengthen urban governance, enhance urban competitiveness, and optimize the layout of administration, industry, and education

¹¹ Zhang Jun (2014).

in order to provide opportunities for the development of emerging industries and new economic forms.

(II) Development positioning of Beijing under the Belt and Road Initiative

The development positioning of Beijing under the Belt and Road Initiative is also multilayered. Internationally, Beijing should strive to become a world city and constantly improve its position and role in the world city system. In the meantime, while carrying forward the history and culture, Beijing should protect its style and features as a historical and cultural city, form a highly inclusive and diversified world cultural city with traditional culture and modern civilization bringing out the best of each other, and improve its international influence. Domestically, Beijing should give full play to its capital advantages in national economic management, scientific and technological innovation, information, transportation, tourism, etc., further develop the capital's economy, and constantly enhance the city's comprehensive radiating and driving capacity. From the perspective of the Beijing-Tianjin-Hebei regional development, it is necessary to actively promote the economic cooperation and coordinated development of the Bohai Rim region, strengthen the coordinated development of the Beijing-Tianjin-Hebei region in terms of industrial development, ecological construction, environmental protection, urban space and infrastructure layout, and further enhance the comprehensive radiating and driving capacity of Beijing as the core city of the Beijing-Tianjin-Hebei region. Inside Beijing, its development orientation is to create full employment and entrepreneurship opportunities and build a livable city with fresh air, beautiful environment and good ecology. Therefore, it is necessary to adhere to the three development goals of city strategic transfer, organic evacuation of old cities and re-integration of villages and towns. It is necessary to gradually change the current spatial pattern of single center, strengthen the construction of peripheral new cities, coordinate the central city and new cities, and build a multi-level spatial structure with clear division of labor. It is also necessary to speed up the pace of urbanization in rural areas, integrate villages and towns, improve the quality of urban and rural living environments, and build the spatial structure of urban and rural coordinated development.

(III) Industrial positioning of Beijing under the Belt and Road Initiative

Industrial positioning and layout is the foundation of urban development. To take a part in the construction of the Belt and Road, Beijing must grasp its industrial positioning based on the construction of the "Four Centers".

From the perspective of regional division of work and collaboration, whether Beijing is placed under the Belt and Road Initiative or the Beijing-Tianjin-Hebei region, its industrial structure determines the R&D and circulation links of Beijing's industrial positioning in the industry chain, namely, the knowledge-intensive and technology-intensive industries at the two ends of the "Smiling Curve".¹²

¹² In the middle of the Smiling Curve is manufacturing; on the left is R&D, which belongs to global competition; and on the right is marketing, which is mainly about regional competition.

From the perspective of industrial upgrading and relocation, Beijing's industrial structure still needs continuous adjustment. It should optimize the structure of the three industries, give play to its role as a center for science and technological innovation, highlight high-end, service-oriented, agglomerated, integrated and low-carbon styles, vigorously develop service economy, knowledge economy and green economy, and speed up the construction of a sophisticated economic structure.

At present, in addition to Shougang's relocation to Caofeidian, Hebei Province, Beijing's manufacturing industry has a relatively complete industrial system, ranging from high-end aerospace products manufacturing, integrated circuit manufacturing to mid-end machinery manufacturing, and low-end building materials manufacturing and clothing production. Beijing should gradually reduce or even give up a number of energy-guzzling and highly polluting heavy chemical industries, as well as labor-intensive industries with more employees, more land occupation and low added value. In the field of medium and high-end manufacturing, Beijing should focus on the development of product R&D and design, key parts manufacturing and product assembly, reduce the self-made rate of parts for enterprises, promote the transfer of the general parts manufacturing industry to Hebei and other places, and form a specialized and socialized division system.

(IV) Cultural positioning of Beijing under the Belt and Road Initiative

Cultural positioning is the soul of a city's development orientation. The unity of Chinese civilization and the diversity of cultural features are the cultural characteristics of Beijing. In the construction of the "Four Centers", Beijing has been positioned as a Chinese cultural center, which is also applicable to the cultural positioning of Beijing under the Belt and Road Initiative.

On the one hand, Beijing is a rare ancient city of civilization that has lasted for thousands of years. Beijing, which pools thousands of years of cultures from all over China, is a cultural link between all regions across the country. On the other hand, Beijing is a gathering place of multi-ethnic and multi-regional cultures in China and cultures of all countries in the world. From the religious perspective, whether it is the native Taoism, or the earliest Buddhism introduced into the Han Dynasty; whether it is the foreign Islam, or the foreign Christianity, due to various factors, their development has been blocked more than once. However, as a whole, they have come all the way without danger, finding their own living space in Beijing, a stage of great inclusiveness and diversity. Throughout Beijing, among the modern architectural communities, there are Chinese classical buildings facing south, Arabic Islamic buildings with green domes and pointed arches, and tall Gothic buildings and Western Christian buildings featured with semicircular arches. It is these buildings with unique styles that enrich Beijing's cultures. Beijing not only shows people the openness and inclusiveness of the city, but also shows the world the great bearing of Chinese civilization.

(V) Market positioning of Beijing under the Belt and Road Initiative

The industrial positioning of a city determines its market positioning. Market positioning is to make the products produced or sold in a specific industry get a stable

market. A city should try its best to cultivate the products with certain characteristics from all aspects and establish a good market image, so as to form a special preference in the eyes of customers. The key is to find out the product advantages compared with competitors. The biggest advantage of Beijing's positioning under the Belt and Road Initiative is the competitiveness of its headquarters economy. At present, the number of headquarters of the world's top 500 enterprises located in Beijing ranks first in the world. Among them, the headquarters of China's leading infrastructure construction enterprises such as China State Construction Engineering Corporation, China Railway Construction Co., Ltd and China Communications Construction Company Ltd., are all located in Beijing. These enterprises all have a broad market in the area of infrastructure construction direly needed by countries along the Belt and Road. Along with the settlement of the headquarters of the Asian Infrastructure Investment Bank in Beijing, the city has had a great discourse power in the capital investment market in regions along the Belt and Road. In fact, it has become a capital accommodation center along the Belt and Road. In addition, Beijing gathers China's top scientific research and higher education institutions, the largest number of high-tech enterprises, as well as a lot of talents in different levels, such as politics, economy, culture, science and technology, education and so on. Therefore, Beijing's technological innovation capability ranks first in the regions along the Belt and Road, and is expected to occupy a big share in the information and technology trading market in the future.

IV. The Breakthrough of Beijing's Integration into the Belt and Road Initiative

Up to now, China's Silk Road initiative has entered the stage of practical cooperation, and the relevant project design has been completed. As Beijing is China's "heart", during its integration into the Belt and Road, Beijing will still face some challenges, including its own adjustment, regional cooperation platform and the alignment of "headquarters economy".¹³ China is special in terms of objects, targets, contents and measures involved in its integration into the Belt and Road Initiative when compared with other provinces in China. Therefore, its strategy breakthrough is different from that of other provinces in China. Beijing can make breakthroughs in the following six directions to get actively involved in the Belt and Road Initiative.

(I) To become a powerful platform that gives play to the "headquarters advantage" under the "new normal" of economy

In order to provide financial support for the Belt and Road Initiative, the central government and relevant departments have initiated and established the AIIB and the Silk Road Fund. The location of their headquarters in Beijing undoubtedly provides a huge "headquarters advantage" for the development of Beijing. Firstly, it has tax contribution effect. The tax contribution of the headquarters to Beijing includes two parts: (1) the tax contribution of the organization: No matter what organizational form is adopted, if the headquarters is an independent economic entity, it has to pay

¹³ Headquarters economy is an economic model discovered with the appearance of business parks and CBD.

a certain amount of tax to the place where the headquarters is located; (2) the personal tax contribution of the employees of the headquarters: The rich personal income of senior white-collar workers working in the headquarters will surely contribute to the regional economy of the place where the headquarters are located through the form of personal income tax. Secondly, it has industrial multiplier effect. The aggregation of headquarters in central cities will inevitably lead to the development of related service industries, especially knowledge-based service industries, and form a knowledge-based service industry chain serving institutional headquarters, including the information service industry such as communication, network, media and consultation, the financial service industry such as banking, securities, trust, insurance, fund and leasing, and the intermediary service industry such as accounting, audit, evaluation, and legal services, and the new service industry such as education and training, conference and exhibition, international business, and modern logistics. In the meantime, the city construction investment in business office buildings, real estate and others driven by the headquarters economy also contributes a lot to the growth of the central city. The multiplier effect of headquarters economy can help expand the economic aggregate and improve the level of tertiary industry structure and regional economic competitiveness. Thirdly, it can drive consumption. The consumption drive of the headquarters for the region also includes two aspects: on the one hand, the various supporting consumption brought by the business activities and R&D activities of the headquarters; on the other hand, the personal consumption of senior white-collar workers of the headquarters, including housing, transportation, children's education, fitness, shopping, etc., which plays an important role in promoting the development of regional economy. Fourthly, it creates job opportunities. The development of headquarters economy will make full use of the regional intellectual talent resources and bring a large number of jobs requiring high intelligence. At the same time, through the industrial multiplier effect, it can promote the development of the tertiary industry, including the knowledge-based service industry and the general service industry, and provide more jobs. Therefore, the headquarters effect should be the development direction of Beijing in the future.

(II) To become the platform and connection point of relevant international and regional cooperation mechanisms

In the major Eurasian regions covered by the Belt and Road Initiative, there are several international and regional cooperation mechanisms actively participated by China, including the APEC, China-ASEAN Free Trade Area, ASEM, CICA, the Silk Road Fund and the AIIB. Beijing, as part of the integrated development within the Beijing-Tianjin-Hebei Cluster, should endeavor to become a platform and connection point of the international and regional cooperation mechanism, and a platform for national strategic vision. The relevant national-level strategies are lacking in effective linkage mechanism and scattered. Beijing, which is building as an international metropolis, has gradually become a gathering place for international and regional institutions, and its international discourse power and "soft power" will be greatly improved. Throughout China's major regions and cities, Beijing is most likely to

make a breakthrough in mechanism construction and make a difference on the issue of effort dispersion in various national strategies.

Specifically, Beijing should make good use of the AIIB, the Silk Road Fund and other similar international platforms. AIIB is devoted to promoting the infrastructure construction and interconnection in Asia, and it highly fits for the “Belt and Road Initiative”. If BRI is the strategic goal, AIIB is just the means to reach the goal. As one of the headquarters of China’s financial institutions, Beijing has comparative advantages in capital allocation compared with other provinces and municipalities. Financial institutions in Beijing need to provide mature and high-quality financial stock services, improve capital utilization, and use the AIIB platform to attract global capital flows to China and Asia. At present, the average annual demand for infrastructure investment in the Asia Pacific region is as high as USD800 billion. All countries, including Chinese provinces, want to have a bite of the “cake”. Financial institutions in Beijing can obtain the maximum financial potential by issuing bonds, concept stocks, public offering, insurance, aid, credit and other financial innovation methods of asset securitization, so as to strengthen the regional financial strength and actively get integrated into the Belt and Road Initiative. In addition, the Belt and Road Initiative is to integrate the scattered industrial division in the various regions along the Belt and Road and establish a modern, highly efficient, comprehensive and sustainable division of labor relationship. Beijing can use the financial sector as an entrance to establish an economic cooperation platform, so that countries with different needs can obtain more external resources through financial leverage, and in this process, optimize the city’s industrial structure.

(III) To become a center for international exchanges and important trading center

As the center for international exchanges and the main commerce circulation and trading center of the country, Beijing with its integration into the Belt and Road Initiative will surely have a profound impact on building new advantages in foreign development and accelerating the development of transformation industries.¹⁴ Beijing’s total import and export trade with countries along the Belt and Road in 2014 was USD130.64 billion, showing a year-on-year increase of 4.3%, 7.6 percentage points higher than the average growth rate of the whole city. However, it was 1.6 percentage points lower than the growth rate of the import and export trade between the whole country and the countries along the Belt and Road, showing much room for development of trade between Beijing and these countries. In 2014, Beijing’s total import and export trade value with countries along the Belt and Road accounted for 31.4% of the city’s total, but it was 6.2 percentage points below the national average. Beijing had trade ties with 220 countries around the world. From this we can see that countries along the Belt and Road can play a greater role in developing and enhancing the potential of Beijing’s foreign trade development.¹⁵

On the whole, Beijing’s import and export trade has distinct characteristics. Its export commodities are mainly mechanical and electrical products, audio equipment

¹⁴ Zhou Wuqi (2015).

¹⁵ Han Yonghui et al. (2015).

and others, accounting for 43.8% of its total export; while its import commodities are mainly mineral fuels, petroleum and others, accounting for 56.3% of its total import. Currently, the main trading partners of Beijing are developed countries and regions such as the USA, the European Union and Japan, with its mineral products and petroleum products mainly imported through the sea and little trade exchanges with major resource-rich countries along the Belt and Road, especially those along the Belt. These countries are rich in oil, gas, mineral and metal resources, but they are short of mechanical and electrical products, household appliances, etc.; while the trade situation in Beijing is just the opposite. The differences in natural resources and industrial structures between the two are conducive to the formation of a reciprocal trade tie. Mutual exchange of needed products with these countries and opening up new markets are the key points and effective ways to speed up Beijing's integration into the Belt and Road Initiative.

(IV) To become the communication center of carrying forward the excellent culture of the Chinese nation

As a national cultural center, Beijing is also facing the historical opportunity of cultural exchange and cultural continuation. The influence of culture goes beyond time and space, and across national boundaries. Culture exchange is a project that focuses on people and future, which is an imperceptible effort and needs a long time to make achievements. Under the Belt and Road Initiative, we should give full play to the bridging and leading role of Beijing as a cultural center, strengthen exchanges among all countries, all fields, all strata and religious beliefs, and strive to achieve all-round exchanges and cooperation among all countries along the Belt and Road. This is undoubtedly a breakthrough for Beijing, the capital. In the occasion of adopting the Beijing Declaration on the CASC in 2014,¹⁶ Minister of Culture Cai Wu stressed that China and Arabian countries know and cooperate with each other through the Belt and Road Initiative and in this process, both should give full play to "culture first". Cultural exchanges and cooperation will not only help promote mutual understanding and development of civilizations, but also help to consolidate the public opinion basis of the Initiative, and help to enhance the international discourse and influence of the countries along the Belt and Road.

Cultural communication inevitably involves personnel exchanges. As China's administrative center, Beijing should simplify visa procedures to meet the expanding business cooperation and personnel exchanges. Beijing should hold tourism years with the Arab States, strengthen tourism cooperation and expand the scale of tourism. Beijing should continue to implement cultural exchange programs, expand the scale of exchange of foreign students and youth visits, and turn such programs into routines supported with a formal system. It is necessary to promote exchanges and cooperation between non-governmental organizations, women's services and volunteer services of the two countries, so as to lay a solid public opinion foundation for deeper bilateral and multilateral cooperation. The Belt and Road Initiative is to actively carry out sports exchanges and support the other side in bidding for the hosting of major

¹⁶ Su Liping (2014).

international sports events. Through tourism, mutual visits, learning, folk exchanges, sports exchanges, etc., Beijing should actively carry forward the excellent culture of the Chinese nation and maintain China's cultural competitiveness on the platform of the Belt and Road Initiative.

(V) To become the explorer of the reform of government's economic management mode

Since 2012, China's economic development has entered a "new normal", which is at a stage of shifting the growth rate, restructuring the economy, deepening the reform, and addressing the impact of previous policies ("superposition of four periods"). This reminds us of the grim side of the situation, but the complexity contains many positive factors and development highlights. What we need to do now is to explore a realistic path out of the "superposition of four periods". Since the Third Plenary Session of the 18th CPC Central Committee, "deepening reform" and "innovation" have become important ideas for the reform of government management mode. Beijing, which has the advantages of huge political resources and international platform, should actively explore the mode of government operation and management, participate in international cooperation, take regional cooperation as the key direction of Beijing's international cooperation, and expand talent exchange and technology introduction. Beijing should not stay in the stage of "pride of capital", but innovate on government management, strive to be the vanguard of government management reform, and establish management and innovation concepts for other provinces. In addition, in both international and domestic directions, Beijing should break through the resource constraints of further development, including policy resources, market resources and natural resources.

(VI) To become a center of science and technological creation

The Belt and Road Initiative involves both economy and transportation, and scientific and technological exchanges. Its construction needs to be led and driven by technological innovation. According to the map, the Silk Road Economic Belt covers parts of Central Asia, South Asia, West Asia and Europe, connecting the two major economic circles of Asia and Europe. The region contains more than 50 countries, making it the most promising economic belt in the world. In the meantime, due to the great differences in the national conditions, natural and geographical conditions, development stages, and scientific and technological levels of the countries along the Silk Road, especially the fact that most of the countries are located in the landlocked areas, the serious ecological vulnerability such as drought and desertification, the backward development of productivity, the small economic aggregate and the significant regional poverty all call for scientific and technological innovation in the development model innovation of countries along the "Silk Road" on the way to achieve sustainable development through promoting trade. As the advocate and sponsor of the Belt and Road Initiative and the national center of science and technology, Beijing has the responsibility, obligation and ability to play the role of technology export under the Belt and Road Initiative, thus not only providing new

demand for the local economy, but also creating new opportunities for the countries along the Belt and Road.

As the national center of science and technology, Beijing should not only be limited to technological upgrading of regional economy, but also make full use of its technological advantages to provide relevant technical support for the Belt and Road Initiative. As the national center for science and technological innovation, Beijing, with a solid foundation, many unique conditions, and rich science and technology talent resources, has gathered a large number of scientific research institutes, colleges and universities, innovative enterprises, and science and technological innovation bases, as well as a large number of strategic scientists, leading talents of science and technology, entrepreneurs, and innovation and entrepreneurship teams. The whole society's rapid increase of science and technological investment, high R&D investment level, emerging scientific and technological innovation achievements and growing ability to participate in international scientific and technological competition play an increasingly bigger role in supporting and leading the development of the capital, radiating the national innovation and development in high-end projects, giving full play to the due functions and roles of the national center for science and technological innovation.

V. Mechanism Design of Beijing's Integration into the Belt and Road Initiative

Beijing aims to become a socialist modern international metropolis in the next few years, and meanwhile complete the development strategy of innovation driven development as well as economic transformation and upgrading. Beijing's current urban development is still plagued with some unsustainability problems, which are mainly caused by the backward land system reform in China, and also have something to do with the one-sided pursuit of growth in the top-level design, the lack of GDP assessment mechanism and local government restraint mechanism. To solve these problems, further reform in the political, economic, social and other fields is essential to the establishment of a long-term mechanism in which the market and the public determine the allocation of resources for Beijing's urban development. It is surely not easy to establish such a long-term mechanism, especially in the current complicated international context. Beijing, as China's "heart", should handle the following interactive relationships and actively promote Beijing's integration into the Belt and Road Initiative.¹⁷

(I) Interaction between international and domestic intergovernmental coordination mechanisms

The Belt and Road Initiative, which is designed to open up China's western and southern channel, is a national initiative to radiate South Asia, Southeast Asia, Central Asia, Western Asia, and even some European regions. BRICs and developing countries are the first to be covered by this initiative and have gained a platform for development. In view of the levels of national economic development and the degrees of economic disparity in countries involved in this open channel, it is

¹⁷ Jiang Rui (2015).

necessary to strengthen the initial connectivity among these countries. The connectivity covers infrastructure facilities of communication, transportation, informatization and customs clearance ports, and involves the coordination of multiple departments among governments. Beijing should closely follow theme of “connectivity development”, actively integrate into the international and domestic intergovernmental coordination agenda and cooperation, and play an important role through the international platform.

In addition, the Belt and Road initiative will also lead to the opening of related provinces. As the Belt and Road involves infrastructure construction or institutional innovation, it inevitably involves coordination and interaction between governments of different countries and local governments domestically. As a special administrative region, Beijing should do a good job in exploring the intergovernmental coordination mechanism, continue to deepen the government reform, and seek innovation-driven economic and social development.

(II) Interaction between government leading and activities oriented to market entities

The basic principle of China’s Belt and Road Initiative is to “promote work in all areas by drawing upon the experience gained on key points; make overall plans and coordinate; tackle easier problems before difficult ones; and move forward gradually”. The implementation of this policy, as well as the coordinated development with other national strategies, cannot do without the leadership of the governments and the cooperation of market entities.

The Third Plenary Session of the 18th CPC Central Committee required that in order to make the market play a decisive role in the allocation of resources, the government should also play its due role. In order to bring into play the vitality of labor, capital, management, technology, knowledge and other elements, it is necessary to further promote the economic system reform, and the exploration of realistic and operable mechanism is the key.

The integrated development within the Beijing-Tianjin-Hebei Cluster, the construction of the “Four Centers”, and the construction of international platforms such as the AIIB and the Silk Road Fund will further promote the intensification and innovation of Beijing’s headquarters economy, enhance its cultivation of local enterprises and the level of financial and institutional support. In this way, Beijing can allocate resources of the whole country, the Asia Pacific region and even the whole world in a wider scope and at a higher level. Meanwhile, this process will also involve a series of policy changes, which will cover finance, trade, communications, taxation, government management and other aspects, and force the government management departments to change the management mode and management ideas, speed up the construction of a service-oriented government, build an efficient government service system, release new policy dividends, and achieve “decentralization to the market and deregulation for enterprises” so as to stimulate market vitality and organic economic power.

(III) Interaction between talent cultivation and cross-border flow

International talents need to be jointly trained by educational institutions of countries along the Belt and Road in accordance with the principle of combining international rules, market mechanism and national support. This way can give full play to geographical advantages and comparative advantages, highlight characteristics, aim at main talents, consolidate mass education, and explore a set of sustainable development talent training mechanisms of transnational training and cross-border flow.

As an important gathering place of foreign talents and students, Beijing needs to clarify the relationship between the transnational talent training and cross-border flow mechanism, and boldly make innovative attempts. First, it should jointly launch the Belt and Road Government Scholarship with the countries along the Belt and Road to give priority to recruiting rare professionals. Countries along the Belt and Road need to reform the student visa and the work system of foreign professionals, improve relevant systems and regulations, constantly optimize the working environment of students studying abroad, and provide the guarantee of freedom of coming and going. China should increase the number of government scholarship quotas for developing countries along the Belt and Road, and at the same time give awards to those who study abroad at their own expense and return home after accomplishing their study. Second, Beijing should jointly implement the joint training plan for outstanding young talents with countries along the Belt and Road to cultivate a number of high-caliber young talents. Beijing should cooperate with well-known universities in the countries along the Belt and Road to jointly improve the existing high-end academic programs, jointly train graduate students, jointly develop and design short-term programs for overseas students to study or visit China, expand the international vision of highly skilled professionals and technical personnel and management personnel, and enrich social capital. Third, Beijing should work with countries along the Belt and Road to promote cooperation in running schools in characteristic fields. Based on the existing cooperation in running schools, priority should be given to encouraging domestic famous schools to run schools in the countries along the Belt and Road, supporting key universities in western China to develop cross-border ethnic international cooperation in running schools, providing financial support for project construction for these cross-border universities, and innovating on the joint school running mode between Chinese and foreign sides in the fields of vocational education, energy, transportation and other disciplines, as well as localized talent training for service enterprises "going global". In addition, it should jointly popularize the Chinese language with countries along the Belt and Road to enhance international understanding. According to the actual situation of countries along the Belt and Road, a Chinese education development fund has been founded to focus on training local Chinese language teachers, explore multilingual learning experience and promote the popularization of the Chinese language.

(IV) Interaction between geo economy and geo politics

The “Silk Road” Economic Belt Onshore Project and the “21st Century Maritime Silk Road” Project both show that China’s policy has undergone a historic change, the importance of which can be compared with the reform and opening up policy. It was reported that another goal of China is to reduce its energy dependence on imports from major maritime routes. In 2012, about 84% of China’s oil imports went through the Strait of Malacca. However, it is wrong to look at the new Silk Road only from an economic perspective, as its connotation is much more. In short, this is a reorientation of geopolitics, and its political content is mainly about geopolitical strategy.¹⁸ From this point of view, relying on multilateral contacts will be a wise choice. These institutions will make China’s capital output less politically sensitive. China’s decision on investing in an expensive project of a specific country will be immediately associated with political significance of such country. The case will be different if the project is funded by the Silk Road Fund, which is jointly participated by many countries.¹⁹

The coordinated development and integration within the Beijing-Tianjin-Hebei Cluster led by Beijing and the active integration of Beijing into the Belt and Road Initiative will not only promote the interaction of geo economy, but also create a new pattern in geopolitics. The Belt and Road is of strategic importance to China’s strategy of handling diplomatic relations with its surrounding countries. The strategic vision will start from China’s surrounding countries and regions, through connectivity construction and international platform cooperation, to build up a solid community for shared future. All relevant countries and regions should work together on the stage of building a new international economic, political and cultural order. From the perspective of security, the Belt and Road Initiative will not only lead to infrastructure, trade and financial cooperation, but also promote regional security cooperation and build a new framework for international security. The Belt and Road, which links Europe and Asia, and also radiates Africa, will inevitably promote the common development of these countries and contribute to the development of the world. The Belt and Road Initiative will become a new growth engine for Europe, Asia and Africa, bringing new economic and political belts to the region in the twenty-first century.²⁰

(V) Interaction between opening up internally and externally

In the new context, the Chinese government has put forward the important strategic idea of managing its relations with the surrounding areas, and consolidating the strategic support of China’s surrounding areas is a concept to be upheld in the future handling of international relations. The Belt and Road is an effective way for China

¹⁸ Jin Ling (2015).

¹⁹ Yuan Xintao (2014).

²⁰ Du Debin and Ma Yahua (2015).

to practice its new diplomatic concept and seek a reciprocal and win-win situation with its neighboring countries. The integrated development within the Beijing-Tianjin-Hebei Cluster and the development strategy of Beijing's active integration into the Belt and Road Initiative will surely help Beijing start wider, deeper and closer cooperation domestically and internationally, and strengthen its trade, financial and economic relations with Eurasian economies.

The Belt and Road Initiative is a platform for cooperation in economy, finance, trade, humanities and society. This open, inclusive and extensible platform covers a wide geographical range, including Central Asia, West Asia, South Asia and South-east Asia, and extends to the hinterland of Europe and Africa. The strategy of integrated development within the Beijing-Tianjin-Hebei Cluster with Beijing as the core and the development strategy of Beijing's active integration into the Belt and Road Initiative will create a new pattern of China's opening up internally and externally.

VI. Policy Guarantee for Beijing's Integration into the Belt and Road Initiative

To well get integrated into the Belt and Road Initiative, Beijing should combine the above-mentioned aspects, such as the interactive relationship of the great triangle, the main points of strategy, and the comprehensive positioning of the strategy; well coordinate the domestic and international platforms, and mainly propose reasonable and feasible countermeasures from the perspectives of policy coordination, economic radiation, industrial gradient transformation, financial clustering function, and government governance mode.

(I) To highlight policy coordination function and build the "general command" of the Belt and Road in Beijing

Beijing should give play to its political advantage to normalize the political consultation with all countries along the Belt and Road, and actively promote the signing of the free trade area and investment protection agreement, establish a high level free trade area network, eliminate investment and trade barriers; raise the level of mutual opening between Beijing and all major cities in countries along the Belt and Road, and create a more relaxing, transparent and fair business environment; strengthen the cooperation between Beijing and customs, inspection and quarantine, standards certification departments and institutions of countries along the Belt and Road, promote mutual recognition of supervision, sharing of information and compatibility of standards, and reduce the cost of economic and trade cooperation; strengthen the cooperation between Beijing and areas with good ecological and environmental protection in countries along the Belt and Road, strictly implement environmental protection standards, take the initiative to assume social responsibility, and establish a good international image; make full use of the existing mechanisms such as APEC, Asia Cooperation Dialogue and ASEM in the municipality to actively participate in the discussions of the Belt and Road related topics and the strategic construction of the Belt and Road Initiative.²¹

²¹ Shen Xianjie and Xiao Jincheng (2014).

(II) To give play to the radiating role of Beijing as an international metropolis in economic development and promote the structural upgrading of itself and the surrounding areas

In 2013, the proportion of the output value of the tertiary industry in Beijing was 76.9%, slightly lower than that of an international metropolis in developed countries. The task of industrial restructuring in Beijing is very arduous. Meanwhile, Beijing's economic growth and structural adjustment are still affected by the increasing business costs, the high degree of aging, the scarcity of land resources, and the low conversion rate of scientific and technological achievements. Beijing's active participation in the Belt and Road Initiative will boost the industrial upgrading and industrial relocation of the Beijing-Tianjin-Hebei region and the cities in the region, and meanwhile realize Beijing's own industrial upgrading. Beijing's resource characteristics and urban functions determine that Beijing's future industrial development trend is high-end development of the industrial value chain. In the process of developing the "Four Centers", promoting the integration within the Beijing-Tianjin-Hebei Cluster and participating in the Belt and Road Initiative, Beijing will continue to reform and mature in the process of experience accumulation in areas of trade, finance, investment threshold policies and so on, which will surely have an important siphonic effect on the agglomeration of high-end elements.²²

Meanwhile, the countries radiated by the Belt and Road Initiative have different advantages, which are mainly manifested in industries, labor, resources and markets. Economic complementarity brings great potential for cooperation. The alignment of the integration within the Beijing-Tianjin-Hebei Cluster taking Beijing as the core with the Belt and Road Initiative will surely help unleash this cooperation potential and achieve actual results. This will speed up the economic integration process in Eurasia, promote industrial upgrading in central and western China, and indirectly affect the upgrading of Beijing's industry.

Beijing should actively promote its own industrial structure adjustment and upgrading during its integration into the Belt and Road Initiative. Beijing can explore from the following four aspects: Firstly, it should stand at a higher position. Beijing should learn to look at the issue beyond the region but from the perspective of the whole Belt and Road region, so that it can further optimize its industrial layout, avoid homogeneous competition and dislocation development, and highlight the advantages of local industrial development. Secondly, it should adopt diversified forms. Beijing should actively explore new modes of investment cooperation, encourage cooperation in the construction of various industrial parks, such as overseas economic and trade cooperation zones and cross-border economic cooperation zones. The forms of industrial cooperation can be more diverse. Beijing should know how to integrate resources, learn to borrow resources, and cooperate with upstream and downstream industries and domestic and foreign enterprises at the level of industrial parks. Thirdly, it should get ready its basic skills. Under the Belt and Road Initiative, the transportation is the basic condition and main carrier, and also the priority area,

²² Siphonic effect means that the strong appeal of a city will attract investment from other places, thus slowing down the development of the latter.

while industrial development and industrial cooperation are the core and key. Before Beijing enjoys the Belt and Road Initiative related policy advantages, the first thing to do is to lay a good industrial foundation. According to the development priorities of different regions along the Belt and Road, the industrial gradients in eastern, central and western regions as well as the development statuses of existing industrial parks and industrial clustering areas, Beijing should re-examine, clarify and adjust the leading industries, create industrial clusters, form an irreplaceable advantage of local industries, consolidate the foundation of production, and better realize the maximization of complementary and cooperative effects between the domestic and foreign industries. Fourthly, it should follow the “market first” principle. The biggest bright in the blueprint of the Belt and Road Initiative is to put the market operation at an unprecedented height. Either the emphasis that the partners of foreign cooperation should be enterprises, projects or capital, or the clear requirement on following market rules and common international practices and giving full play to the decisive role of the market and the subjective role of different kinds of enterprises in the allocation of resources, all indicate that enterprises will become the daring vanguards of the Belt and Road Initiative.

In addition, it is necessary to speed up the integrated development within the Beijing-Tianjin-Hebei Cluster, thus further enhance the economic radiation capability of Beijing-Tianjin-Hebei region, promote the industrial integration of provinces in the Silk Road Economic Belt, and play an exemplary role in the industrial integration of countries along the Belt and Road. Beijing's neighboring provinces can study issues that might affect economic, trade and cultural cooperation under the Belt and Road Initiative, make a good plan and pool resources of various sources, coordinate various forces, establish the path of construction and promotion, avoid vicious competition within the region, and ensure the efficiency and effectiveness of construction. Local governments or departments should plan according to their respective location and functional positions, make clear key projects and work priorities, and give play to their respective advantages under the international and national planned frame. In addition, in order to effectively align the industrial planning of different levels and coordinate the planning of different departments, it is necessary to establish a public platform for information sharing; in view of the many unstable factors still existing in the areas along the Belt and Road, it is necessary to establish a set of efficient risk aversion, early warning and handling mechanisms, so as to achieve timely detection, early warning, early avoidance and proper handling.

(III) To identify Beijing's status as an investment and financing center and form financial clusters with the Belt and Road theme

Beijing, where major domestic financial institutions are headquartered, has accumulated a lot of experience in financial management. In the strategy of integrating into the Belt and Road, Beijing can leverage its function as the capital of China to actively accommodate the AIIB, the Silk Road Fund and the New Development Bank involved in the Belt and Road Initiative, thus forming interaction and cooperation between local bank headquarters and cross-national financial institutions. With the clustering of the Belt and Road related financial institutions mentioned above,

Beijing can attract more national banks of countries along the Belt and Road, and promote syndicate loan, credit guarantee and other businesses through consortiums. In addition, Beijing should make innovative use of PPP and other investment and financing modes, launch overseas investment insurance products, give certain subsidies to the purchase of relevant insurance, introduce and leverage private capital, and play the role of market mechanism. It should take various measures to build an investment and financing platform and mechanism with a variety of fund sources, a high allocation efficiency and a guaranteed investment income.²³

(IV) To give full play to the supporting service functions through Beijing's international influence

Beijing should make full use of international forums and exhibitions to strengthen its external publicity, deepen the understanding of people in countries along the Belt and Road and create opportunities for cooperation; give play to Beijing's developed information network system, pool and integrate the Belt and Road Initiative related cooperation information of relevant countries, strengthen the information services of investment under the Belt and Road Initiative, and provide updates on the basis of the Country Guide for Foreign Investment Cooperation, including information on political relations, investment project, cooperation, situations of local enterprises and dynamic changes of various risks, to help relevant enterprises to reduce learning costs and reduce operational risks substantially; encourage Beijing-based research institutes to strengthen research on related issues of the Belt and Road Initiative, and provide enterprises with adequate intellectual support. It should develop and cultivate human resources through multiple channels and various ways, such as strengthening joint training, exchanges and cooperation between Beijing-based universities and universities of countries along the Belt and Road, speeding up the training of all kinds of talents suitable for bilateral investment; increasing the efforts of introducing language and management related talents, and providing preferential treatment for information, consultation, language and other specialties related talents in shortage under the Belt and Road Initiative; and suggesting the establishment of specialized training institutions at the national level for the Belt and Road Initiative by leveraging Beijing's rich educational resources.

(V) To leverage Beijing's advantage as China's cultural center to promote cultural exchange of countries along the Belt and Road

Beijing's culture is typical and represents the spirit of Chinese traditional culture. Beijing's culture has always maintained the tendency of valuing justice over profit, is particularly interested in abstract principles such as justice, fairness and truth, and attaches great importance to etiquette and civilization. Fundamentally speaking, Beijing's culture is a kind of culture based on morality and propriety, which contains human dignity, human warmth and Chinese unique way of life, and represents the traditional ideals and hopes of Chinese people. Beijing should make full use of this advantage to build a world-class and domestically top tourism and cultural city,

²³ Wang Min et al. (2015).

which will not only bring huge economic benefits to Beijing, but also increase the influence and radiation of Beijing and even Chinese culture in the world. To get integrated into the Belt and Road Initiative and strengthen cultural exchanges with countries along the Belt and Road, Beijing should pay attention to the following points. Firstly, it should make full use of the existing cultural resources, focus on developing cultural tourism, attract people from all countries along the Belt and Road or other regions to Beijing, contain diverse cultures and absorb excellent culture. Secondly, Beijing should integrate its tourism resources in an all-round way to form a tourism cultural center with its own characteristics. It should combine the charming traditional culture and rich and colorful contemporary culture to form famous brands of Beijing's cultural tourism, and name the brands after some characteristics of the Belt and Road Initiative and export Beijing's excellent culture. Beijing should turn it into a bridge for countries along the Belt and Road and across the world to learn about China.

In addition, Beijing should make use of its existing education think-tank resources and promote the construction of the think-tanks in countries along the Belt and Road. With countries along the Belt and Road as the priority direction, Beijing should give play to the role of related research institutes in universities, focus on comprehensive strategic research and carry out region- and country-specific competitiveness of education, pay close attention to the big education landscape and cooperation space of the Belt and Road Initiative, promote cross-border ethnic education opening-up and promote the construction of the Belt and Road cultural exchange mechanism.

(VI) To take the Belt and Road Initiative as a development opportunity, to explore new ways of financial institutions' transformation

Under the Belt and Road Initiative, financial institutions are important backup for platform development. An active and effective exploration of financial innovation can improve the efficiency of capital allocation. Beijing pools important financial institutions across China. During the construction of the Belt and Road platform, financial institutions should actively explore new ways and paths for business transformation, adhere to compliance management, strictly control internal management, strengthen team building, build a harmonious culture, create excellent business performances, and create high-quality financial brands. In the meantime, relying on high-quality financial products, they should innovate on financial service modes, fulfill social responsibility, achieve good economic and social benefits, and continuously increase market share.²⁴

In the process of Beijing's integration into the Belt and Road Initiative, the exploration and transformation of financial institutions can start from the following aspects. Firstly, the financial institutions should seek diversified financing modes and support local economic construction. They should closely follow the orientation of national key construction programs, focus on the pillar industries and key enterprise construction projects of economic development, and continue to provide financing support for major construction projects, major industrial projects and livelihood projects in

²⁴ Zhao Zhongbin (2015).

various ways. Secondly, they should innovate and serve the development of small and micro enterprises. All financial institutions in Beijing should carry out fine chain marketing, actively try to explore the development mode of cluster customers in business circles, build the “credit factory” mode of small and micro enterprises and the “factoring online” network financing system, and provide information management, financing, settlement and other comprehensive and whole-process financial services for the core enterprises and upstream and downstream enterprises in the supply chain through collaboration of online financing, e-commerce and other online platforms. Thirdly, they should care for people’s livelihood and continue to implement the inclusive finance. Financial institutions in Beijing should always focus on serving the people’s livelihood, continuously promote credit regulation, connect with financial support policies, actively implement financial service measures for the people’s livelihood, incline credit supply to the people’s livelihood, improve relevant organizations and systems, and increase support for the people’s livelihood related financial fields. Fourthly, they should stick to the bottom line and realize sustainable and steady development. Tightening the risk fence and building up the risk defense line is the eternal theme of bank operation. All financial institutions in Beijing should continue to promote active risk management and comprehensive risk management, strengthen the construction of risk management system, enhance early warning and strict control of projects in key areas, and continue to maintain the high pressure of case prevention. Among them, their credit business should adhere to the management system of full-line coverage, whole-process monitoring and centralized operation, and construct the risk management and operation architecture system with the sufficient reach and depth. In the meantime, they should adhere to the rule of business, and be committed to a simple, harmonious and fair corporate culture. They should strengthen the assessment and guidance of cadres and employees, establish a flexible talent flow mechanism, and constantly improve the career development planning mechanism of employees.

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The Promotion Mechanism and Policy Suggestions of Integrating Qinghai's Characteristic and Advantageous Industries into the Construction of the Silk Road Economic Belt



Qingxin Lan and Meng Han

The construction of the Silk Road Economic Belt is a major strategic measure to deepen China's opening to the western regions and form a new pattern of all-round opening. It is not only conducive to expanding the level of opening up and internal undertaking in the western regions, but also conducive to accelerating the reform and development of the western regions, so as to provide new impetus for its leapfrog development. Qinghai Province, as the geographical center of the west, is an important part of the Silk Road Economic Belt. Its unique location, humanities, resources, environment and industrial advantages make it form a number of characteristic and advantageous industries, which play a vital role in the economic development of Qinghai. Therefore, seizing the historical opportunity of the Silk Road Economic Belt and giving full play to comparative advantages to promote the development of characteristic and advantageous industries are of great significance for Qinghai to enhance its organic development power, enhance regional core competitiveness, promote the transformation and upgrading of industrial structure, and improve the quality and efficiency of its overall economic development.

I. The Construction of the Silk Road Economic Belt Provides New Impetus for the Development of Qinghai's Characteristic and Advantageous Industries

(I) The characteristic and advantageous industry is the "new engine" of Qinghai's economic development

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The characteristic and advantageous industries are the concentrated embodiment of regional factor endowment advantages and scale advantages, and are the fundamental focus of enhancing the comprehensive competitiveness of regional economy.¹ After years of cultivation and development, Qinghai Province has initially formed ten characteristic and advantageous industries, thus further building a Qinghai-style modern industrial system. These ten characteristic and advantageous industries include the coal chemical industry, new energy, new materials, chemical industry of Saline Lake, non-ferrous metals and processing, oil and gas chemical industry, equipment manufacturing, special steel, characteristic textile and biology, and played an irreplaceable role in promoting the economic growth of the whole province.

As shown in Table 1, in the first half of 2015, among the top ten characteristic and advantageous industries in Qinghai Province, except for the iron and steel industry, all other industries achieved growth, and most of the growth was higher than the average added value of industries above the designated size, showing a good growth momentum and obvious economic driving effects. Qinghai's characteristic and advantageous industries have solid development foundation and prominent industrial advantages, which create favorable conditions for the export and alignment of its international industries. Therefore, it has a strong intention of international cooperation. The construction of the Silk Road Economic Belt just provides a strong support for international cooperation, so that it can further realize complementary development of advantageous resources while opening up new markets, so as to improve the industrial layout and promote industrial transformation and upgrading. Therefore, Qinghai's integration into the Silk Road Economic Belt will bring rare development opportunities to its characteristic and advantageous industries, and realize the overall leap of Qinghai's economy through its radiating and driving roles.

(II) The Silk Road Economic Belt opens up new markets for Qinghai's characteristic and advantageous industries

In recent years, the amount of international trade between Qinghai Province and countries along the Silk Road Economic Belt has increased significantly. As shown in Table 2, in 2014, its exports to countries along the Silk Road Economic Belt reached USD250 million, showing an increase of 13.6% over 2013 and accounting for 22.1% of the total exports in that year. In 2014, Qinghai's exports to most of the countries along the Belt and Road increased significantly, with an average growth rate of 84%, far higher than Qinghai's overall export growth rate of 33.2%. Due to the increasing demand of the countries along the Silk Road Economic Belt for machinery and equipment, household appliances, characteristic textiles and other products, Qinghai's characteristic and advantageous industries have formed a strong complementarity with this, which has opened up a new market for Qinghai's characteristic and advantageous industries to a certain extent. In the meantime, with the help of the important cultural and commercial activities platforms such as the Qinghai China Investment & Trade Fair for Green Development, China (Qinghai) Tibetan

¹ Faping (2012).

Table 1 Growth rate of industrial added value of top ten characteristic and advantageous industries in Qinghai Province in 2015

Industry	Growth rate of industrial added value (%)	
	Full year	First half of the year
Industries with the designated size in the whole province	7.6	7.5
Top ten competitive industries		
1. New energy industry	29.7	22.2
2. New materials industry	34.2	23.7
3. Chemical industry of Saline Lake	2.7	2.2
4. Non-ferrous metals industry	11.8	11.9
5. Oil and gas chemical industry	4.2	-7.2
6. Coal chemical industry	-	-
7. Equipment manufacturing industry	22.0	25.9
8. Iron and steel industry	-0.5	7.7
9. Light industry and textile industry	9.7	6.1
10. Biological industry	21.9	17.1

Source Statistical Communiqué of Qinghai Province on the 2015 National Economic and Social Development, <http://www.askci.com/news/finance/2015/07/22/9122fb61.shtml>

Carpet International Exhibition and International Eco-industry Exposition, China (Qinghai) International Halal Food and Products Fair, etc. as well as the continuous establishment of the showcase centers of Qinghai’s characteristic products in the countries along the Belt and Road, it has also built a platform for Qinghai’s characteristic and advantageous products, so that they can be further promoted in countries along the Silk Road Economic Belt. Therefore, under the promotion of the Silk Road Economic Belt, the export of most characteristic and advantageous industries increased to varying degrees in 2014. For example, in the equipment manufacturing industry, the export of mechanical and electrical products increased by 83.1%, while the export of ferroalloy in the iron and steel industry increased by 50.5%.

(III) The Silk Road Economic Belt opens up a new channel for international investment in Qinghai’s characteristic and advantageous industries

Strengthening investment cooperation with countries along the Belt and Road is an important way to promote the deep integration into the Silk Road Economic Belt and achieve reciprocal and win-win results. It is also a promising key area for the construction of the Silk Road Economic Belt. The strong complementarity of Qinghai Province with the countries along the Belt and Road in terms of resource endowment, economic development level and industrial structure has laid a cooperative foundation for the international alignment of its characteristic and advantageous industries. On the one hand, Qinghai Province is rich in mineral and energy resources, which provides a resource guarantee for foreign partners along the Belt and Road

Table 2 Value and growth rate of Qinghai Province's export to countries along the silk road economic belt in 2014

Country	Export of Qinghai Province in 2014 (USD10,000)	YoY growth (%)
Bangladesh	421	161.50
India	2616	57.88
Iran	1212	97.39
Israel	477	40.71
Jordan	630	48.94
Pakistan	9012	12.62
Belgium	741	59.35
Denmark	49	188.20
Britain	1728	-14.50
Germany	2685	20.51
France	807	144.50
Italy	673	-70.20
Netherlands	1858	617.40
Greece	231	32.76
Portugal	113	2.73
Spain	618	-19.70
Austria	6	500.00
Finland	128	80.28
Poland	123	-19.60
Romania	244	36.31
Sweden	69	-4.17
Russia	651	-38.40
Ukraine	101	-74.30
Slovenia	204	124.20
Czech Republic	13	116.70

Source Qinghai Statistical Yearbook 2015

to enter the characteristic and advantageous industries. In the meantime, the differentiated advantages in the industrial chain also improve the investment efficiency of the countries along the Belt and Road for the characteristic and advantageous industries in Qinghai to a certain extent. For example, from 2012 to 2014, the contracted foreign capital used by the production and supply of power, gas and water, and the equipment manufacturing industry in Qinghai Province was USD219 million and USD214 million respectively, ranking the first in the whole industry, and accounting for 67.1% of the total contracted foreign capital used in the three years, which not only made up for the capital gap of the industry, but also effectively improved the technical level of characteristic and advantageous industries, and promoted the industrial upgrading. On the other hand, relying on resource advantages and policy support

for many years, the characteristic and advantageous industries in Qinghai Province have formed a competitive modern industrial system with advanced technology and management experience; while some countries along the Belt and Road in Central Asia and South Asia have a high similarity with Qinghai in terms of resource structure, providing conditions for Qinghai's characteristic and advantageous industries to "go global" for industrial alignment, which is not only conducive to meeting the growing resource needs of Qinghai, but also in line with the development demands of corresponding countries along the Belt and Road. For example, Turkmenistan is an important producer of wool raw materials, while Qinghai's light industry and textile industry started earlier, so the latter has more advanced production technology and rich management experience. Qinghai Cashmere Industrial Group and Turkmenistan have reached a cooperation intention to jointly invest nearly RMB150 million to build a spinning factory with an annual output of 1,000 tons of carpet yarn and 1 million pieces of woolen products in Turkmenistan. This will not only help to reduce the production cost of Qinghai Cashmere Industrial Group, improve the profit of the enterprise, but also is conducive to the professional extension of its industrial chain, thus effectively promoting the transformation and upgrading of the enterprise. Therefore, it has become a model for Qinghai-based enterprises to "go global" in recent years.

(IV) The Silk Road Economic Belt builds a new platform for international talent exchange in Qinghai's characteristic and advantageous industries

How to effectively allocate international talent resources to provide support for domestic economic development has become the key to achieve sustainable economic development. As international talents master leading new technologies or high-grade projects, those who master talents will grasp the direction of future development, so as to seize more development dividends. The total population in countries along the Silk Road Economic Belt is nearly 3 billion, accounting for 41.7% of the global population, which has laid a huge population foundation for the cultivation of all kinds of talents. With the deepening of the construction of the Silk Road Economic Belt, China has become the focus of international talents in the countries along the Belt. As an important node of the Silk Road Economic Belt, Qinghai Province, with its characteristic and advantageous industries, is bound to attract the attention of many international talents. On the one hand, Qinghai Province has similar national culture and religious belief with some countries along the Belt in Central Asia and South Asia, which creates an inclusive space for international talent communication and exchanges to a large extent; on the other hand, the complementary resources and industries also provide a broad space for development and cooperation of Qinghai's characteristic and advantageous industries, thus further enhancing the power of international talent flow. In recent years, the international talent exchange of characteristic and advantageous industries in Qinghai Province has achieved fruitful results. There are government supported projects. For example, in 2014, the State Bureau of Foreign Experts Affairs approved six high-end foreign expert projects in Qinghai Province, with a funding of RMB1.1 million, mainly involving Tibetan carpet R&D, photovoltaic industry and other characteristic and advantageous industries. Most of these

experts come from France, the Netherlands and other countries along the Silk Road, playing an important role in the R&D and production of related fields, the introduction of today's international advanced technology and management concepts, and the effective promotion of the scientific research content of products. Out of their own strategic needs, some enterprises also hired experts themselves. For example, Tibetan Sheep Carpets hired Jozeph Pandalaere, a senior loom technical expert from Belgium, as the company's production CEO. Under the participation of the company, Tibetan Sheep Carpets introduced foreign pattern design technology and developed new woven Tibetan blanket varieties, which greatly increased the share of Qinghai's Tibetan blankets in the international market.

II. The Problems in the International Cooperation Between Qinghai and Countries Along the Silk Road Economic Belt in the Characteristic and Advantageous Industries

In recent years, although some achievements have been made in the international cooperation between Qinghai and countries along the Silk Road Economic Belt in the characteristic and advantageous industries, there are still many problems, which hinder the pace of its integration into the Silk Road Economic Belt, and affect the leapfrog development process of Qinghai's characteristic and advantageous industries and even its overall industrial structure.

(I) Backward facilities connectivity increases the aligning difficulty of the characteristic and advantageous industries in Qinghai Province

On the one hand, Qinghai is located in the northwest inland, neither coastal nor along the border, and belongs to high-altitude areas, so the cost of development and transportation is relatively high, which causes the connection between Qinghai Province and countries along the Silk Road Economic Belt is not smooth enough. Moreover, due to the lack of specialized logistics companies for import and export goods transportation, the role of Qinghai as a hub of the Silk Road has not been fully played. On the other hand, the poor infrastructure construction such as communication and the low level of information networking in Qinghai Province affect the overall level of information connectivity with countries along the Silk Road, and thus greatly reduces the passion of its characteristic and advantageous industries for trade and investment cooperation in countries along the Silk Road Economic Belt.

(II) The government policy support system is not perfect

Although the process of Qinghai Province's integration into the Silk Road Economic Belt has taken substantial steps, the preferential preference of relevant policies for characteristic and advantageous industries is not significant. From the perspective of planning guidance, Qinghai Province has not made specific strategic planning and layout for the integration of its characteristic and advantageous industries into the Silk Road Economic Belt, resulting in the relative lag of preferential policies for finance, taxation and other industries. Therefore, it is unable to effectively promote the international cooperation of its characteristic and advantageous industries with countries along the Silk Road Economic Belt. At the same time, the platform construction of

Qinghai Province is insufficient. As the only province without national level exhibition in the five western provinces, its policy promotion and publicity obviously lags behind its neighboring provinces, which reduces its attractiveness and competitiveness of international cooperation, and to a large extent becomes the bottleneck restricting Qinghai's characteristic and advantageous industries to integrate into the Silk Road Economic Belt.²

(III) Qinghai's characteristic and advantageous industries are generally primary and don't have influential brands

Most of the characteristic and advantageous industries in Qinghai Province are resource processing industries, most of which are at the lower end of the industrial chain, with low technology content and low economic added value. Therefore, due to the similarity of product structure, it is impossible for these industries to realize the extension and alignment of the industrial chain in the process of integration into the Silk Road Economic Belt. On the contrary, it presents a certain market competition pattern with the countries along the Silk Road, which is not only un conducive to the further deepening of the level of industrial cooperation, but also hinders the transformation and upgrading of its own characteristic industries. At the same time, the characteristic and advantageous industries of Qinghai Province started late, so they are lacking in the leading enterprises with strong radiation power. In addition, their traditional development mode of transmitting and implementing the central government's policies and their long-term market mode featured with the domination of state-owned economy make the characteristic and advantageous industries of Qinghai lack the consciousness and power of building the core brands, which not only affects their market competitiveness, but also is not conducive to the sustainable development of related industries.³

(IV) The introduction and exchange level of high-end professionals is relatively insufficient

Qinghai, located in western China and with relatively backward economic development, cannot effectively attract high-end professionals at home and abroad, which will not only affect the smooth operation of high-quality cooperation projects with countries along the Silk Road Economic Belt, nor effectively absorb and transform the technology spillovers brought by foreign investment, thus failing to give full play to the driving effect of international cooperation on Qinghai's characteristic and advantageous industries.

III. The Promotion Mechanism of Integrating Qinghai's Characteristic and Advantageous Industries into the Silk Road Economic Belt

Although the development of characteristic and advantageous industries in Qinghai Province has made great progress in recent years, the absolute gap of industrialization level between them and those in the eastern region is still expanding, the unreasonable

² Faping et al. (2016).

³ Yi and Zhengxin (2015).

industrial structure has not been fundamentally changed, and industrial opening has been hovering at a low level. The construction of the Silk Road Economic Belt will provide a series of promotion mechanisms for the development of characteristic and advantageous industries in Qinghai Province, which will enhance the breadth and depth of opening-up of these industries, greatly release their innovativeness and creativity, and point out the realization path for the healthy and orderly development of the industries.

(I) The optimization mechanism for cooperation environment

On the one hand, as the crossroads of the Silk Road Economic Belt, Qinghai's transportation network will be further improved. Through the successive implementation of a large number of transportation infrastructure projects, Qinghai will form a comprehensive transportation system integrating railway, highway, civil aviation, public transportation and urban rail transit, further improve its transportation connectivity and conversion efficiency, so as to effectively reduce the transportation and personnel flow costs of Qinghai's characteristic and advantageous industries with industry as the core, and widen the profit margin of its industrial transformation and upgrading. On the other hand, with the gradual improvement of the role consciousness, the Government of Qinghai Province will further strengthen the policy guidance for characteristic and advantageous industries, and strive to break the institutional and environmental barriers restricting their industrial development. While improving the facilitation of international trade and investment, Qinghai will also introduce fiscal and tax support policies one after another, so as to provide strong policy guarantee for the development of its characteristic and advantageous industries.

(II) Industrial undertaking mechanism in central and eastern China

The strategic layout of the Silk Road Economic Belt opening to the western region places Qinghai in the forefront position, and gives Qinghai a favorable position in opening to the outside world in terms of space. The difference in industrial structure also organically connects Qinghai with the relatively developed central and eastern regions in the characteristic and advantageous industries, which creates conditions for the extension of the industrial chain of the central and eastern regions to Qinghai Province, so that Qinghai can further improve its characteristic and advantageous industrial system relying on the capital and technology of the central and eastern regions, and then promote the continuous improvement of its industrial carrying capacity. This will not only help balance the development of industries in the central, eastern and western regions, inject new impetus into the opening up of central and eastern regions, but also help Qinghai's characteristic and advantageous industries enhance their technological innovation ability and accelerate the transformation of economic development mode, so as to optimize and upgrade the industrial structure, and provide more space for the sustainable development of Qinghai's characteristic and advantageous industries.

(III) Technology transfer mechanism at home and abroad

The transformation of resource advantages of characteristic and advantageous industries into economic benefits is inseparable from the support of technology, while the complementarity of industrial structure and resource endowments has laid the foundation for technology investment cooperation between Qinghai and countries along the Silk Road Economic Belt. On the one hand, some countries along the Silk Road Economic Belt have rich energy and mineral resources reserves, but they have been relatively backward in resource development and utilization technology. At present, with the in-depth development of the Silk Road Economic Belt, there is a huge demand for resources. As an important resource-rich province in western China, Qinghai Province has great significance in resource development and utilization and energy innovation. In characteristic and advantageous industries of Qinghai Province, some technologies and industries have been in the leading positions in the world. Therefore, this difference will further promote Qinghai's investment in and cooperation on resources and energy with countries along the Belt and Road, which will not only promote the technology output of characteristic and advantageous industries, but also alleviate the import pressure of some scarce resources in Qinghai to a great extent. On the other hand, the unique resource advantages of Qinghai Province create good conditions for the development of its characteristic and advantageous industries, but there are also technological gaps which restrict its further development. For example, in recent years, thanks to its abundant optical energy resources, Qinghai Province has seen rapid scale expansion of its photovoltaic industry. However, due to the limitation of technology, the phenomenon of photovoltaic power station's abandoning light and difficult grid connection is common, which has become the bottleneck of its transformation and upgrading. Germany, the country along the Silk Road Economic Belt, has advanced photovoltaic production and assembly technology, which not only opens up a broader market for Germany, but also makes up for the technical defects of the photovoltaic industry in Qinghai Province, thus comprehensively improving the latter's industrial competitiveness. Therefore, the introduction of foreign advanced technology has injected new vitality into the development of Qinghai's characteristic and advantageous industries, and has important strategic significance for upgrading the level of its characteristic and advantageous industries.

(IV) Deepening mechanism of people-to-people and cultural exchanges

Cultural exchange is not only an important way of national communication, but also an effective way to realize people-to-people bonds. Due to some similarities in ethnic and cultural aspects, Qinghai has obvious advantages in cultural exchanges with Central Asian and South Asian countries. Taking cultural exchange as an important starting point for participating in the Silk Road Economic Belt can not only effectively publicize the characteristic and advantageous industries of Qinghai Province, open up a broader market space for its international economic and trade cooperation, but also create a good atmosphere for the exchange and cooperation of talents with countries along the Belt and Road, so as to comprehensively promote the integration

of Qinghai's characteristic and advantageous industries into the international cooperation process of the Silk Road Economic Belt. This creates good external conditions for its industrial development.⁴

(V) Financial service support mechanism

If the Silk Road Economic Belt is the wing to help Qinghai's characteristic and advantageous industries take off, then the capital is its blood channels. Whether the AIIB, the Silk Road Fund and other policy financial institutions that are committed to infrastructure investment and financing construction, or the numerous commercial financial institutions that provide financial support for enterprises in the layout of the Silk Road, they are the solid backing for the development of characteristic and advantageous industries in Qinghai Province, injecting a fresh vitality into its integration into the Silk Road Economic Belt, which is conducive to giving full play to its industrial advantages and fully unleashing its development potential. In the meantime, with the rich experience accumulated in the construction of the Silk Road Economic Belt, these financial institutions can give full play to their role of "attracting intelligence", provide policy advice and decision-making suggestions, help the Qinghai provincial government and Qinghai-based enterprises plan related projects, design financing schemes, and strengthen the project tracking of the Silk Road Economic Belt,⁵ so as to meet the diversified financial service needs of enterprises in an all-round way and provide support for the development and growth of Qinghai's characteristic and advantageous industries.

IV. Policy Suggestions on Actively Integrating Qinghai into the Construction of the Silk Road Economic Belt and Promoting the Leapfrog Development of its Characteristic and Advantageous Industries.

(I) To speed up the construction of transportation infrastructure and build a three-dimensional transportation hub of the Silk Road Economic Belt

The construction of transportation infrastructure is the foundation to realize the interconnection of regional economy. However, the current transportation infrastructure of Qinghai is still unable to match its position as a strategic hub, so it cannot effectively bring into play its location advantage of connecting the east and the west and connecting the north and the south, thus affecting the smooth flow of foreign economic and trade cooperation of Qinghai's characteristic and advantageous industries and limiting the development process of these industries. Therefore, further improving the transportation network, speeding up the construction of expressways, railways and airports, optimizing the connection of various modes of transportation, and realizing the construction of three-dimensional transportation network will greatly improve the smoothness and depth of trade and investment, so as to turn

⁴ Yong (2014).

⁵ Wenjing X (2015) Development finance helps Qinghai's integration into the belt and road initiative. Qinghai Daily, 2015G04G01(03).

Qinghai into a hub of exchanges between the east and the west, and create conditions for leapfrog development for its characteristic and advantageous industries.⁶

(II) To optimize the trade and investment environment and improve the policy support system

In terms of trade: Firstly, to establish and improve the coordination mechanism of relevant departments. To actively coordinate the communication and contact of quality inspection, customs, foreign exchange, tax and other departments, further reduce logistics costs, improve customs clearance efficiency, so as to comprehensively improve the level of trade facilitation. Secondly, to strengthen the publicity and promotion of characteristic and advantageous products, and actively explore emerging markets of Central Asia, South Asia and the Middle East along the Silk Road Economic Belt through the platform effect of exhibitions and forums, so as to realize the diversification of export markets, enhance the level of trade cooperation, and expand the scale of cooperation. Thirdly, to improve the tax relief system, make overall arrangements, optimize the support structure, increase the profit margin of characteristic and advantageous products, and improve their export level. In terms of investment: Firstly, to improve the construction of laws and regulations system for attracting investment, and constantly create a fair, just and open investment and operation environment under the condition of having laws to follow. Secondly, to actively explore the management mode of utilizing foreign capital in the Negative List, broaden the fields of utilizing foreign capital in characteristic and advantageous industries, so as to further strengthen the guidance of international cooperation. Thirdly, to increase fiscal, tax and financial support for foreign-funded enterprises, reduce their production and operation costs, and expand the scale of foreign investment. At the same time, to use a variety of economic means to further support its export, so as to comprehensively enhance the role of foreign enterprises in promoting foreign trade in Qinghai Province.

(III) To strive to improve the technical level of characteristic and advantageous industries and strive to build an internationally famous brand

Scientific and technological innovation is an effective way to win market advantages and break through industrial bottlenecks. On the one hand, the government should encourage enterprises with distinctive advantages to increase investment in scientific and technological research and development, strengthen technological innovation, product innovation and mechanism innovation, and constantly improve their independent innovation ability and core competitiveness, so as to improve their ability of industrial alignment with countries along the Silk Road Economic Belt. On the other hand, enterprises should seize this open opportunity, based on their own industrial foundation and advantages, and actively combine the capital and technology of the central and eastern regions and countries along the Belt and Road to speed up the integration of characteristic and advantageous industries into the industrial chain and improve their ability to participate in the international and domestic markets. At the

⁶ Hong (2014).

same time, enterprises should also further strengthen the brand building, on the basis of continuously improving the quality of products, increase the publicity of products, improve the sales and after-sales service of products, so as to enhance the brand influence of products in an all-round way and promote the sustainable development of enterprises. Moreover, enterprises should also actively carry out brand cooperation with the central and eastern regions and countries along the Belt to undertake their processing trade business, so as to enhance the popularity and market competitiveness of the enterprises.

(IV) To strengthen the training and introduction of high-level talents

On the one hand, Qinghai Province should actively cooperate with universities and vocational education institutions to cultivate inter-disciplinary talents who not only master professional and technical knowledge but also are familiar with international practices according to the characteristics and needs of its characteristic and advantageous industries. At the same time, majors in non-general languages should be added in powerful universities in Qinghai Province, so as to meet the demand from the rapid development of the Silk Road Economic Belt and reduce communication barriers for Qinghai's characteristic and advantageous industries.⁷ On the other hand, Qinghai Province should strengthen the introduction of high-level talents, adopt a variety of preferential policies, improve the guarantee mechanism for the introduction of talents, strengthen the incentive mechanism, and actively introduce a number of high-end inter-disciplinary talents with international experience. At the same time, Qinghai Province should implement the strategy of flexible talent introduction, innovate on the ways of talent introduction, and supplement all kinds of talents in urgent need, so as to provide strong talent support for the development of Qinghai's characteristic and advantageous industries.

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International Industrial-Capacity Cooperation Under the Belt and Road Initiative



—TEDA Overseas Model Promotes China–Egypt International Industrial-Capacity Cooperation Under the Belt and Road Initiative

TEDA Investment Co., Ltd

I. Project Background

(I) Proposal of international industrial-capacity cooperation

The concept of international industrial-capacity cooperation was first proposed by Premier Li Keqiang during his visit to Kazakhstan at the end of 2014. Following the China-Kazakhstan industrial-capacity cooperation plan, China's international industrial-capacity cooperation has achieved fruitful results and has been effectively promoted internationally. On June 29, 2015, Premier Li Keqiang attended the China-EU Summit. He once again mentioned promoting international industrial-capacity cooperation, pointed out that China and the EU could make breakthroughs in third-party cooperation around equipment manufacturing, and both sides also decided to establish a new interconnection platform. Recently, China and Africa are committed to promoting the comprehensive transformation and upgrading of bilateral relations, and the opportunities of industrial-capacity cooperation between China and Africa are widely recognized. African countries promote the industrialization process by undertaking China's capacity transfer, and China also finds exports for excess high-quality capacity, so as to achieve reciprocal and win-win results through industrial-capacity cooperation. It can be said that the industrial-capacity cooperation proposed by Premier Li Keqiang has been widely recognized in the world, and the construction of many cooperation projects is in full swing.

1. Contents and characteristics of international industrial-capacity cooperation

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China's top priority under the Belt and Road Initiative is the international industrial-capacity cooperation. Whether it can speed up the transformation and upgrading of China's industries and structural adjustment, combine the advantages of location, resources, culture and industry to form a new pattern of development of land-and-sea coordination, east-west mutual aid, and north-south connectivity, and build a broad platform for foreign cooperation and communication. This is directly related to the success of the construction of Belt and Road Initiative or not. Therefore, clarifying the main content and logic of international industrial-capacity cooperation is of great significance for people to fully understand the transformation of China's economic growth mode and grasp the change process from traditional product output to industry and capacity output.

The specific content of international industrial-capacity cooperation can be interpreted from three perspectives: enterprise, industry and country.

First of all, from the perspective of enterprise, enterprise entities have triple identities in the international industrial-capacity cooperation: market entities, market executors, and also an important part of the modern industrial system. These enterprise entities mainly include state-owned and non-state-owned large enterprises, as well as small and medium-sized enterprises dominated by private enterprises. These enterprises make their own decisions according to their own situations and the needs of domestic and foreign market development.

Secondly, from the perspective of industry, the international industrial-capacity cooperation is a process of cooperation for a specific field. Different countries promote such cooperation based on the division of labor and cooperation as well as the complexity of technology. This process mainly includes division of labor and cooperation within products, within industries and among industries. Therefore, China must cultivate the uniqueness of enterprises "going global" in cooperation, so as to enhance their core competitiveness in international industrial-capacity cooperation.

Finally, from the perspective of nation, the international industrial-capacity cooperation has actually gone beyond the single and traditional international cooperation mode. The current international technology flow, investment and trade are the best examples. In addition to the fields mentioned above, the transnational cooperation of international industrial-capacity should also include the fields of system, management, process standard and technology. In a sense, this kind of transnational cooperation can enhance a certain industry's voice in international affairs and enrich a country's economic "soft power". The idea advocated by the Belt and Road Initiative is to adhere to the principle of mutual benefit and common development in international industrial-capacity cooperation, which is not only to solve China's excess capacity and weak market problems through building an international industrial-capacity cooperation mechanism, but also to help the countries involved in international industrial-capacity cooperation to improve their manufacturing capabilities, thus laying a solid foundation for building a complete industrial system and realizing social modernization.

2. Common paths and modes of international industrial-capacity cooperation

In May 2015, the State Council issued the *Guiding Opinions on Promoting International Industrial-Capacity in Equipment Manufacturing Cooperation*. With the official release of this document, the policy framework for international capacity cooperation has been basically established.

The international industrial-capacity cooperation is a new idea proposed by the state and government in the new context. Both enterprises and academia are still in the exploration stage, and have not formed a unified path and mode. In terms of the discussion on the path and mode of international industrial-capacity cooperation, the first China International Industrial-Capacity Cooperation Forum held in Beijing on November 15, 2015 proposed that international industrial-capacity cooperation needs to “improve quality, increase efficiency and upgrade”, form a new pattern of “greater emphasis on the quality of imports and exports”, and gradually reach the new normal of “deep integration of China’s economy and the world’s economy at a higher level”. To reach a more general and profound consensus on China’s capacity problem under the Belt and Road Initiative, it is necessary to enhance the effective implementation of cognitive and innovative discovery under the guidance of macro demand and micro regulation.

Since the Belt and Road Initiative was proposed, various places have introduced relevant pertinent schemes of international industrial-capacity cooperation. The current situation shows that overseas economic and trade cooperation zones have become the preferred carrier.

(II) Analysis on the development status of China’s overseas economic and trade cooperation zones

1. Current situation of location distribution

According to statistics, as of the end of 2015, Chinese enterprises were building 75 overseas economic and trade cooperation zones, 13 of which have passed the confirmation assessment. Of the 75 cooperation zones under construction, 53 are located in the countries along the Belt and Road; and of the 13 cooperation zones that have passed assessment, 10 located in the countries along the Belt and Road.

At present, China’s overseas economic and trade cooperation zones are mainly distributed in Asia, Africa, Europe and South America. Specifically, Africa is the most concentrated area of China’s economic and trade cooperation zones, including seven overseas economic and trade cooperation zones, namely Zambia-China Economic and Trade Cooperation Zone (ZCCZ), Ogun-Guangdong Free Trade Zone, Mauritius Jinfei Economic Trade and Cooperation Zone, Lekki Free Trade Zone, Eastern Industry Zone in Ethiopia, China-Egypt TEDA Suez Economic and Trade Cooperation Zone and Algeria China Jiangling Economic and Trade Cooperation Zone.

2. Industrial situation

According to the Catalogue for Guidance on Country Destinations and Industries for Outward Investment published in 2004, in order to better guide China's industrial foreign investment, the state requires enterprises to closely combine China's own industrial structure and enterprises' own advantages when choosing investment fields abroad, and also consider the main fields and market characteristics of host countries to attract foreign investment. On the whole, the industrial positioning of China's overseas economic and trade cooperation zones can follow the enterprises' own development laws and development strategies, fit well with the host country's economic and cultural environment, and achieve reciprocal and win-win cooperation.

3. Enterprise status

In the process of the construction and development of overseas economic and trade cooperation zones, the government is responsible for building the platform, while the enterprises run business on this platform. This requires enterprises to have certain economic strength, management ability, overall planning ability and regional influence. At present, most of the leading enterprises in China's overseas cooperation zones are large and medium-sized enterprises with strong comprehensive strength, abundant funds, high management quality and complete service facilities. These large- and medium-sized enterprises have a high level of production capacity and management ability, strong strength, strong initiative and voice in the process of negotiation with the host country for specific issues, which can effectively optimize the business environment and avoid business risks.

4. Existing problems

At present, China's industrial-capacity cooperation with countries along the Belt and Road is still at the initial stage of development. It inevitably has problems such as small scale, more difficulties and high risks, which need to be solved gradually in the future. At present, the prominent problem that restricts the development of overseas economic and trade cooperation zones is the profit model of the enterprise entities.

Overseas economic and trade cooperation zones have two basic modes of investment profit: one is to develop and process local resources; the other is to rent and develop excellent land and factories to recover investment, among which the latter is favored by most of the cooperation zones. However, from the perspective of long-term planning and development of the parks, these two modes, which are featured with short industrial chain and low industrial level, can only maintain the operation of the parks for a short time, and cannot be used as long-term business models.

In the park development, restricted by the capital, construction cycle and investment process, most parks adopt the phased development mode. China-Egypt TEDA Suez Economic and Trade Cooperation Zone has begun to explore its main profit model since the construction of starting area. For example, by increasing the space for for-profit assets, we can obtain hotel income and rent for factories, blue-collar workers' apartments and white-collar workers' apartments, so as to increase the income of the park. In the expansion zone, commercial land, real estate and industrial land are developed. The investment period is relatively short, the fund recovery is relatively fast, and the fund return cycle is short, which can make continuous

contribution to the development and construction of the industrial park. For the long-term development of the park, it is necessary to pay attention to the combination of short-term profits and long-term development, and pay attention to the introduction of sustainable development projects into the park, so as to realize a virtuous circle of construction funds.

(III) The background and driving factors of the establishment of China-Egypt Suez Economic and Trade Cooperation Zone

The development plan of the Suez Canal Corridor Project (SCCP) and the construction of the Belt and Road Initiative are highly consistent. When China proposed the Belt and Road Initiative in 2014, the Egyptian government announced the launch of a development plan for the “Suez Canal Corridor Project”, which aims to build a 190 km-long canal coast into a global economic region, including the new canal project and port, logistics, trade area and industrial park. Egypt’s superior resources will be tilted to the economic and trade cooperation zone, which is just at the beginning of the region. Therefore, the establishment of China-Egypt TEDA Suez Economic and Trade Cooperation Zone is the result of the common strategic choice made by the leaders of the two countries. From the perspective of China and Egypt, the establishment of China-Egypt TEDA Suez Economic and Trade Cooperation Zone is promoted by the following factors:

1. From China’s perspective

From the perspective of China, there are multiple motives for China to establish overseas cooperation zones. On the one hand, it is the need of conventional economic development, including reasonably digesting excessive foreign exchange reserves, building a cluster economic cooperation platform for Chinese enterprises, and trying to learn from the successful development experience of Shenzhen Special Economic Zone. On the other hand, there is a special reason to choose Egypt as the partner of China’s overseas economic and trade cooperation zone. Egypt, as a big country in North Africa, has a very important economic and strategic geographical position, which meets the needs of China’s selection and layout of economic and trade cooperation zones in Africa. Egypt has the unique basic conditions for the establishment of overseas economic and trade cooperation zones. The operator of China-Egypt TEDA Suez Economic and Trade Cooperation Zone has rich experience in building “economic and technological development zones” in China, which can provide pioneering practical experience for the development and construction mode of China’s overseas economic and trade cooperation zones.

2. From Egyptian perspective

First, expanding the level of foreign investment is regarded as one of the important conditions for the Egyptian government to develop its economy;

Second, to make use of the radiation effect of the economic and trade cooperation zone and the technology transfer effect of innovative industries to further improve the industrial development level of Egypt;

Third, the establishment of the cooperation zone will increase local taxes and create more employment opportunities.

3. The development of economic relations between China and Egypt

The establishment of the cooperation zone will inject new vitality into the economic and trade cooperation between China and Egypt. Egypt is the first developing country to establish strategic cooperative relation with China. The economic and trade cooperation between the two sides is increasingly close. In order to further enhance the depth and breadth of bilateral cooperation, it is necessary to constantly explore new forms and contents of cooperation. The advent of the economic and trade cooperation zones, a new mode of investment cooperation, just meets this demand.

II. The Significance of Overseas Economic and Trade Cooperation Zones to the International Industrial-capacity Cooperation

(I) Positioning of overseas economic and trade cooperation zones in the industrial-capacity cooperation

International industrial-capacity cooperation is the development trend of multilateral cooperation in the global economy. Many countries along the Belt and Road lack a complete industrial system. China has accumulated a lot of experience in infrastructure construction and industrial system construction, and has the strength to go global in terms of capital, equipment and overall strength. With the economic complementarity and common interests with countries along the Belt and Road, China's coordinated development with these countries has a broad prospect.

In recent years, with the successful commencement of CRRC's Chicago Metro Project, Jakarta-Bandung High-Speed-Rail Project and Pakistan Karachi K-2 of CNNC, overseas business of central enterprises such as CRRC, China Railway and CNNC has expanded rapidly. At the same time, facing the challenges and opportunities of international industrial-capacity cooperation, private enterprises are gradually starting to "go global" on a large scale, looking for their own opportunities in the chess game of international industrial-capacity cooperation. Private enterprises, especially small- and medium-sized enterprises, tend to be relatively weak compared with central enterprises. This mode of large-scale "going global" together needs the support of industrial parks as a platform. The parks naturally have the first-mover advantages, cluster effect and coordination ability. By providing planning suggestions and value-added services for private enterprises "going global" collectively, parks can solve the problems such as the construction of upstream and downstream industrial chain, the registration and localization management of overseas enterprises. Parks have gradually become a bridge for enterprises to "go global".

In the context of international industrial-capacity cooperation, overseas parks are the cooperation platform for Chinese enterprises to seek concentrated development

overseas. The Belt and Road Initiative, as China's effective way to achieve international industrial-capacity alignment, is also a useful attempt for China and countries along the Belt and Road to integrate into the world economy. It is also an effective means for the host country to achieve industrialization and urbanization, optimize the layout of productive forces, and promote employment and economic development.

(II) The impact of industrial-capacity cooperation on overseas economic and trade cooperation zones

With the in-depth development of international industrial-capacity cooperation, the demand for the construction of high-level overseas economic and trade cooperation zones is further expanding. The development of overseas cooperation zones will also be greatly affected.

The demand for the integration of infrastructure construction and operation is increasing. In the past, the main business for Chinese enterprises to participate in international infrastructure construction was construction general contracting or EPC general contracting, which not only failed to fully meet the needs of the international market, but also made them stay at the low end of the value chain of infrastructure and industrial-capacity cooperation, with meager profits. Industrial parks integrate construction and operation, which extend the foreign project contracting business chain with engineering construction as the main body, enhance the status of Chinese enterprises in the international infrastructure industry division system, and then realize the transformation from "sweat-based construction" to "intelligence-based creation" in the value chain system.

Externally, as the relevant countries further improve the bilateral or multilateral cooperation framework, aspects such as tax, finance, industry, science and technology, talent, and technical standards will be listed as the focus of policy coordination. In the future, a number of preferential policies with high quality and strong operability will be made, so that high-level overseas industrial parks will become the priority implementation platforms of special policies.

Internally, the expansion of industrial-capacity cooperation also further boosts the demand for overseas talents. With the talent strategy of the internationalization of intermediate and senior managers, and the localization of grassroots employees and managers has gradually become the mainstream. The combination of senior talents' industry and operation experience with the language and management experience of local grassroots managers has promoted transnational industrial-capacity cooperation.

Industrial-capacity cooperation modes can be diversified. Besides China's direct investment in the establishment of industrial parks, the soft export mode, which mainly provides consulting services such as design, planning and operation of industrial parks, will also become the main mode of cooperation between China and countries along the Belt and Road. This mode is characterized by low investment risk, low investment, high rate of return, and fast cycle. With the competition featured by the rapid expansion of industrial-capacity cooperation and the gradual reduction of the threshold, this soft export mode undoubtedly provides a new way of cooperation.

(III) The role of overseas economic and trade cooperation zones in international industrial-capacity cooperation

In the context of global economic recovery, the international industrial-capacity cooperation is of great significance to China and countries along the Belt and Road. Wang Guoqing said at the news conference of the fourth session of the 12th CPPCC National Committee: “China has a lot of high-quality and low-cost equipment and production capacity to ‘go global’, which is something good. On the one hand, it is conducive to China to withstand the pressure of economic downturn and expand greater development space; on the other hand, it is also conducive to relevant countries to speed up development and expand employment.”

1. Significance to China’s development

(1) To build a new pattern of opening up. The government constantly introduces policies to support enterprises to go global. Through the construction of overseas economic and trade cooperation zones, on the one hand, China will deepen strategic mutual trust, economic and trade cooperation and people-to-people exchanges with other countries by promoting international industrial-capacity cooperation and strengthening the coordination of cooperation mechanisms and rules; on the other hand, it will help promote two-way opening, support coastal areas to build advanced manufacturing bases with global influence, promote the opening and development of central and western regions, and speed up the construction of border economic cooperation zones and cross-border economic cooperation zones in border areas.

(2) To be conducive to the optimization and upgrading of industrial structure. At present, China is experiencing overcapacity in many industries and underdevelopment in high-tech industries. The Chinese government takes industries such as infrastructure construction, railway, automobile, communication and aerospace as key industries to carry out international cooperation on industrial-capacity and equipment manufacturing. The construction of overseas economic and trade cooperation zones will break the bottleneck of China’s overcapacity, promote the transformation and upgrading of domestic industries, enhance China’s position in the international division of labor in the global industrial system, and realize the leap of value chain.

(3) To boost the diversification of economic development. For a long time, the three major engines of China’s real economic growth are real estate, export and infrastructure construction. However, with the changes of the global economy, these industries are gradually weak, and even there is a serious overcapacity in infrastructure, which hinders the economic development. In this context, the state proposes international industrial-capacity cooperation, and in the process of industrial-capacity cooperation, China’s exports are no longer low-tech and low value-added commodities and light industrial products, but high-end products with high added value, advanced technology and talents. For example, participating in the investment, construction and development of the China–Egypt TEDA Suez Economic and Trade Cooperation Zone can not only solve this overcapacity, but also help China find new growth points for economic development and get rid of the long term dependence on single mode

to promote economic development. This will promote the diversified development of China's economy.

(4) To enhance the degree of interest compliance with the relevant countries at strategic fulcrums. The international industrial-capacity cooperation led by China is the embodiment of the concept of openness, inclusiveness, mutually beneficial and win-win cooperation. It neither exports poverty nor deprives others of development opportunities. Therefore, in the process of promoting international industrial-capacity cooperation, the state pays attention to strengthening the industrial cooperation among bilateral, third-party and multi-party enterprises, upgrading from "mutually beneficial and win-win" to "mutually beneficial and multi-win", ensuring the realization of interconnection in a broader space, improving the degree of interest compliance with relevant countries at strategic fulcrums, strengthening the tacit understanding of policies, accelerating the integration of interests, and avoiding strategic risks.

(5) To accelerate the construction of China's global strategic partnership network. China's promotion of international industrial-capacity cooperation is to share cooperation opportunities with the world and drive the world's development. In particular, the construction of a typical overseas industrial park similar to the China-Egypt TEDA Suez Economic and Trade Cooperation Zone can play an exemplary role. Moreover, the construction of overseas economic and trade cooperation zones is conducive to the overall planning of resources, focusing on the comprehensive strategic alignment with relevant countries at strategic fulcrums, enhancing the attractiveness of strategic alignment, improving the level of global strategic partnership, and revitalizing the whole diplomatic situation "from point to area".

2. Impact on the host country

In his visit to China in February 2015, Zhang Wencai, vice president of the Asian Development Bank believed that "the Belt and Road Initiative" had described a very grand cooperative development blueprint for the countries along the Belt and Road. With the increase of economic and trade cooperation, the Belt and Road Initiative will inevitably promote financial cooperation. As an important mode of international industrial-capacity cooperation, overseas economic and trade cooperation zones are bound to have a series of impacts on the host country.

(1) To optimize the industrial structure. The international industrial-capacity cooperation is not to eliminate backward production capacity, but to transfer China's industries with comparative advantages to the market with demand. In addition, the international industrial-capacity cooperation is not exclusive. It is to attract enterprises from the host country and the third party by means of accelerating industrial clusters to jointly promote the industrialization of relevant countries.

Taking China-Egypt TEDA Suez Economic and Trade Cooperation Zone as an example, China-Egypt economic and trade cooperation is highly complementary. Song Aiguo, Chinese Ambassador to Egypt, said that China and Egypt are at different stages of development, and some of China's advantageous industries are suitable in Egypt. In addition to general trade, project contracting and industrial-capacity cooperation, the two sides have huge cooperation potential in the fields of electric power,

energy, port transportation, modern agriculture, satellite science and technology, science and technology parks, and humanities education and training, and have extensive cooperation prospects. With the development of the cooperation between China and Egypt, China has carried out industrial relocation to Egypt, integrated high technology into industrial processing and manufacturing, optimized the industrial structure of Egypt, and accelerated the latter's modern industrial development.

(2) To promote local economic development and employment. Through the construction of overseas economic and trade cooperation zones, it has created a cooperative environment for the growth of enterprises in the host country and other countries in the world, attracted the investment of international first-class enterprises for the host country, and brought great economic benefits. At the same time, it has also introduced advanced production technology and management mode, cutting-edge business model for the local society and government, and promoted the growth of domestic industry, tax revenue and foreign trade in the host country.

(3) To fulfill social responsibility and promote industrial-capacity cooperation. In line with the development demands of the host country, the overseas economic and trade cooperation zone is an important platform for China to realize industrial restructuring and global industrial layout, create space for domestic economic restructuring, and effectively promote the "going global" of equipment and international industrial-capacity cooperation. On the one hand, through the construction of cooperation zones, China has established channels for the effective use of overseas mineral resources, oil and gas, forests, agriculture and other resources, which is conducive to ensuring the long-term and stable supply of overseas resources. On the other hand, the cooperation zones are positioned to strengthen the comprehensive development and utilization of resources, develop downstream production and processing, increase the added value of resource products, promote the economic and industrial development of the host country, leave more benefits to the local people, fulfill the social responsibility, establish the responsible image of Chinese enterprises, and consolidate and deepen the friendly relations between China and relevant countries.

(4) To be conducive to realizing the positive interaction of economic and trade cooperation and political mutual trust between China and the host country. The Belt and Road Initiative is a new strategy for building overseas economic and trade cooperation zones. Its operation will contribute to the new strategic partnership between China and the countries along the Belt and Road. As a major event of economic and trade cooperation between China and the host country, the economic and trade cooperation zone has aroused great concern and expectation of the two governments. The development and construction of the cooperation zone will promote the mutual political visits, diplomatic relations and economic and trade cooperation between China and the host country.

3. Impact on countries along the Belt and Road

(1) To promote economic and trade exchanges between countries along the Belt and Road. The construction of overseas economic and trade cooperation zones can give play to China's role as an alliance link. By better meeting the needs of the members and through various forms of economic and trade activities, it can promote personnel and project exchanges, technological innovation and collaboration, and market development, carry out direct investment, build industrial cluster zones and economic and trade cooperation zones, and continuously improve the level of trade exchanges and cooperation of countries along the Belt and Road over a broader area.

(2) To drive the economic development of countries along the Belt and Road. In the context of the slow recovery of the world economy, the international industrial-capacity cooperation can not only complement each other's advantages, promote the economic development of the two countries, but also play a catalytic role in the recovery of the world economy. The international industrial-capacity cooperation conforms to the trend of world multi-polarization and economic globalization. The construction of overseas economic and trade cooperation zones is an active exploration to realize the path of international industrial-capacity cooperation. Countries along the Belt and Roads can not only realize regional connectivity, but also have more cooperation opportunities in terms of economy and finance, so as to realize further economic growth.

(3) To have an increasingly obvious radiating and driving effect. Overseas economic and trade cooperation zones have played a good exemplary and leading role. They have become an accelerator to drive the industrial chain enterprises and small- and medium-sized enterprises to go global. It is also a good platform to promote international industrial-capacity cooperation and enhance the level of "going global". It has been unanimously recognized by the enterprises "going global" and the host government.

III. TEDA Overseas Model Boosts the Industrial-capacity Cooperation

(I) Development of China-Egypt TEDA Suez Economic and Trade Cooperation Zone

In July 2008, TEDA Investment Holding Co., Ltd., Tianjin Development Zone Suez International Cooperation Co., Ltd. and China-Egypt Joint Venture Company in Egypt jointly established Egypt TEDA Investment Co., Ltd. Since its establishment, China-Egypt TEDA Suez Economic and Trade Cooperation Zone has gone through seven years of booming development. Today, the China-Egypt TEDA Suez Economic and Trade Cooperation Zone has become a good platform for investment and cooperation between enterprises of the two countries. Its economic and social benefits are very significant for both local Egyptian enterprises and Chinese enterprises "going global".

1. A new modern industrial city with high standard is emerging

By the end of 2015, the total investment of China-Egypt TEDA Suez Economic and Trade Cooperation Zone has exceeded USD100 million, and the start-up area of 1.34 square kilometers has been basically completed. A Chinese small business incubator has been built with a construction area of nearly 80,000 square meters, 12 standard workshops, multiple warehouses, small service centers and catering supply places. More than 20 small- and medium-sized enterprises have settled in, turning the cooperation zone into the “going global” mode of Chinese small enterprises. It has built a comprehensive supporting service center with the overall planning construction area of 100,000 m², including an eight-storey investment service center building, a seven-storey four-star hotel, four staff apartments and one blue-collar apartment, which have all been put into use. At the same time, it has built the TEDA Paradise with an area of 20,000 m² to meet the leisure and entertainment needs of the Egyptian people. In order to create a comfortable environment suitable for business, the park has also been continuously improved in the fields of greening, soft environment, road landscape, park appearance, etc. The development of the cooperation zone is in full swing now.

2. A complete industrial chain has basically taken shape

By the end of 2015, there were 68 enterprises in the start-up area of China-Egypt TEDA Suez Economic and Trade Cooperation Zone, including 33 production-oriented enterprises (including 29 Chinese-funded enterprises), and 35 production-oriented and life supporting enterprises. The cooperation zone has attracted more than USD900 million of investment under the agreement, and has initially formed a petroleum equipment industrial park led by Honghua Drilling Rig and International Drilling Materials Manufacturing Company, a high and low voltage electrical appliance industrial park led by GEGemac High Voltage Equipment Company, a textile and garment industrial park led by China Textile Machinery (Group) Nonwoven Fabric Company, and the new building materials industrial park led by Jushi (Egypt) Glass Fiber Company, as well as the machinery manufacturing industrial park led by Shepherd Storage Company. This promotes the upstream and downstream industries to enter the zone, and quickly forms the industrial cluster effect in the way of enterprises “going overseas” together. The platform role of driving Chinese enterprises to “go global” is increasingly apparent.

3. The platform role of driving Chinese enterprises to “go global” is increasingly apparent

From 2009 to 2015, the investment in infrastructure by operators of the cooperation zone continued to expand from USD26.54 million to more than USD100 million, which triggered a new round of Chinese enterprises to invest and start businesses in Africa. The role of the cooperation zone as a platform for attracting investment gradually emerged. In particular, it has become a production base for small- and medium-sized enterprises to transfer overseas, which has effectively coordinated with China’s domestic industrial restructuring and become a pioneer in exploring a new model of China’s foreign investment.

4. The effect of promoting the development of Egyptian economy and social livelihood is significant.

The cooperation zone has greatly contributed to Egypt's economic development, the integration of Chinese enterprises into local society and the improvement of local people's livelihood. Firstly, it helps the Egyptian government to alleviate the employment pressure and improve the skills and quality of local personnel. Secondly, it improves the level of production technology in Egypt. A large number of enterprises in the light industry, oil and other industries attracted by the cooperation zone bring China's advanced technology and management mode to Egypt, promoting the overall improvement of the local production technology level and the optimization and adjustment of the economic development mode in Egypt. Thirdly, it increases tax revenue and government finance. Finally, through the establishment of Confucius Institute to carry out cultural exchanges, the cooperation zone actively participates in the public welfare of Egyptian society.

(II) TEDA Overseas Modell

The TEDA Overseas Modell is a high conclusion of the 8-year practice of China-Egypt TEDA Suez Economic and Trade Cooperation Zone in line with the strategic needs of the Belt and Road Initiative and the development needs of the overseas economic and trade cooperation zone. With the introduction of the Belt and Road Initiative, international industrial-capacity cooperation has become the main content of the strategy of "going global". Overseas economic and trade cooperation zones, as an effective platform to promote the Belt and Road Initiative and international industrial-capacity and equipment manufacturing cooperation, have become an important platform for promoting win-win cooperation between China and the host countries.

China-Africa TEDA Investment Co., Ltd. is an enterprise group mainly engaged in the construction and operation of economic and trade cooperation zones abroad. On the basis of inheriting the spirit and concept of "TEDA", it draws lessons from the operation mode of "TEDA", carries out deepening and innovation overseas, and summarizes its own theoretical system, namely "TEDA Overseas Model", or "Six-tier 21 Pyramid Mode", covering all aspects of overseas park construction such as management philosophy, company strategy, management mode to business mode, company profit mode, social responsibility mode and customer mode.

In the context of international industrial-capacity cooperation, this case focuses on the research of parks, feasibility study, marketing and investment promotion, risk management and control, profit model, cultural integration, human resources and social responsibility, which have the most profound impact on international industrial-capacity cooperation, and deeply analyzes the important modules.

1. Research of parks

Overseas parks in the context of the Belt and Road Initiative are built on the basis of national cooperation and played an important role in international industrial-capacity and industrial cooperation. The development of such industrial parks is of great

significance for strengthening the cooperation in the fields of capital, infrastructure, industrial-capacity and talents of countries along the Belt and Road, and is crucial for Chinese enterprises to “go global”, connect with international markets, expand markets and develop platforms. The research of parks serves the purpose of helping Chinese enterprises “go global” better, and aims to explore the law of parks’ development and point out the direction for the future development of China’s overseas parks by tracing the source and summarizing the current situation.

The research on China-Africa TEDA Park is a virtuous circle research based on eight years of practice, which guides the research direction with practical needs and assists the development and practice of the park with research results. The park research combines theoretical research with practical research. Based on a large amount of high-quality practical research, through the summary of the past, the environmental research of the present situation and the judgment of the future trend, it clarifies the concept of the park, subdivides the special research, and constructs a systematic, scientific, theoretical and practical and unique park research system.

2. Feasibility study

On the basis of summarizing the practice over the past eight years, China-Africa TEDA has formed a “feasible research model for China-Africa TEDA”. Taking the “pre-feasibility study” of country study and regional study as the basis for judgement, on the one hand, it analyzes the main factors that affect the infeasibility of the project and the influence proportion of various interference factors in the process of carrying out the project, and seeks solutions, or draws the conclusion of termination suggestions; on the other hand, it takes the “feasible research” of industrial research, strategic positioning and conceptual planning of parks as the planning basis, and establishes and seeks all the environment and resources that make the project feasible.

There is a big difference between “feasible research” and “feasibility study”. The construction and planning of overseas parks are based on long-term interests and often have strategic significance at the national and regional levels. “Feasible research” is to demonstrate how to make the project feasible, and it is a process of solving problems with problems in mind. Striving for policy support, attracting resources and making the impossible feasible is the professional aspect of China-Africa TEDA Park’s feasible study, and also the summary of 18 years’ efforts of the park.

Feasible research clarifies the strengths of industrial-capacity cooperation between countries through the analysis of the economic structure, industrial structure and trade relations between countries, and from the perspectives such as regional social and cultural environment, resource endowment and labor market. It lays the foundation for the planning and design of the entire industrial park and the future capacity cooperation projects through studying the related industries that can carry out the industrial-capacity cooperation, combining with the regional environment, and selecting the potential industries suitable for the park development as the investment targets.

3. Development and construction

In the process of overseas park construction, due to the differences in political, economic and cultural backgrounds between China and the host country, there are great differences in construction specifications and engineering standards between the two countries. How to seek common ground while reserving differences and promote the internationalization of China's construction standards is the biggest challenge faced by enterprises. TEDA's overseas mode of engineering construction aims to realize the "going global" of Chinese standards and improve the core competitiveness of enterprises in the international industrial-capacity cooperation.

(1) In terms of quality, to improve the local construction technology and level. The differences of construction standards between the two countries lead to many frictions in the actual construction process. The project quality is the foundation for the development of the project, and must be strictly controlled in the construction of the park. Considering that the construction standards in Egypt are generally lower than those in China, China-Africa TEDA insists on promoting engineering construction with Chinese standards in the actual project implementation, so as to improve the local construction technology and level.

For example, during the construction in Egypt, the template is all made through wood patching. China-Africa TEDA introduced the as-cast-finish mold widely used in China to Egypt, and promoted the construction technology of domestic scaffolding. In this way, the beam, slab and vertical distance of concrete are improved, improving the overall construction quality.

(2) To manage personnel based on local culture. The personnel management problem caused by the differences in the characteristics of the labor force in the host country is another big problem in the overseas development and construction. In the construction of China-Egypt TEDA Suez Economic and Trade Cooperation Zone, China-Africa TEDA is based on the local culture, fully understands the characteristics and customs of local workers, formulates practical and effective management methods, and pays attention to the spiritual construction of workers while strictly controlling, so as to realize the effective management of workers in the host country and ensure the quality of the project.

4. Marketing and investment promotion

With the continuous development of China's economy, the demand for mineral products, oil and gas resources has increased significantly. As the gateway of Africa, Egypt is rich in mineral resources, and has an urgent demand for investment in industrial-capacity development, infrastructure construction, social governance and eco-tourism. The establishment of China-Egypt TEDA Suez Economic and Trade Cooperation Zone reflects the strong complementarity in the China-Egypt cooperation. It not only enables Chinese enterprises to "go global", but also drives the development of local industries in Egypt, realizes capacity transfer and cooperation, and lays a solid foundation for the enhancement of mutual economic and trade relations.

(1) "Four in one" investment system.

In line with the goal of “building the ultimate industrial chain”, China-Egypt TEDA Suez Economic and Trade Cooperation Zone has developed from the extensive investment promotion of “everything in the basket” to today’s “investment promotion and selection”, constantly surpassing itself, forming a set of multi-channel and all-round three-dimensional marketing investment promotion system integrating standardization, process, modularization and specialization.

The marketing investment system is divided into internal investment and external investment. “Internal” refers to the investment promotion management team of China–Africa TEDA, including the R&D Department of China-Africa TEDA, which provides backup, the Investment Promotion Department of Egypt TEDA, which is fighting in the front, and the Investment Promotion Department of Six Square Meters of the Special Zone. “External” refers to investment promotion agencies, who entrust the work related the investment promotion to agencies. They are mainly responsible for the analysis of the industrial chain of leading enterprises and the development of leading enterprises in China while also responsible for travel reception, investment investigation, visa agency, language training, translation consultation and other value-added services overseas.

The whole investment promotion process consists of three stages: preliminary investigation, medium-term investment promotion and later evaluation. The purpose of the preliminary investigation is to determine the investment direction through industrial research, industrial planning, industrial mining, etc. The medium-term investment is a complex and refine work including a series of processes such as preliminary preparation, visit reception, conference negotiation, follow-up tracking, project landing, investment management, etc. In the whole investment process, the process attachments of each investment work must be noted in detail and featured with clear nodes, clear division of labor, and each node should be recorded to form a modular investment system. The evaluation stage includes the evaluation of leading industries and enterprises entering the zone. The evaluation of leading industries aims to evaluate the development status and future development trend of leading industries, evaluate the scientific rationality of industrial research and planning, and modify industrial research and planning; while the evaluation of enterprises entering the zone aims to determine the development potential and sustainability of the enterprises and provide the basis for the effective diversion and targeted service of the park.

(2) To drive Chinese enterprises to “go global” through industrial clusters.

At the initial stage of the development of the cooperation zone, due to the small size, little popularity, distrust of enterprises and other reasons, we can only rely on publicity to carry out “random investment promotion”. However, with the development of the cooperation zone and the continuous improvement of its quality, the quality of enterprises entering the zone should also match it. The cooperation zone has promoted a plan for the small and medium-sized enterprises in the park, gradually eliminating those enterprises with poor viability, pollution and not in line with the development plan of the park, and leaving behind enterprises with high quality and a strong vitality that match the industrial plan of the cooperation zone, thus increasing the overall development vitality of the park.

With the continuous development of the cooperation zone and the Belt and Road Initiative, the cooperation zone has focused on improving industrial research and industrial planning from the strategic height of realizing Sino-Egyptian cooperation in the area of investment promotion. Investment promotion focuses on the actual results of the initial stage of the project, starts from Egypt's own advantages and industrial structure, studies the investment promotion industries from 11 dimensions, including China's elimination of backward production capacity, shortage of domestic labor and rising labor costs, the relevance of energy, the needs to avoid anti-dumping, radiate the European and American markets, radiate the Western Asian and African hinterland markets, the Chinese government's policy support for "going global", and the industry characteristics of key multinational enterprises invested by China in recent years, and the industry characteristics of China-funded enterprises in Egypt in recent years. The cooperation zone selects investment projects according to the industrial planning, focuses on the leading enterprises and related supporting enterprises in the industrial planning, and selects the enterprises that are really suitable for the development of the park.

(3) To highlight the achievements and promote industrial-capacity cooperation.

The results of investment promotion in the start-up area are prominent. By the end of 2015, there were 68 enterprises (including Egypt TEDA and Egypt TEDA Integrated Service Company) in the start-up area of the cooperation zone, and 33 manufacturing enterprises, including 29 Chinese investment enterprises. The cooperation zone has attracted nearly USD1 billion of contracted investment. It has achieved an annual sales value of USD180 million and an import and export value of USD240 million. It has initially formed a petroleum equipment industrial park led by Honghua Drilling Rig and International Drilling Materials Manufacturing Company, a high and low voltage electrical industrial park led by GEGEMAC High Voltage Equipment Company, a textile and garment industrial park led by China Textile Machinery (Group) Nonwoven Fabric Company, and a new building materials industrial park led by Jushi (Egypt) Glass Fiber Company and a machinery manufacturing industrial park led by Shepherd Storage Company. Based on the industrial clusters, it forms a complete industrial chain.

The investment promotion of the expansion zone has made a "good start". In December 2015, Dayun Group, with an investment of USD30 million, signed a land purchase contract and became the first enterprise in the expansion zone. In 2016, a land purchase contract of USD56.3 million was signed for the Jinshi City Project. In addition, a number of enterprises with international strength have expressed their investment intention.

The investment promotion of the park has further strengthened the exchanges and cooperation between Chinese enterprises with advantageous industrial-capacity and Egyptian investment institutions, industrial parks and owners of investment promotion projects, expanded the two-way investment scale and cooperation fields, promoted the cooperation and complementarity of advantageous industrial-capacity, and made the investment cooperation between the two sides more in-depth and more effective.

5. Risk control

In 2016, with the proposal of the concept of “international industrial-capacity cooperation”, more and more enterprises began to go global to build overseas economic and trade cooperation zones. As a pioneer and model of China’s overseas parks, China-Egypt TEDA Suez Economic and Trade Cooperation Zone has summed up TEDA Overseas Model and become the synthesizer of cooperation zones.

From the ignorance and fearlessness in the initial development and construction to the gradual awakening of risk awareness, various major risks and events have seriously affected the development, construction and work progress of the China-Egypt TEDA Suez Economic and Trade Cooperation Zone. Especially from 2011 to 2015, Suez Economic and Trade Cooperation experienced the baptism of the Egyptian revolution, three regime changes and the ups and downs of the political situation, which have however failed to defeat TEDA, but constantly strengthened its risk awareness.

Throughout the development process of the park in recent years, TEDA has gradually realized that risk prevention of overseas investment is the concern of all foreign investors. Whether good risk prevention and control can be implemented determines the success or failure of overseas investment to a certain extent. Based on this, the management of the company has started to formulate a whole process risk prevention system covering the internal and external risks of the enterprise, forming comprehensive risk awareness.

In response to risks, TEDA not only pays attention to cultivating the awareness of risk prevention of all staff, establishing the correct concept of risk management, integrating the enterprise’s understanding and attitude of risks into the enterprise’s strategy, decision-making and various activities, enhancing the staff’s awareness of risk management and sense of risk responsibility, establishing a systematic, standardized and efficient risk management mechanism, but also pays attention to the integration with the local culture, so as to make it suitable for local staff to really get integrated into the park, so that once faced with related problems, local staff can help deal with risks.

China-Africa TEDA’s “going global” concept is that “cooperation makes a better world”, and “going global together” is another measure taken by TEDA to deal with overseas investment risks. As a whole, with the integration of various forces, the park will have more say in the government and a stronger ability to coordinate government resources. Especially in the face of overseas political turmoil, the park will have a stronger ability to resist risks than a single enterprise.

6. Profit model

With the change of the global pattern and the deepening of China’s “international industrial-capacity cooperation” concept, the construction of overseas Economic and

Trade cooperation zones will become an important way for Chinese enterprises to “go global” and implement China’s Belt and Road Initiative. The extent to which this cooperation mode can play the role of investment promotion depends on whether there is a reasonable profit model. In fact, most of the domestic economic development zones are dominated by the government. The basic operation mode and profit model rely on tax return and land development to form capital circulation and profit. In order to attract investment, improve employment and increase income, the government can give the lowest preferential price to investment projects. However, in the overseas pure market operation mode, this way is not feasible, and enterprises need to explore different profit models. Specifically, the maturity of the profit model of China-Egypt TEDA Suez Economic and Trade Cooperation Zone has also experienced a process of constant exploration.

(1) The profit model based on the life cycle of the park. The development of the park has its own life cycle, and in the meantime, its different life cycle has a unique profit model.

First, the planning stage of the park. The early preparation stage from design planning and land development is most used for research. From the perspective of service operation, there is no suitable profit model at this stage, but scientific and innovative research and planning can produce “products” with a higher cost performance, which can reduce costs and increase revenue for later operation.

Second, the initial stage of the park. Starting the development and construction of the park is a necessary condition for the completion of “three connections and one leveling” and other basic production. The investment promotion work has been carried out step by step, some enterprises have settled in, and production and operation activities can operate normally. At this stage, the profit model mainly includes the lease and sale of land, the lease and sale of industrial plants, and agency-based construction.

Third, the development stage of the park. With the demonstration effect of enterprises entering the zone, the cluster effect of enterprises in the park begins to appear, more and more enterprises enter the zone, and the enterprises in the zone are in good operating condition, showing a trend of rapid growth and development. All kinds of production and living needs of enterprises in the park are gradually increasing. In order to meet the various needs of more enterprises, the development and construction speed of the park has been accelerated, and the production and living supporting formats have begun to gather. By then, the tertiary industry is booming, and the profit model can be established by the lease and sale of commercial real estate, the construction of catering, education, medical, hotel and other supporting facilities, the development of commerce, logistics, exhibition and residential real estate, and the development of property services and commercial services. Park operators can also choose to invest in some industries or build incubation platforms according to their own strength and strategic direction.

Finally, the mature stage of the park. At this stage, the enterprises in the zone are basically saturated, with stable operation. The supporting services for production and life are perfect and basically match the needs of the enterprises in the zone. The operation of the park is stable. At this stage, the park has become mature, and can try

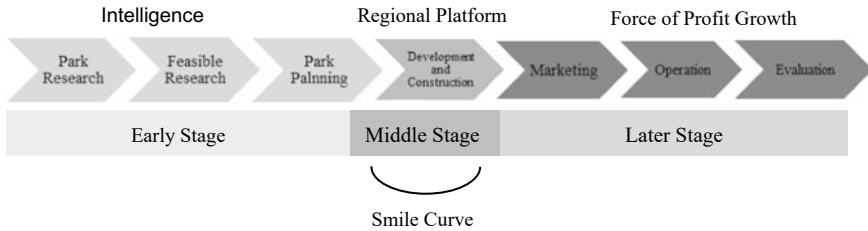


Fig. 1 The profit model based on the industrial chain

financial and capital operation, or carry out business expansion by summarizing the successful experience of the park, such as intelligence output, entrusted operation, BOT park construction, etc.

(2) The profit model based on the added value of land. The core resource of industrial park management is land. The development of the park can generate multiple appreciations and multiple profit increases through the multiple developments of land. The first appreciation of land takes place through “seven connections and one leveling”. The second appreciation takes place through supporting basic properties and providing services. Third appreciation takes place through increasing popularity with supporting public facilities, commerce and trade, warehousing and logistics, entertainment facilities. The fourth appreciation of land is through commercial real estate and real estate.

(3) The profit model based on the industrial chain. In the industrial chain of the whole park construction, the work at the early stage mainly includes park research, feasible research and park planning; the work at the middle stage mainly includes the development and construction of the park, which belongs to the stage of building regional platform; the work at the last stage includes marketing and investment promotion, operation services, etc. Two stages of the smile curve (the early and last stages) based on the industrial chain are the most possible to provide high value-added business. As shown in Fig. 1, the early stage can carry out intelligence output business, and the last stage has rich profit space. Further mining the added value of the early and last stages of the industrial chain can create more profit models.

(4) The profit model based on the platform organization. The platform organization is a network and evolutionary organizational form composed of platform builders, participants and the interaction between them. On this platform, there are various enterprises related to the new industrial city. Each enterprise has its own upstream and downstream and associated enterprises, which cross each other, forming a network of mutually beneficial symbiotic groups. These groups grow on the platform, cooperate with each other and promote each other’s development.

China-Africa TEDA is not only the builder of this platform, but also the server of the whole platform. Enterprises in the platform form profit points through interaction, and China-Africa TEDA provides various services for enterprises in various industrial chains on the platform to realize its own value and obtain platform revenue at the same time.

7. Cultural integration

In transnational investment and operation, the first thing we may encounter is the differences in cultural concepts and customs of different countries. Due to different cultural backgrounds, religious beliefs, development stages and ways of thinking, specific business policies are involved in the work, and both sides cannot understand and identify with each other. As a result, a lot of twists and turns and contradictions have arisen, and one issue can stay unsettled repeatedly from time to time. In specific work, due to different ideas, the staff of Chinese and Egyptian sides is also prone to conflict. Without handled properly, it will cause conflicts and disputes, which can even upgrade to diplomatic conflicts between the two countries.

In the process of cultural integration with Egypt, China-Africa TEDA experienced the process of cultural ideas from germination to cultural cultivation, and then to the deepening of cultural focus. From the initial “culture of neighbor” to the corporate culture with “helping others” as the core value, and then to today’s “teamwork, ready to help others and dedication”, China-Africa TEDA, with the attitude of seeking common ground while reserving differences, sincerely helps the development of employees in the host country and enterprises. On the basis of continuously learning from the experience and lessons of previous years, China-Africa TEDA combs and refines the company’s cultural concept, and combines with the local culture of the host country to promote and implement the corporate culture.

For enterprises operating overseas, the first problem they face when they go abroad is the cultural integration of different countries and nationalities, and the rooting of cultural concept is far more important than its expression form. Only by integrating with local traditional culture and customs, and fully considering the local national characteristics, can cultural integration be better realized.

8. Human resources

When running the park outside China, the enterprise faces a changing market as well as an unprecedentedly complex and unstable operating environment. In order to survive and develop continuously, enterprises must constantly improve their competitiveness. Relying on human capital to promote the competitiveness of enterprises is the only way for the long-term and stable development of overseas enterprises. With Chinese enterprises going global and the implementation of the Belt and Road Initiative, the demand for internationalized talents keeps increasing, posing a growing challenge of human resource management on multinationals.

Through nearly ten years of construction practice of overseas industrial parks, China-Africa TEDA has gone through the early stage of basic management, standardized management and systematic management. Currently, it is at the stage of strategic international human resource management. On this basis, it has summed up a set of transnational human resource management systems with clear concept, perfect system and strong operability, and built a team with a great strength and a high degree of corporate culture consilience, as well as excellent comprehensive ability and quality.

China-Africa TEDA realized that what’s the most important in human resource management in the construction of overseas parks is how to attract and cultivate

inter-disciplinary talents of cross-border business, and effectively deal with the resettlement of returned personnel.

(1) To attract and cultivate inter-disciplinary talents of cross-border business. Talent is an important resource for an enterprise to participate in international competition. An enterprise operating overseas is demanding on the quality and ability of personnel, and it requires employees to have high political awareness, judgement of overall situation and strategic awareness, have advanced management experience and work experience, understand the domestic situation of the host country, be familiar with international market changes, overseas laws and regulations, and be familiar with language, computer and other technical skills. Such inter-disciplinary talents are very rare. In addition, most of the cooperation zones are located in underdeveloped regions and countries, making them less attractive to high-end talents. Therefore, on the one hand, the enterprise needs to attract excellent talents; on the other hand, it also needs to take a series of scientific and effective measures to cultivate inter-disciplinary talents and comprehensively improve the comprehensive quality of its employees.

(2) To effectively deal with the resettlement of returnees. For enterprises that develop and construct the overseas parks, with the continuous promotion of localization, the number of returnees is gradually increasing. The resettlement of returnees has become an increasingly prominent issue. Expatriates often have the desire to enhance their own ability and get promotion after their term of office. However, their original positions may have been taken by others after they return to China. Without a clear and detailed plan in advance, it is difficult for them to find suitable positions in the short term. If the positions after returning to China seem to have nothing to do with foreign work experience, the returnees will be worried about their career prospects and even choose to solve the problem by changing jobs.

For expatriates, the enterprises can also take the following measures to dispel their worries and make them work at ease overseas: (1) The enterprises should ensure that expatriates have a thorough understanding of the whole process of their return, and formulate some written systems for this purpose. These systems should include the policies of performance recognition, post appointment, salary and welfare of expatriates after they return to China. This kind of arrangement for expatriates can not only enhance the confidence of the expatriates in performing their assignments overseas and successfully returning home, but also form good career expectations for those who will be dispatched, are carrying out assignments and have returned home after completing assignments. (2) With the implementation of the tutorial system, through the contact between domestic tutors and expatriates, the enterprises can build a communication channel between foreign and domestic personnel, so that foreign personnel can grasp the situation and information of the companies in China in time, and to a large extent avoid the worries of expatriates who cut off the contact with the companies at home. (3) In order to coordinate and solve the worries of expatriates, the companies can visit and take care of the domestic family members of expatriates on a regular basis. For the problems caused by the employees in foreign countries or the problems that may arise after returning home, the companies can help to solve them in time, so that the employees can work abroad at ease.

9. Social responsibility

With the deepening of international industrial-capacity cooperation, a large number of Chinese enterprises are going abroad. While expanding their own market and driving the development of local economy, they are also facing opportunities and challenges in the field of corporate social responsibility. In this context, China–Africa TEDA has built up a positive image of the enterprise by strengthening the construction of its own ability in China and paying attention to the fulfillment of its social responsibilities abroad.

During the construction of social responsibility, China-Africa TEDA strictly abides by the local labor laws, environmental protection regulations, tax regulations, laws and regulations as well as peer norms and international practices in Egypt, abides by business ethics, respects the unique cultural traditions and customs of the host country, ensures the wages, benefits, safe production and development opportunities of local employees in Egypt, pays attention to harmonious development with the local community and actively participates in a series of social public welfare activities and charities cooperation in Egypt and China. It has summarized three main experiences: (1) Overseas park operation enterprises should (2) fulfill social responsibility in accordance with the culture of the host country; (3) pay attention to communication and strengthen the publicity of their own social responsibility; (4) implement corporate culture and guide employees' behaviors by undertaking social responsibility.

(III) Soft output of development zone model in the industrial-capacity cooperation

During the international industrial-capacity cooperation, the construction and development cooperation of overseas parks is fundamentally a process of hard export, which exports capital and technology to help economic development and solve employment problems. The so-called soft export is reflected in the export of experience, technology, concept, idea, scheme, design, investment promotion and operation management after the completion of the parks. Compared with hard export, the soft export has many characteristics and advantages, such as lower investment risk, low investment with high ROI and fast cycle. In the meantime, a soft export project can be funded with the partner's land price in the host country, the investment from the partner of the municipal infrastructure supporting funds, and the construction cost of the park can be funded with revenue received in advance from enterprises in the park. The profit model of soft export enterprises can be realized by converting assets into shares or collecting consulting fees, planning fee, architectural design fees, investment promotion fees, park management fees, training fees, etc.

The management model of building a team for development and operation: According to the needs of the foreign side and the local conditions of the host country, the enterprise should set up a special team at first to specially plan, design, construct, operate and manage the cooperation development zone, and turn to manage long-term operation of the project later, especially providing comprehensive services for the developing countries along the Belt and Road.

The mode of copying projects adapting to the change of the host country: According to the demand, the foreign partner inspects and selects the development zone project at home, the Chinese partner copies the project abroad, and then the foreign partner operates and manages it after completion.

The participation mode of intellectual talents export: The Chinese partner selects professional managers and relevant experts according to the needs of the foreign partner to export talents to provide management or consulting services for foreign development zone projects.

(IV) The construction of China-Egypt TEDA Suez Economic and Trade Cooperation Zone and the supporting role of TEDA's overseas mode in the industrial-capacity cooperation between China and Egypt

Combining with its more than ten years of experience in investment and operation management of overseas industrial parks, China-Africa TEDA has developed and innovated a mature system of industry selection and trade-offs for overseas industrial parks, which can provide some reference for Chinese enterprises to "go global". At the same time, based on the practical experience of deeply cultivating Egypt in the cooperation zone and the special research on Egyptian industry, it plays a certain role in supporting the industrial-capacity cooperation between China and Egypt.

1. Guided by industry analysis, to promote the transfer of advantageous industries suitable for the development of China and Egypt

The industry selection method developed by China-Africa TEDA systematically and deeply analyzes the host country's competitive advantages, the host country's attraction to specific industries, the value and effect of specific industries on the host country, the radiation effect or guarantee ability of international trade based on the host country, the special factors of China's specific industries' transnational migration, and the enterprise factors of China's specific industries, to determine the suitable industry categories and specific industry segments for the development of the target country. Based on the systematic study of Egyptian environment and Chinese and Egyptian industries, it selects the industries suitable for developing in Egypt, such as building materials, glass manufacturing, automobile, new energy, petrochemical, electrical appliances, etc.

The development of the China-Egypt TEDA Suez Economic and Trade Cooperation Zone has become a key project promoted by the Chinese and Egyptian governments. During their mutual visits, the leaders of the two countries repeatedly proposed to strengthen the construction of the cooperation zone. The industrial layout of the cooperation zone comprehensively considers the economic development degree of Egypt and the upgrading demand of China's industrial structure, which not only fills the industrial gap of the whole Middle East and Africa region, but also becomes an important base for overseas transfer of China's advantageous industries and excess capacity.

2. To focus on promoting cooperation in infrastructure construction such as energy supply

Sufficient energy supply and good infrastructure are important preconditions for industrial development. Therefore, it is necessary to support China's powerful electricity and other energy enterprises to invest in Egypt and strengthen the full cooperation between China and Egypt in the energy industry, so as to effectively promote the transfer of China's advantageous industries and excess capacity to Egypt.

In addition, the Egyptian government also takes the construction of the power facilities and new energy industries as an important direction for future development. With the abundant natural gas, sunshine and wind energy resources in Egypt, there are rare development opportunities for China's thermal power, solar energy, wind energy industry and supporting power transmission and transformation and electrical equipment enterprises in Egypt.

3. To strengthen policy coordination with Egypt and allocate resources centrally to support the construction of industrial platform

The cooperation zone has built an overseas development platform for Chinese enterprises to "go global", which is conducive to the enterprises' relatively concentrated investment and the formation of industrial clusters. Compared with the overseas investment mode of individual enterprises, the cooperation zone has significantly improved the enterprises' ability to resist risks and respond to emergencies in the host country, and enhance their voice in the dialogue with the government of the host country.

The industrial relocation and the industrial-capacity cooperation between China and Egypt are systematic projects with many contents. The state should promote the coordination measures in the fields of diplomacy, commerce, foreign aid, science, education, culture and health, improve the coordination of various government departments on Egyptian policies, fully integrate the preferential policies, economic and trade cooperation, foreign aid, financial support, cultural exchanges and other aspects related to Egypt, and give the priority of resource allocation to aspects conducive to the industrial relocation and the industrial-capacity cooperation between China and Egypt. For example, the cooperation or assistance projects between China and Egypt in the fields of education and medical care will be carried out simultaneously with the industrial cooperation between China and Egypt, and efforts will be concentrated to support the construction of the industrial platform between China and Egypt, so as to create a more perfect development environment for Chinese enterprises in Egypt, which will play an important positive role in promoting the industrial-capacity cooperation between China and Egypt.

IV. Suggestions on the Development of Overseas Parks in the Context of International Industrial-capacity Cooperation

(I) Suggestions for government departments

The construction of overseas parks is inseparable from the cooperation and communication between the Chinese government and the government of the host country. For national level overseas economic and trade cooperation zones, a three-level

consultation mechanism between the government and enterprises should be established. In order to improve the efficiency of the development and construction of the park, the government should communicate with the enterprises and follow up the implementation.

Under the existing policies, it is necessary to increase the support for enterprises going global to build development zones, and increase the R&D of overseas park modes. At the same time, it is necessary to establish an effective information release mechanism and channel to provide relevant information consultation, investment analysis and suggestions, and entry procedures for enterprises in the park.

In terms of capital, due to the lack of national capital investment, many overseas enterprises fail to meet the national approval standards in a short period of time, resulting into a slow development process. In this regard, it is necessary to turn part of the foreign aid funds into the aid funds of the development zone as the early investment fund of the enterprises, breathing vitality into the enterprises.

(II) Suggestions for industry associations

International industrial-capacity cooperation is a long-term and arduous task, which needs not only the guidance of the national level, but also the joint efforts of all sectors of the society. Industry associations should play the role of bridge and link, and deliver the relevant work deployment and policy information of international industrial-capacity cooperation to enterprises timely and accurately.

In addition, based on the actual situation of the industry, industry associations should timely organize forces to cooperate with enterprises to carry out overseas research, master the actual needs and resource endowment in the industrial-capacity cooperation of countries along the Belt and Road, and make suggestions for enterprises to “go global” in combination with the characteristics of the industry. They should play the role of coordination and consultation, guide enterprises to develop according to local conditions, help enterprises build bridges with the government, financial institutions and foreign embassies in China, and establish a multi-level industrial-capacity cooperation mechanism.

At the same time, for the government side, industry associations should carry out in-depth research, data statistics and situation analysis to provide information and suggestions for the government to formulate national planning and industrial policies.

(III) Suggestions for financial institutions

Financial institutions should simplify approval procedures, improve loan efficiency, and provide better financing platforms and channels for enterprises “going global”. Under the guidance of government policies, they should increase the number of branches or offices set up by financial institutions in overseas cooperation parks, open up green channels, and actively solve the financing problems of the parks or enterprises in the parks.

They should promote the diversification of investment and financing forms, make use of the overseas assets, equity and other forms of mortgage of enterprises, and issue a letter of guarantee by overseas banks to provide guarantee for the domestic loans

of overseas enterprises. At the same time, they should reduce the guarantee requirements, strengthen close ties with enterprises, and help enterprises set up preventive measures to avoid overseas investment risks.

V. Development Prospects of Overseas Economic and Trade Cooperation Zones under International Industrial-capacity Cooperation

(I) Promising modes of overseas cooperation zones

The establishment and development of overseas economic and trade cooperation zones is an important exploration of China's entrepreneurship and innovation of foreign investment mode and the international industrial-capacity cooperation. Although most of the overseas industrial parks are in the initial stage, with the guidance of the government and the increasing overseas investment, many enterprises intend to participate in the development and construction of overseas industrial parks. With the acceleration of China's pace of "going global", the experience of domestic industrial parks is beginning to be copied worldwide, exerting a growing influence and radiation effect. Due to China's successful experience in the construction of development zones at home and the positive impact of the construction of cooperation zones abroad in recent years, the construction of cooperation zones has attracted more and more attention from relevant countries.

(II) Various ways of industrial-capacity cooperation

Overseas economic and trade cooperation zones, as an effective platform for promoting the Belt and Road Initiative as well as the international industrial-capacity cooperation and equipment manufacturing, have become an important carrier of win-win cooperation between China and the host countries. The construction of China-Egypt TEDA Suez Economic and Trade Cooperation Zone has created a new model for international economic and trade cooperation in the new era, providing a useful example for China to promote industrial-capacity cooperation and two-way investment between China and countries along the Belt and Road, especially countries in Africa and the Middle East.

(III) "Going global" of various advantageous industries

China's industries involved in the transnational industrial-capacity cooperation with countries along the Belt and Road include traditionally dominant industries such as light industry, household appliances, textile and clothing, and advantageous industries with excess capacity such as steel, electrolytic aluminum, cement and sheet glass industries, as well as advantageous industries related to equipment manufacturing such as power equipment, construction machinery, communication equipment and high speed rail and rail transportation industries. The construction of overseas economic and trade cooperation zones can not only realize the industrial-capacity transfer and the industrial-capacity cooperation, but also help enhance China's position in the global industrial chain and value chain.

Going Global of Industrial-Capacity of Central Enterprises is a New Way to Enhance the Vitality of the World Economy



____ Taking “Addis Ababa-Djibouti Model” as an Example

Jin Li

Speeding up the global transfer of central enterprises’ industrial-capacity and promoting the international industrial-capacity cooperation is a new mode of the opening up of China’s economy and a new way to enhance the vitality of the world economy. In the work conference promoting central enterprises’ participation in the construction of the Belt and Road Initiative and the international industrial-capacity and equipment manufacturing cooperation held in June 2015, Premier Li Keqiang emphasized that promoting the international industrial-capacity and equipment manufacturing cooperation is the only way to promote development in the new stage. It can help reduce the pressure of economic decline and achieve medium and rapid growth, and enter medium- and high-end development. It is also a win-win move to achieve in-depth integration with the world economy, get embedded into the world’s industrial chain at a higher level and achieve complementary advantages and cooperative development. Recently, the completion and opening of the Addis Ababa-Djibouti Model Railway, “the Uhuru Railway in the new era”, a project undertaken by China Railway Construction Corporation Limited and other central enterprises, marking the steady development of China-Africa industrial-capacity cooperation, opening up a “experimental field” for China to expand the international industrial-capacity cooperation and creating a new mode for China’s central enterprises to transfer industrial-capacity globally and implement international economic cooperation.

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Under the strategic deployments of the Belt and Road Initiative, connectivity with neighboring countries and the “high-speed railway network, expressway network, regional aviation network, and industrialization” between China and Africa, accelerating the global transfer of central enterprises’ industrial-capacity and promoting the international industrial-capacity cooperation is becoming a new trend. The Addis Ababa-Djibouti Railway is the first overseas railway completely built by a Chinese enterprise, and the enterprise was responsible for the whole industrial chain involved, ranging financing, design, construction, equipment and materials, to operation and management after opening to traffic, which showed China’s strength of handling the whole process of a railway project. The completion of the project was not simply a mission of completing a railway important to African’s economic development, but a refreshment of the traditional mode of China’s economic cooperation with foreign countries, and establishment of a new mode of all-round and deeply integrated development from “government assistance oriented to enterprise investment and construction cooperation oriented” and from “general trade to high-end regional cooperation”. The Addis Ababa-Djibouti Model has two meanings for the opening up of China’s economy: One is to introduce abroad the whole industrial chain including construction, equipment and operation through the railway projects implemented according to Chinese standards; the other is to build the economic belt along the railway and realize international industrial-capacity cooperation through promoting the economic development along the railway.

Going global of the whole industrial chain provides a new way for the strategy of opening up of China’s economy. As early as 2000, China put forward the strategy of “going global”, which, however, paid more attention to economic globalization and China’s accession into the WTO then. Most enterprises “went global” spontaneously and sporadically. In the past, China’s economy mainly relied on trade, that is, product export. Now, in order to realize the output of industrial capacity and promote the international industrial-capacity cooperation and equipment manufacturing, the core lies in promoting the trade and export of products to that of industry and capacity through such cooperation. Going global of the whole industrial chain changes the mode of exporting products through trade only, but focuses more on the export of industrial capacity. The international industrial-capacity cooperation proposed currently is a strategy of building a transnational industrial system based on the international market’s demand and the internal development stage of China’s economy, and it is an upgraded version of the “going global” strategy. The “going global” of railways is an important starting point for promoting the connectivity under the Belt and Road initiative. Addis Ababa-Djibouti Railway is the first railway built overseas by a Chinese enterprise by adopting a full set of Chinese standards and equipment. It is a new mode of the opening-up of the economy.

Going global of the whole industry chain provides a new channel for global transfer of industrial-capacity. At present, some overcapacity is not all a technical problem. A lot of high-quality capacity becomes surplus due to short-term demand changes caused by the market’s cyclical changes. In this case, we need to pay attention to the transfer of production factors to new supply, encourage global transfer of enterprises’ industrial-capacity, allocate industrial-capacity factors and open up

industrial-capacity market globally, and increase the strength and reduce the burden for China's high-speed economic development. In the global value chain, different countries and regions are in different positions, and there are many opportunities to realize the multi-win pattern of international industrial-capacity cooperation in terms of industry, capital and technology cooperation. In fact, many of the international industrial-capacity cooperation that China has participated in at present, except for the construction of high-speed railways, represents the advanced level of China's equipment manufacturing industry in the fields of nuclear power, electric power, communication and equipment manufacturing, even in the international area. A very important reason why Addis Ababa-Djibouti Railway has become a "new model" of cooperation between China and relevant countries is that China's railway industrial-capacity is of high quality, low price, strong comprehensive supporting capacity and strong international competitiveness.

Going global of the whole industry chain provides new samples for central enterprises to explore the overseas market together. Overseas exploration together of central enterprises is both an inevitable choice in the context of the weak global economic recovery and the adjustment of China's economic growth, and the need for central enterprises to develop into multinational companies with international competitiveness. Central enterprises are the main force in the vast army of enterprises going global. At present, more than 70% of China's non-financial outward direct investment is made by central enterprises; and more than 60% of China's total foreign contracted project business is from central enterprises. Chinese enterprises have learned many lessons in the world's market by taking actions separately. Chinese enterprises need to go global on the basis of integrating resources. We should create a good regional investment environment with relatively perfect infrastructure, supporting laws and policies, and with agglomeration and radiation effects, and guide domestic enterprises to go global in clusters. "Clusters" should not only refer to those of enterprises, but also of resources by combining the technology, equipment and financing of Chinese enterprises. The Addis Ababa-Djibouti model is a successful example of central enterprises' overseas exploration together in order to reduce the internal vicious competition and enhance their anti-risk ability.

Going global of the whole industrial chain is an important starting point for the effective integration of investment and trade. In order to promote going global of equipment and the international industrial-capacity cooperation, financial services should follow up at the same time. At the financial level, China's capital needs to expand internationally, while the financial resources of developing countries are limited. Global transfer of industrial-capacity is actually to speed up the effective allocation of resources for Chinese enterprises in the world market economy. We need to make creative use of the international and domestic markets to broaden the channels for the use of foreign exchange reserves. We need to provide more financing services for key cooperation projects through directional issuance of special bonds. On the premise of strengthening risk prevention, better play should be given to the role of preferential loans so as to expand the scope of countries and industries supported.

The inclusive development in the global perspective is the development concept adhered by China when promoting the Belt and Road Initiative and the international industrial-capacity cooperation. The Addis Ababa-Djibouti model promotes the economic development along the railway with the “going global” of the whole industrial chain, and constructs the economic belt along the railway through carrying out cooperation projects such as logistics and warehousing, industrial parks and land development in various ways, showing the prospects of international industrial-capacity cooperation.

International industrial-capacity cooperation helps build economic belts along the Belt and Road. China’s “industrial export” not only attaches importance to the external competitiveness of industry, capital and technical cooperation, but also promotes the construction of economic belt along the Belt and Road. Ethiopia is a landlocked country dominated by agricultural economy. Its backward infrastructure and lack of access to the sea seriously restrict its import and export trade and industrial development. Djibouti, with an area of only 23,000 square kilometers, lacks natural resources and has a weak industrial and agricultural foundation. After the completion of the Addis Ababa-Djibouti Railway, the transportation time from Djibouti to Addis Ababa will be reduced from 7 days to 10 h, which will promote the transformation of passenger and freight transportation between the two places from completely relying on roads to 70% relying on railways. Once put into operation, the railway will become a major channel for Ethiopia to go to sea, open up a channel for materials and exports from Ethiopia and even the hinterland of East Africa, build an economic belt, and promote industrialization and urbanization of the areas along the Belt and Road. Driving the economic development along the Belt and Road and carrying out cooperation projects such as logistics storage, industrial park and land development in various ways, such a model helps build the economic belt along the Belt and Road, so as to avoid the “degradation” caused by the long-term “no transportable goods” after the completion of the railway.

International industrial-capacity cooperation can promote the industrialization process of all parties. The purpose of industrial-capacity cooperation between China and other countries is to enhance the industrial-capacity of these countries, improve the development level of manufacturing industry, and cultivate practical talents through aligning the development needs and reasonably transferring advantageous capacity. The Addis Ababa-Djibouti model enables the cooperation among China, Ethiopia and Djibouti to achieve the “1 + 1 + 1 > 3” effect of international industrial-capacity cooperation and bring development dividends to all parties. The railway contractors, China Civil Engineering Construction Corporation and China Railway Group, signed a contract to win the six-year operation right of the Addis Ababa-Djibouti Railway, promoting local employment. In Ethiopia alone, more than 2,000 local employees received railway operation training, including crew members, train drivers, technicians, etc. Railway construction has created more than 30,000 local jobs, so that African peers can also have railway construction capacity. Chinese enterprises will take this opportunity to teach Ethiopian and Djiboutian employees the operation philosophy of Chinese railways, including how to properly maintain the railway system. Six years later, Chinese enterprises will hand over the railway

operation and management rights to the railway talents of the two countries, so that the African people can truly assume the responsibility of independently operating the Addis Ababa-Djibouti Railway.

For Chinese enterprises, expanding the international industrial-capacity cooperation means that China actively participates in global market competition and value chain reconstruction, enabling Chinese enterprises to compete with advanced and powerful multinational companies in the international market. "Going global" of equipment will force enterprises to continuously improve their technology, quality and service level, and improve their overall quality and core competitiveness.

International industrial-capacity cooperation will provide new impetus for the world's economic development. At present, the global economy continues to be in the doldrums. The growth rate of international trade has dropped sharply. The international investment has gone through ups and downs. The international industrial-capacity cooperation, which combines the cost performance advantages of China's manufacturing industry with the high-end technology of developed economies, provides developing countries with equipment with high quality and competitive prices and helps them accelerate the process of industrialization and urbanization, and can gather new impetus for the stable growth of the global economy. The Addis Ababa-Djibouti Railway has opened up a new transportation artery between the roof of Africa and the Gulf of Aden, providing an access to the sea for the material flow in Ethiopia and even in the hinterland of East Africa. The port of Djibouti will become a real logistics center. The opening of the Addis Ababa-Djibouti Railway on schedule also gives the Ethiopian government the hope of developing industrialization and building a large manufacturing country in Africa, and boosts the confidence of investors in developing industrial projects in Ethiopia.

Under the background of the new pattern of the world economy and a new round of global industrial relocation, the international industrial-capacity cooperation has opened a new window for the opening-up and development of China's economy, and has become an important goal for China to build a new open economic system. The Addis Ababa-Djibouti model shows that Chinese enterprises should keep expanding their growth space, and especially actively participate in the international industrial-capacity cooperation and speed up the "going global" of the whole industrial chain, under the strategic deployments of the Belt and Road Initiative, connectivity with the neighboring countries and the "high-speed railway network, expressway network, regional aviation network, and industrialization" between China and Africa. This will enhance effective supply and stimulate new demand, help accelerate the transformation and upgrading of China's economy, broaden the scope of international cooperation and development space, increase China's exchanges and mutual trust with relevant countries in various fields, so as to boost the confidence of global economic growth and promote the realization of global economic rebalancing. All this will inevitably bring new development opportunities to countries along the Belt and Road, and inject new vitality into the world's prosperity and progress.

Part III

On Spatial Synergy

Promotion Collaboration Between Different Countries and Regions with the Well Planned Strategy

How to implement the Belt and Road Initiative in the construction process requires not only a profound theoretical demonstration but also a careful examination of practice. This section selects different economic zones and different economic entities as the research cases to thoroughly analyze the cooperation mode and synergy strategy between different regions under the Belt and Road Initiative, so as to provide constructive opinions and suggestions from the horizontal perspective for the implementation of the Belt and Road Initiative.

The Road Map of the Rise of National Central Cities under the Belt and Road Initiative



Hui Xu

I. The New Global Trade Pattern under the Dual Circulation of Value

(I) Dual circulation of value is an important pattern of opening up and development of China in the future

The document *Vision and Actions on Jointly Building the Silk Road Economic Belt and 21st-Century Maritime Silk Road* is an upgraded version of China's opening-up strategy. Prof. Zhang Hui from the School of Economics, Peking University pointed that the Belt and Road Initiative will bring about a new trade pattern under the dual circulation of value. On the one hand, it is a comprehensive exchange of economic, cultural, scientific and political fields between China and the developed countries in the world. On the other hand, it is the exchange and cooperation between China and the underdeveloped countries or regions in economy and trade, industry, infrastructure and culture.

Over the past nearly 40 years after the reform and opening up, China has been a trade power rather than a financial power, and has been subject to the constraints of RMB internationalization process and the influence of exchange rate. For a long time, China has always been at the middle and low end of the value chain in the international industrial division and economy and trade. A large part of its huge trade volume is US debt instead of "real money". China's voice in global financial control, resource pricing, technical services, cultural output and other aspects is still quite weak. With the implementation of the Belt and Road Initiative, the dual circulation of value is beginning to exerting influence on the national macro economy. On the one hand, the degree of economic and trade integration between China and developed countries is strengthening. In spite of the declining proportion of import and export trade

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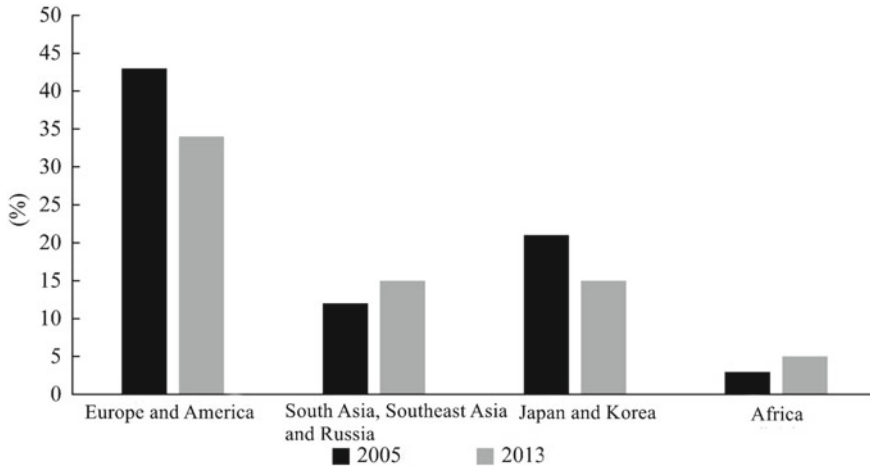


Fig. 1 Change in the proportions of economy and trade between China and different countries and regions

volume between China and developed countries such as Europe and the USA, the flow of economic factors is accelerating, which is mainly manifested in the merger and integration of industrial chain, the linkage of innovation and technology, and the outsourcing of high-end services. Especially in the aspect of innovation, Huawei has initially established a global innovation network. At the same time, Chinese enterprises can obtain a large number of foreign first-class technology patents through mergers and acquisitions. In addition, China is also vigorously promoting domestic technological innovation and upgrading, so its industrial integration with developed countries is inevitable.

On the other hand, China has witnessed an increasingly stronger economic and trade tie with countries along the Belt and Road. After the financial crisis in 2010, the economic and trade growth regions of China and the world were mainly concentrated in South Asia, Southeast Asia and Africa. From 2010 to 2014, the average GDP growth rates of China, India, Singapore, Malaysia and the Philippines were 8.6%, 7.3%, 6.4%, 5.8% and 6.3% respectively.¹ At the same time, the growth of China's trade with Russia, Kazakhstan, Mongolia and other Central Asian countries also increased significantly. At present, Russia ranks tenth among China's trading countries, and the total import and export volume between China and Russia in 2013 was USD89.21 billion.² In the meantime, with China's large-scale participation in other countries' infrastructure construction, local industrial investment and supplier system construction through financing and other means, it has made great progress in getting rid of overreliance on individual trading partners (see Fig. 1).

The distribution of outward FDI in China in 2013 is shown in Fig. 2.

¹ The World Bank Data.

² Source: http://finance.ifeng.com/a/20140302/11782846_0.shtml.

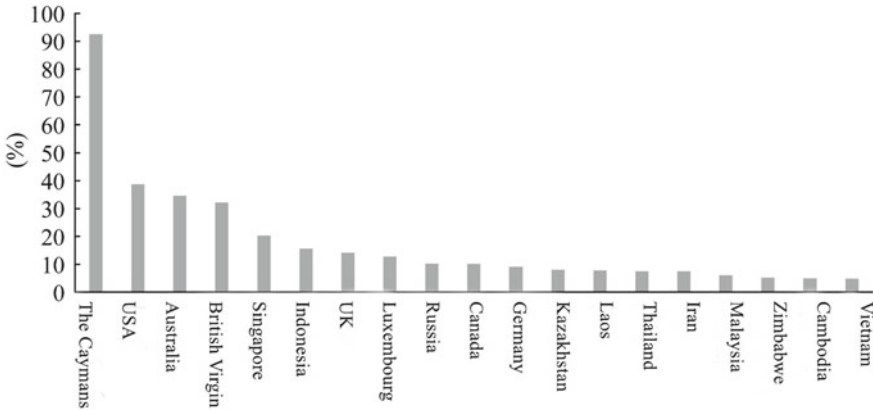


Fig. 2 Changes in the proportions of economy and trade between China and major countries and regions. *Note* The figure does not include USD62.824 billion of direct investment from the mainland of China to Hong Kong. *Source* 2013 Statistical Bulletin of China’s Outward Foreign Direct Investment

(II) China will gradually move to the high end of value chain in the global supply chain system

With the further improvement of its core position in the global economic map, China will play a more important role in transmitting the technological products and services which are the advantages of North America, Europe, Japan, South Korea and other countries, as well as radiating Southeast Asia, Africa and South America in terms of bulk materials trade and product export. This pivotal role will be accompanied by the development of cross-border e-commerce, overseas investment in infrastructure and output capacity of China’s equipment manufacturing industry. For example, 80% of Apple’s global supply chain manufacturers come from East Asia and South Asia, especially China’s Pearl River Delta (including Hong Kong), Yangtze River Delta and Bohai Rim. Of course, in terms of the value of the whole industry chain, Apple’s manufacturing and parts procurement are only a small part of the value chain under the protection of its intellectual property rights. For another example, relevant studies show that China’s infrastructure investment in the relevant countries only accounts for about 1% of the investment in the infrastructure of the target countries, and it is expected to increase to 5–8% by 2030.

II. The Layout of National Central Cities under the Opening-up Pattern

The layout of national central cities needs to grasp the following aspects: First, new international gateways and innovation centers will appear with the deepening of globalization. Second, the implementation of a relatively balanced urbanization development strategy is conducive to the cultivation of new market centers. Third, regional transportation and energy facilities will promote the emergence of new network centers at the national level. Therefore, in the future, China’s new national central cities will be generated under the superposition of new international gateways,

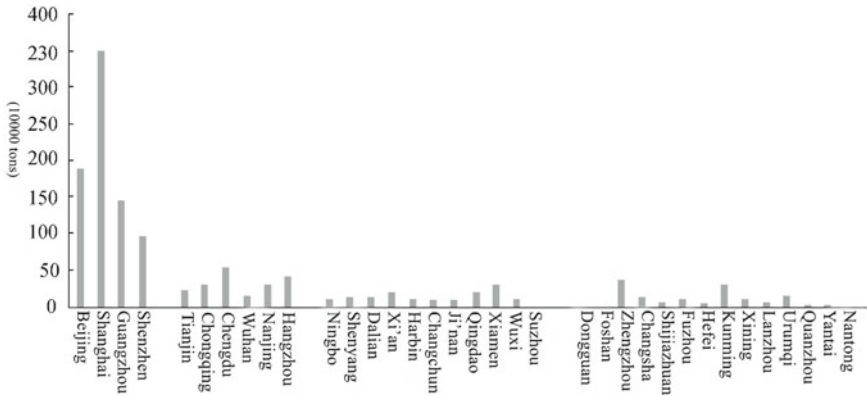


Fig. 3 Comparison of air cargo throughput of major cities in China in 2013

innovation centers, new market centers and new network centers, and the existing national central cities will also move up along the global urban system on the basis of these functions.

(I) New international gateways

The research by the Globalization and World Cities Study Group and Network (GaWC) shows that, in addition to New York, London, Tokyo, Paris and other world cities, a number of cities with a small population but outstanding specialized functions and strong control of strategic economic elements are in the forefront of the global urban system. China’s increasingly deeper participation in the globalization process will also trigger the emergence of a number of new specialized international gateways (see Fig. 3).

First, the core cities in the three town concentrated areas of Yangtze River Delta, Pearl River Delta and the Beijing-Tianjin-Hebei region will gradually move to the “top” of the global urban system, making greater breakthroughs in international functions such as culture, science and technology, innovation services and high-end consumption. Second, the international gateway function and border center hub position of the central cities of border provinces facing different international sub regions will be further strengthened. Third, the airports, seaports and commercial logistics node cities in China’s coastal areas, as well as the inland airport international gateway cities will produce international specialized functions, such as Yiwu in Zhejiang, Jiangbei Konggang Area in Chongqing, etc.

Specifically, the Belt and Road Initiative, which is actively advocated by China in cooperation with its neighboring countries in the new era, will have a profound impact on the regional development pattern in the future. The Belt and Road Initiative has transformed China’s pattern of opening up from the coastal direction only to both coastal and inland borders, and will hence form a regional development situation with deep linkage. Under the guidance of this initiative, China-Singapore (Chongqing) Demonstration Initiative on Strategic Connectivity has been launched,

Ningxia Inland Opening-up Pilot Economic Zone has been approved, and a number of China-EU container and postal trains have been opened regularly.

It is foreseeable that in the next 20 years, a number of major regional comprehensive transportation hub facilities and major national policies will be inclined to the central and western regions and even border areas, so as to guide the concentration of industrial elements, innovation elements and information elements. In the future, regional central cities, gateway cities in border areas and port towns of China-Mongolia-Russia, China-Central Asia-West Asia, China-Indochina Peninsula, New Eurasian Continental Bridge, China-Pakistan, Bangladesh-China-India-Myanmar international economic cooperation corridors and so on will embrace development opportunities.

(II) New innovation centers

An important indicator of international function expansion is the comprehensive innovation ability of a city. Innovation ability, on the one hand, reflects the incubation and market transaction of new technological achievements; on the other hand, reflects the extension and marketization of industrial economic value chain brought by institutional innovation.

At present, there are three cities with strong competitiveness in China compared with world-class innovation center cities: Beijing, Shanghai and Shenzhen. Shanghai and Beijing are in the top 50 most influential innovative cities in the world rated by 2thinknow, an Australian data innovation agency, in 2014. Both Beijing and Shanghai proposed to build globally influential S&T innovation centers encouraged by the policy of Zhongguancun National Independent Innovation Demonstration Zone and Zhangjiang National Independent Innovation Demonstration Zone respectively. At present, the technology trading contracts of Zhongguancun in Beijing account for about 40% of the country's total. Shenzhen and Shanghai have become important innovation bases for the emerging "Internet plus" economy. China is in a critical period of industrial structure transformation. In the period of comprehensively promoting the "Made in China 2025" strategy and promoting "widespread entrepreneurship and innovation", it is particularly urgent to accelerate the formation of a number of cities that can align with international industrial R&D transfer and cultivate local innovation service centers.

According to McKinsey, there are three growth paths for global S&T innovation centers: the first one is the government-led innovation and development model represented by Singapore and Hsinchu, Taiwan, China; the second is the urban comprehensive service-oriented innovation model represented by Seoul and Bangalore; and the third is the "basic R&D + venture capital industrialization" innovation model represented by Silicon Valley and New York. Beijing, Shanghai and Shenzhen mainly belong to the third model, while other cities with strong S&T strength in China tend to adopt the first model. For example, Tianjin, Wuhan and Hangzhou, which are to become national S&T cities in the future, are obviously government led. In addition, Guangzhou, Nanjing, Chengdu, Xi'an and other cities with strong S&T innovation power should transform to the second model of innovation in the future.

(III) New market centers

The large number of people is the basic condition of China. It determines that the important factor of ensuring the sustainable development of social economy is to promote urbanization in a healthy and orderly manner and reasonably guide the rural population to transfer in local or nearby places. The accelerated pace of industrialization and urbanization under the guidance of domestic demand means that the population density distribution will become one of the decisive factors leading urban development in the future. Historical experience shows that when China was a powerful unified country, the distribution of its central cities was relatively balanced. From the perspective of population distribution and population density in China, there will be 7–8 town concentrated areas with a population of more than 100 million and a radius of about 300 km in the future. These regions mean huge consumer markets, which can support the development of a strong consumer central city.

It is foreseeable that the densely populated middle reaches of the Yangtze River, the middle and lower reaches of the Yellow River and the Chengdu-Chongqing region will become the emerging market areas in China, and these areas will become the new concentration centers with a rapidly growing urban population. Especially when the service industry is contributing more to national economy than industry, giving play to the leading role of the modern service industry in central cities and promoting the development of consumption economy is an important means to upgrade industries in grand regions.

(IV) New network centers

Regional traffic conditions greatly influence the layout of the national city and town system. China has started massive highway network construction since 2000. It began the construction of harbors and inland ports around 2004, and significantly accelerated the construction of China's railways, high-speed railways and airports after the financial crisis in 2008. It is expected that by 2020, China will basically build a highway network, a railway network covering cities with a population of more than 200,000 and an aviation network and a high-speed railway network covering cities with a population of more than 500,000. The economic agglomeration capacity of these transportation network hub areas will be improved unprecedentedly, which will be mainly manifested in the following two aspects:

First, various traffic facilities networks will form distribution centers with relatively balanced passenger and freight at the national level. According to the *National Urban System Planning (2006–2020)*, China will build nine first-class comprehensive transportation hubs, including Beijing-Tianjin, Shanghai, Guangzhou-Shenzhen, Shenyang, Chongqing-Chengdu, Wuhan, Xi'an, Zhengzhou and Lanzhou.

Second, the direct impacted scope of these hub cities will be expanded with the high-speed railway and airport routes. The analysis on the influence of Japanese Shinkansen construction on expressway and air travel shows that 250 km is the equidistance between the travel rates of expressway and high-speed railway; 800–900 km is the equidistance between the travel rates of high-speed railway and air

Table 1 Comparison of population, economic and industrial indicators between Hangzhou and other cities in 2015

City	Proportion of the tertiary industry (%)	Top 500 Chinese enterprises	Top 300 unicorn enterprises
Hangzhou	58.24	16	18
Nanjing	57.32	12	5
Wuhan	51.02	10	3
Suzhou	49.50	3	4
Xiamen	55.77	6	3

travel³ (Toshiji Takatsu, 2007). In a two-hour business circle, the scope of urban economic zone of a central city will be extended to 500–600 km with high-speed railway and intercity rail, which will have a significant impact on the reconstruction of logistics system. Meanwhile, with the construction of regional airports, the leisure tourism service hinterland of a central city can be expanded to 600–1000 km. Take Chengdu and Kunming as examples. Their functions as air transfer hubs have been significantly improved this way.

III. The Road Map of the Rise of Central Cities

Beijing, Shanghai, Guangzhou and Shenzhen now top the global cities and in particular, Beijing and Shanghai are even ranked among the top ten rated by GaWC. With the in-depth implementation of China’s Belt and Road Initiative and deepening of the opening-up policy, China will have more central cities ranked among the global cities. This paper discusses the integration of urban and industrial development ideas with the development path of three typical central cities—Hangzhou, Ningbo and Chengdu.

(I) Industrial innovation path of coastal central cities: Hangzhou

In the first half of 2016, Hangzhou, with an economic growth rate of 10.8%, ranked first in cities with a population of more than 3 million. In recent years, driven by the powerful engine of information economy, Hangzhou’s industrial structure has shown a rapid optimization and adjustment trend, making the city stand out in a number of cities with the same population size. In 2015, the proportion of the tertiary industry in Hangzhou reached 58.24%. Among the cities with a population of more than 3 million, Hangzhou was the fifth city second only to Beijing, Shanghai, Guangzhou and Shenzhen. Its growth rate in the first half of 2016 reached 14%, which was also far ahead of other cities. Hangzhou also has much bigger numbers of headquarters (regional headquarters) of top 500 Chinese enterprises and unicorn enterprises than other cities. All these indicate the strong growth momentum of Hangzhou, showing the uniqueness of “Hangzhou Model” (see Table 1).

Taking the historical opportunity of the G20 Summit, Hangzhou has put forward the goal of building an “Internet plus” world S&T innovation center with global

³ Quoted from *Japan Railway and Transportation*, August 2007, converted according to drawings.

influence. At present, only Beijing, Shanghai and Shenzhen, the three powerful S&T cities, have the confidence to mention this goal. Hangzhou comes the fourth. Wang Jian, Chief Technology Officer of Alibaba Group, repeatedly emphasized that “the future role of Zhejiang and Hangzhou in China is similar to that of California and Silicon Valley in the USA”. He firmly believes that the world’s innovation center will move to the Asia Pacific region sooner or later, and the innovation in the Asia Pacific region mainly depends on the Yangtze River Delta region. The innovation and rise of the Yangtze River Delta region requires cities like Hangzhou to become China’s Silicon Valley. In addition to Wang Jian, Wu Jinglian, a renowned economist, also held the same opinion. He once said, “Hangzhou is the most likely Chinese city to become Silicon Valley.”

1. The country needs Hangzhou’s S&T innovation

In the new era, China’s highlight of the innovation strategy has far-reaching significance for promoting the adjustment of China’s industrial structure and deeply aligning with the global industrial division. If Beijing represents the fortress of knowledge-based creation and basic scientific research, and Shanghai represents the basic innovation center of the industrial chain of the construction of the “Pillars of a Great Power”, China also needs a number of innovation pioneers who combine basic science and applied technology. The applied S&T innovation represented by Shenzhen paves the way for Shenzhen to become a modern pioneer city. The information economy of Hangzhou will promote the integration of urban areas and industries and find a new way out for the development of Industry 4.0.

Hangzhou’s S&T innovation mode lies in the establishment of an open new economic system. This new economic system under the “Internet plus” has two characteristics: one is the new supply chain system with the information economy as the core which serves to integrate the global industrial chain, represented by Alibaba and cross-border e-commerce; the other is strengthened production conversion of S&T products by relying on the advantages of Zhejiang Province’s private economy and giving play to the advantages of regional manufacturing capacity and financing environment. The current R&D of Industry 4.0 is particularly important. With the further development of the new economy, the two innovation paths have the trend of accelerating integration. With the establishment of the global supply chain system, the channels of cross-border financing and overseas M&A become smoother, which greatly facilitates the global expansion of technology-intensive Unicorn enterprises and helps them obtain more patented technology and production chains. As general secretary Xi Jinping said at the G20 Summit, “Just click the mouse in Hangzhou, you can connect the whole world”. Therefore, the technological innovation mode of Hangzhou is of great significance for China to deeply participate in the global industrial division, deepen knowledge exchange and cooperation, and promote the construction of the Belt and Road Initiative.

Hangzhou has a solid foundation for becoming a world-class S&T innovation center, and is ready to take advantage of the G20 Summit to reach this goal.

Table 2 Information economy development of Hangzhou in the first half of 2016

Type	Added value (RMB100 million)	Growth rate (%)	Proportion in GDP (%)
Software information	1596.50	29.40	15.88
Digital content	1234.50	35.50	12.28
Mobile Internet	844.70	37.50	8.40
Cloud computing and big data	829.00	29.60	8.25
E-commerce	826.50	34.50	8.22
Electronic products manufacturing	557.80	35.00	5.55

First, information economy is the pillar of Hangzhou's industrial economic transformation and development. In the first half of 2016, the city's output value of information economy was RMB120 billion, with a growth rate of 23.8%, accounting for 24.0% of its GDP and contributing more than 50% to its GDP (see Table 2). In the information economy, the main business income of information software, digital media, e-commerce (cross-border) and mobile Internet all grew by more than 35%; at the same time, its Internet finance, O2O, Internet of Things and other intelligent industries also developed rapidly. The core power of information economy comes from the "Dandelion" Innovation Mode of Alibaba Group. At present, the development of Alibaba Group's three new business areas—Ant Financial Services, CAI NIAO and Alibaba Cloud—has made the Internet economy move from the original pure trade to the integration of industrial chain and supply chain. This chain integration mechanism has brought a lot of business opportunities for the development of new Internet service-oriented small and medium-sized enterprises. Because of this, Hangzhou has become an important base for the development of information economy related gazelle enterprises and unicorn enterprises. We call this the "Dandelion" Innovation Model. On the one hand, every year a large number of young people with innovative spirit "graduate" from Alibaba Group to start a business. On the other hand, the Internet service industry in Hangzhou has become a second springboard for these entrepreneurs. These dynamic entrepreneurs continue to absorb nutrients and thrive in this fertile land of entrepreneurship in Hangzhou. Some data show that the start-ups from Alibaba Group involved in e-commerce, tourism services, financial services, social networking, education, consumption and living, culture and entertainment, and enterprise production services accounts for two thirds of the city's total. These start-ups are likely to grow into giants like Alibaba in the near future.

Second, Hangzhou is accelerating its pace of industrial innovation. This is closely related to the upgrading of the industrial structure of Zhejiang Province, as well as the transformation of innovative achievements relying on universities and large scientific research institutes. The S&T innovation community, which mainly consists of Zhejiang University and Qingshanhu Provincial Scientific Research Base, has played a positive role in boosting the development of Industry 4.0 in Zhejiang Province. At

present, Hangzhou is in the leading position in the development of high-end equipment, advanced technology and strategic emerging industries in the Yangtze River Delta. In the first half of 2016, the city's industrial added value was more than 10%, higher than the province's average. At the same time, robots, big data industrial services (cloud), new energy vehicles and batteries (Dajiangdong) developed rapidly. According to the *Development Report of Gazelle Enterprises in National High-tech Zones (2016)*, there are 53 gazelle enterprises in Hangzhou-based high-tech zones (demonstration zones), with a rate of 2.85%, ranking among the top five in China. Due to technological progress, more and more human workers are being replaced by robots. In 2015, the city's industrial labor productivity was RMB260,000 per capita, twice the national average.

Third, Hangzhou is an important highland of "innovation and entrepreneurship" in China. With diversified incubation platforms and maker spaces, the city has become the "nursery" for innovation and entrepreneurship. On the one hand, the city is featured with a strong entrepreneurial atmosphere, especially because the proportion of students relying on Zhejiang University and Hangzhou Normal University is the highest in China. In recent years, Hangzhou's attraction to talents outside the province has been significantly enhanced through the policy of attracting overseas talents and highly skilled talents. From the analysis of the employment trend of graduates from Chinese universities under the "211" program, the proportion of college students attracted by Hangzhou increased from 2% in 2013 to 3% in 2015, and the number of graduates from Shanghai-based colleges and universities starting businesses in Hangzhou has increased significantly. On the other hand, Hangzhou actively promotes the construction of urban incubation platforms. Under the joint action of the government and the market, it provides various types of incubators and maker spaces for the development of entrepreneurial groups and gazelle enterprises, which greatly reduces the cost of entrepreneurship and the transaction cost of industrial development. Incubators can be roughly divided into three categories: government-led large-scale incubator platforms represented by Zhejiang Hangzhou Future Sci-Tech City (Zhejiang Overseas High-Level Talents Innovation Park), providing science and technology, talent and financial services for returnees, start-ups and related industries; private medium-sized incubator platforms represented by Hundsun Science and Technology Park, providing whole industry chain services for gazelle enterprises in the period of development and expansion; incubators such as Dream Town and ZITOWN provide equity investment support for start-ups. There are currently 21 national incubators in Hangzhou, covering an area of 2.4 million square meters. Maker space provides entrepreneurs with necessary entrepreneurial intermediary services, community services, cheap and shared office space and communication space. As of June 2016, there have been 45 approved city-level maker spaces in Hangzhou (including 14 national-level ones), with a maker space area of 120,300 m². The maker spaces have established or integrated 98 funds.

Fourth, a loose environment for innovation and entrepreneurship is an important support for sustainable innovation. On the one hand, macro policies guarantee the low-cost advantage of innovation. Up to now, Hangzhou has won approval for the national independent innovation demonstration zone, the free trade zone and

the China (Hangzhou) Cross-border E-commerce Comprehensive Pilot Area. These national honors have created a more relaxed policy environment for the development of S&T innovation in Hangzhou. On the other hand, more convenient and humanized services at the micro level create a good entrepreneurial ecological environment. The “one-stop” entrepreneurial service also greatly facilitates the entrepreneurial crowd. For example, the Xixi Sub-district Service Office provides attentive service for the development of small and micro enterprises, and provides “one-stop” approval and consulting services for all kinds of enterprises, such as medical insurance, employment, social insurance, local tax, national tax, employee rights protection, industry and commerce, science and technology, and exit-entry processing.

2. To accelerate the innovation and integration of urban areas and industries based on the forefront of world innovation mode
 - (1) From independent innovation to network and crowdsourcing innovation. In the past, scientific and technological R&D and achievements transformation were mostly completed by independent laboratories and enterprise R&D departments, and then gradually entered the production field through the transfer of technological achievements. The knowledge was often disseminated via a single channel or the “node—hinterland” mode. However, with the diversification of knowledge production, the technology integration of S&T achievements becomes more complex, which often needs a more open innovation mode. This requires the close cooperation of multiple research teams to complete major scientific discoveries, and the cooperation of multiple R&D departments to complete the transformation of achievements in a short time. For example, the European Organization for Nuclear Research (CERN) originally had only 12 sponsors, but with the increasing complexity of detecting cosmic particles, CERN has now expanded its number of members to 21, including scientists from all over the world. Another example is that in order to discover gravitational waves, it was necessary to process the relevant data of LIGO, so CERN has gathered more than experts from 90 universities including MIT and thousands of S&T researchers from all over the world. Especially with the emergence of big data deep mining technology, the Internet of Things has promoted the deep integration of hardware and software technology, and innovation needs networking and crowdsourcing mode to build an integrated S&T achievement. Just like Huawei’s innovation model, the output of every new mobile phone and new electronic product needs technical support from its global innovation and R&D center.

With the gradual separation of innovation, R&D and production, the front-end network and crowdsourcing innovation need platform-style innovation function support. Therefore, “innovative institution + cloud data center, innovative industry cluster + diversified incubators + global crowdsourcing” will become a new innovation platform. Cloud data centers around different industries and scientific experiments will form different innovative industrial clusters, and these innovative industrial clusters will be distributed with diversified incubators. The incubators here

not only include the incubation and cultivation functions of entrepreneurs, start-ups and gazelle enterprises, but also include public laboratories, joint offices and other facilities. Some hardware facilities originally belonging to colleges and large enterprises are opened to the public, which further improves the efficiency of the use of innovation resources. This new platform innovation mode has achieved remarkable results in Silicon Valley, Boston, North Carolina Triangle, Seattle, etc. For example, the Boston Metropolitan Area has become one of the world-class innovation centers around Cambridge, whose core is the innovation collaboration composed of Harvard, MIT and other well-known institutions. The region attracts an annual investment of USD7 billion, with an average of 264 patents approved and 280 technology trademarks authorized each year. More than 1,000 MIT related enterprises have created an overall global sales volume of more than USD53 billion, and directly created 125,000 jobs. Because of its strong source of university innovation, Boston Metropolitan Area has the highest per capita patents in the USA (3.32 patents per 100,000 people), and the number of enterprises per capita is the third in the USA.

- (2) From park innovation to urban innovation. China's industrialization used to adopt orders-based production and processing mode. Innovation, if there was any, only involved market application and development of a few enterprises in the park. However, the development of information economy and Industry 4.0 in Hangzhou completely breaks this passive innovation mode of processing and production, and replaces it with a new platform innovation mode. Innovation activities not only involve close collaboration between innovative colleges, innovation and entrepreneurship incubators and high-tech enterprises, but also are closely related to the ecological and cultural space, innovation service community and technology financing service institutions that innovation groups and enterprises rely on. These two parts respectively constitute the innovation power triangle and the innovation support triangle, and the superposition of these two triangles has formed the innovation network, which becomes the necessary condition for the development of innovative cities.

Just as how Portland promoted its industrial innovation and upgrading seven years ago, it puts urban innovation in an important position and attracts high-quality talents to lead the transformation of industrial economy. In the past 20 years, Portland has some advantages in computer, electronic hardware and precision instrument manufacturing, and is known as "Silicon Forest". However, after the financial storm in 2008, its traditional manufacturing orders shrank dramatically. The government formulated the *City of Portland Economic Development Strategy (2009–2015)*, and put forward the development strategies for fostering clean energy and information software industries, urban green innovation transformation, prosperous cultural communities, and so on. The strategy was designed to cultivate the innovative class. It is precisely because the urban green innovation strategy attracted a group of young people with ecological concept, and prosperous cultural communities attracted people with art cells, Portland greatly enhanced its position in venture

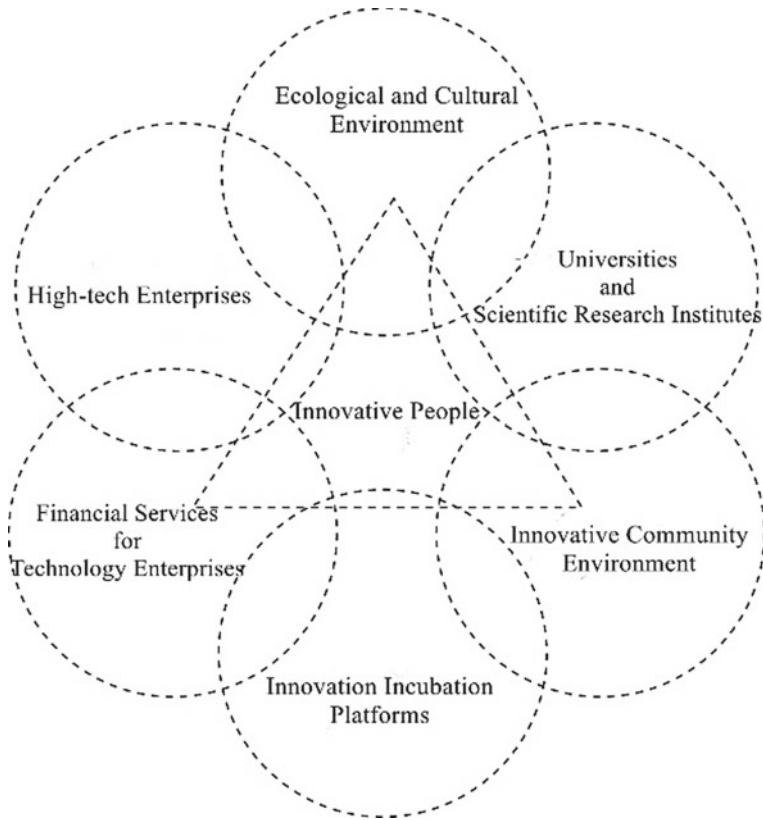


Fig. 4 Functional composition and network structure of innovative cities

capital companies and technology companies, thus the transformation and development of its industry became very smooth. Cambridge in the Boston Metropolitan Area, relying on the cultural facilities of colleges and universities, has become an important space for the exchange of S&T personnel and transnational cooperation. Among them, Harvard Square and Kendall Square also serve the function of urban cultural life, as it has commercial space measuring 900,000 square feet, 21 cultural bookstores and newspaper kiosks, and a large number of cultural performance places. These squares are not only city- and district-level cultural centers, but also the technology exchange centers and achievement trading places in the metropolitan area.⁴ Especially in the Internet age, the urban innovation mode, which is originated from life and communication and is inclusive, is an important way to lead the industrial development (see Fig. 4).

⁴ Tu Qiyu's article "Boston to become an innovative city, driving the transformation and development of metropolitan areas", quoted from the official account of "International City Observation" of the Shanghai Academy of Social Sciences.

- (3) Some measures for innovation and development. To build innovation network based on Hangzhou Metropolitan Area. Thanks to Hangzhou's excellent entrepreneurial environment, livable life and colorful cultural activities, Hangzhou has become a paradise for entrepreneurs. The vitality of S&T innovation continues to rise. Hangzhou is a big incubator, a super cloud platform and an international communication center. Hangzhou's innovation activities are rooted in every link of the city's economy, and enhanced in Hangzhou High-tech Zone, Future Science and Technology City, Qing Shan Hu Science and Technology City and other large parks, and further spread citywide to extend the innovation chain. The Innovation Power Triangle and the Innovation Support Triangle closely link the various functional units in the city to form an innovation network. Among them, the interaction of ecological space, cultural space, commercial space and all kinds of S&T innovation space is an important link to stimulate the transformation of innovation chain to value chain.

To vigorously cultivate applied S&T institutions with international cooperation mode. At present, the innovation in the field of S&T and information economy can no longer be made blindly. It is necessary to connect the global scientific research institutes, institutions and enterprises more closely for exchanges and cooperation, so as to ensure the timeliness and leadership of scientific and technological R&D. In the future, Hangzhou should focus on the new-generation information technology, artificial intelligence, life science, functional manufacturing, new materials and other S&T fields, strengthen cooperation with international institutions, increase cross-border mergers and acquisitions of intellectual patents, and actively expand the industrial chain. To this end, it can learn from the development experience of Cornell Tech in New York City, which is located on Roosevelt Island (between Manhattan and Queens) of New York City and is positioned as an applied technology R&D center. At present, with the help of R&D resources of colleges and universities, as well as convenient public service facilities and venture capital in the Central District of New York, Cornell Tech has attracted Internet technology enterprises such as Google and Facebook and large-scale integrated circuit enterprises to build an open and shared application-oriented innovation base. Teachers and students on campus can directly communicate and cooperate with the R&D centers of these large enterprises, and timely apply good innovations to these science and technology-based enterprises. It is worth noting that Cornell Tech is also a multinational cooperative organization, which is jointly built by Cornell University and Israel Institute of Technology, and jointly trains students in the fields of computer, information engineering and biomedicine.

To build a garden-like open S&T park based on all kinds of characteristic towns. Both Silicon Valley in the USA and Scientific Town of Tsukuba in Tokyo, Japan have beautiful environments, pleasant building scales and relatively perfect supporting functions, forming a close relationship between R&D activities and daily life. A garden-like open S&T park can fully meet the diversified needs of all kinds of people. It provides high-quality services for high-intensity practitioners through supporting

bars, fitness and sports centers and cultural entertainment venues, which is conducive to the burst of innovative thinking. Large enterprise headquarters such as Facebook, Apple and Alibaba prefer garden-like open parks. Therefore, S&T parks should not be understood as traditional “industrial complexes” surrounded by several buildings, but urban functional areas like Silicon Valley and Scientific Town of Tsukuba. Therefore, here we advocate the garden-like open S&T parks of characteristic town mode. The whole park is open, rather than a closed office space surrounded by office buildings. The area of each park is less than 5 km², with relatively mixed land functions and a high proportion of green open space.

To build a number of domestic leading excellent exchange space or maker space. Communication space is an important carrier of the original development of S&T and culture. The success of Z-Innoway lies in the unique communication atmosphere formed by various types of cafés and joint offices, allowing a group of people with entrepreneurial feelings and start-up products to communicate with each other deeply, and also enabling the venture capital companies with unique vision to find ideal investment targets as soon as possible. Hangzhou should also build a fine exchange space of the same kind based on its beautiful urban environment. This kind of space should better be located in regions that gather a lot of colleges and universities and innovative enterprises, such as ZITOWN, Dream Town and Xixi Valley to create a fine exchange space integrating innovation service and life services. The space should include the following four functions: First, coffee exchange facilities, to provide joint office space for the entrepreneurial groups; second, various small and micro incubators, to provide necessary policies and financial support for the entrepreneurs and start-ups; third, shared laboratories, to open the scientific research equipment of colleges and large scientific research institutions to the society, so that the entrepreneurial groups can reasonably use such facilities through the application and lease; fourth, urban public service nodes, to create open communication and sharing places through building pocket parks such as small green space, small parks, street center gardens and small sports venues in communities.

To build an international first-class innovation community. The innovative people in Silicon Valley in the USA and Scientific Town of Tsukuba in Tokyo, Japan mostly live near their employment sites, and the corresponding residential communities can provide daily life services as well as leisure and entertainment functions. The residential research report of Shangdi Hi-tech Industrial Base of Beijing shows that the employees of Internet enterprises and high-tech enterprises prefer to rent houses near their companies, so that they can have more time for communication. Based on the above service function requirements for innovative people, in areas where the information industry and high-tech industry are concentrated, such as Hangzhou West Science and Technology Innovation Corridor, Hangzhou High-tech Zone, it is particularly important to provide communication space for innovative people and high-end residential communities to meet the needs of intermediate and senior executives, and all this also provides diversified communication space for different groups. In addition, it is necessary to actively promote the construction of international talent apartments through government guidance and market cultivation. From the development experience of Silicon Valley and Boston, international talent apartments are

mostly rented to people engaged in scientific and technological R&D and high-tech production, and can guarantee available residential space for these people to migrate between different regions. Hangzhou can build international talent apartments in the Hangzhou West Science and Technology Innovation Corridor, Hangzhou High-tech Zone and various characteristic towns. Such apartments shall be built as per a certain proportion, and provided to young entrepreneurs and start-ups by leasing.

(II) The transformation and development path of coastal port cities with strong economy: Ningbo

The overall rise of the eastern coastal urban belt in China heralds the approaching national prosperity. In this context, the construction of world-class urban agglomerations in Yangtze River Delta will give Ningbo and other cities more global roles and international functions. To grasp the future regional positioning and development goals of Ningbo, we need to define the main themes of gateway and center, transformation and innovation, trade and port. They are the important breakthroughs for Ningbo to further improve its global comprehensive competitiveness and realize the improvement of urban quality.

1. Why does China need the transformation and development of Ningbo port city?

Gateway and center—seeking “unification”: The gateway and center are the inherent development characteristics of Ningbo. Since the Tang Dynasty (AD 618–907), Ningbo has always been a national gateway. Especially in the period of social stability and prosperity, Ningbo has been an important regional central city in China. Since the reform and opening up, Ningbo, as a national gateway, has more reflected the port function of material import and export and the bridgehead position of attracting investment. In the future, with China’s economy gradually leading the world’s economic development, Ningbo, as a national gateway, will be given more functions of transnational production organization, resource control and cultural exchange. At the same time, the status of Ningbo as a regional central city will be upgraded from an economic geographical center on the existing regional scale of the Yangtze River Delta to an international node center. Therefore, its functions of urban life, S&T education, cultural entertainment and leisure tourism serving the Yangtze River Delta will be greatly expanded, and these functions will also have international characteristics. Ningbo will spread its radiation influence to most areas of Zhejiang and become the core city to promote the development of Zhejiang Province.

Transformation and innovation—actions first: Becoming economic centers is no longer the only goal pursued by regional central cities. The multiple values of cities are more prominent in the new round of competition, which is the trend of transformation and development for regional central cities. In the future, it is an important direction for Ningbo to actively expand its international functions and improve the quality of the city in an all-round way. Therefore, Ningbo needs to understand its position in the global urban system in a more open attitude. The task of Ningbo’s transformation and innovation development is to change the urban function system to the metropolitan function system, and the industrial system gradually changes from the dominance by industry to the service industry with international trade as the core.

Therefore, Ningbo should strengthen the investment of talent and high-end service elements and improve the environment conditions for living while centering on the expansion and promotion of functions such as international trade, emerging industries, design expo, cultural creativity, leisure and livability, etc. It is worth noting that with the advent of the post industrialization era, Ningbo should actively seek new space expansion mode. For example, the eco-friendly metropolitan new area with Xiangshan Port (including Xiangshan Coastal Area) as the core can become a new growth space, which is the “third type space” between urban space and ecological space.

Trade and port—“sacrifice”: Ningbo trade port provides a long-term guarantee for the sustainable development of Ningbo. After the reform and opening up, Ningbo has steadily expanded its trade, commerce and exhibition functions, which is closely related to the continuous expansion of size and the upgrading of functions of Ningbo port. With the comprehensive implementation of Ningbo’s strategy of striving to become part of Shanghai international shipping center and financial center, the trade function of Ningbo will change fundamentally. In the future, Ningbo will expand its traditional functions of import and export customs clearance, bonded processing, and concentrated transportation of materials to the comprehensive trade functions of suppliers, sellers and international import and export marketing. The international comprehensive trade function will promote the development of the import and export transportation business of containers, bulk materials, equipment manufacturing and complete equipment. Ningbo will also seek cooperation with Zhoushan, under which Ningbo can play its own intermodal functions of sea-rail and sea-water (canal) transportation, and make use of water-water transit of Zhoushan to jointly expand international trade business (Ningbo and Zhoushan will form two ports in the north and south: Beilun-Zhenhai-Jintang-Zhoushan northern port area, and Meishan-Liuheng-Xiangshan southern port area). Therefore, the port function of coastal area in Ningbo will be restructured. Some low added value ore throughput, concentrated transportation of bulk materials, raw material processing and manufacturing, and heavily polluted port industries will be transferred to other ports along the coastal area of Zhejiang, while the shipping, international trade and professional service functions of Ningbo Port will be greatly enhanced. With the transformation and upgrading of Ningbo Port, Ningbo’s coastal area (Beilun-Meishan) needs to build a regional new city, which will lead to the comprehensive integration and spatial restructuring of the whole Ningbo-Zhoushan Metropolitan Area.

2. The direction of Ningbo’s transformation and development in the new era

In the next 20 years, Ningbo will be positioned as an important international trade gateway city in China and an important regional central city in the Yangtze River Delta region. Specifically, Ningbo will realize transformation, upgrading and innovative development around the four goals of “international gateway, trade city, cultural city and gulf metropolis”.

International gateway: Through giving full play to Ningbo’s gateway exchange functions such as port and airport, based on the high-end producer service industry

-serving the world, and centering on the development of Shanghai's world-class functions such as Shanghai International Finance Center and Shanghai International Shipping Center, to accelerate the promotion of Ningbo's gateway position in Zhejiang Province and southeast coastal areas of China, and develop Ningbo as important parts of Shanghai International Finance Center and Shanghai International Shipping Center.

Trade city: By relying on its function of national gateway, Ningbo will further expand and strengthen its functions in international trade, commodity circulation, expo, material pricing, etc., and strive for leapfrog development of Ningbo in the field of global trade circulation and the construction of international emerging industrial bases.

Cultural city: To fully explore the connotation of Ningbo as a national historical and cultural city, integrate Hemudu Culture, the culture of the Maritime Silk Road, Ningbo's book collection culture and business group tradition as one, and build a modern cultural city.

Gulf metropolis: To actively develop the characteristic space and tourism resources of mountains, rivers, sea and islands with Ningbo characteristics, and build Ningbo into an international coastal leisure and holiday resort and a high-quality livable city in coastal areas of China.

3. Several strategies for opening up, development and integration into the region

To develop Ningbo as an important part of Shanghai International Shipping Center. Beilun-Meishan-Zhenhai is a new gateway city of international shipping and trade in the Yangtze River Delta. The major functional carriers include Beilun-Meishan-Zhenhai, Zhoushan Islands, Sanmen Bay Area, etc. The space expansion of port area is to integrate coastal ports, coastlines and islands, build Dabeilun New City (300 km²) jointly with Zhoushan Islands, and actively construct a free trade zone in the south wing of the Yangtze River Delta. To expand the port's high-end service functions, with focuses placed on the development of basic industries such as customs clearance service, shipping information, shipping agent and freight service, and strive to develop leading industries of shipping trade and shipping finance. To construct a new gateway city for international shipping and trade, jointly develop Beilun (Daxie)-Meishan Coastal New City, and gradually implement the policy of encouraging small- and medium-sized enterprises on the verge of bankruptcy to quit the secondary industry and enter the tertiary industry, and develop residential, high-end port services, high-end leisure and entertainment, and business conference functions, making Ningbo's coastal area an important gateway new city. The regional ports are linked to coordinate Zhoushan Islands and Sanmen Bay Port, and develop a new port area for the emerging port-centered industry and for concentrated transportation of bulk materials.

To build Ningbo into an important part of Shanghai's trade and finance center, a key area for aligning with Shanghai's Hongqiao hub and Hangzhou comprehensive hub, and the core space for aligning with financial centers in Shanghai, Hangzhou and Ningbo. The main space carriers are Ningbo Central City and Yuci Sub Center. To build four trade functional zones and four international trade functions, which

are commodity display and trading platform, multinational corporation gathering platform, commodity circulation platform and international service trade platform. To build regional financial centers of Ningbo Central City and Yuci Core Zone, Beilun-Meishan Port and Offshore Financial Center. Under the radiation impact of Shanghai, to actively create a good financial development environment, and strive to build a modern financial service system with a reasonable structure, perfect function, orderly competition, efficient and open, and stable operation. To build a business exhibition city in the Yangtze River Delta, further expand the central city of Ningbo, integrate the business exhibition facilities in Yuci Core Area, and comprehensively expand the radiation influence of business conference, professional services, product expo, S&T innovation in the Yangtze River Delta region and even the whole country.

To build cluster areas of emerging industries and livable new areas in the south wing of the Yangtze River Delta. Functional positioning: To become a strategic area to promote the coastal development strategy of Zhejiang and realize the innovative development of Ningbo. The main space carriers include Hangzhou Bay Coastal Area and Sanmen Bay Emerging Industrial Base. The development strategy of integration of urban areas and industries: To promote the dislocation development of Hangzhou Bay Binhai New Area and the heavy chemical industrial belt around the bay. With the acceleration of urbanization process and the arrival of suburbanization effect in the post-industrialization era, the potential of Hangzhou Bay Binhai New Area as a livable new coastal city in the south of Yangtze River Delta is gradually highlighted. To timely cultivate Sanmen Bay Emerging Industry Base into the new southern port area, emerging port-centered industry and new energy industry gathering area of Ningbo-Zhoushan Port. Judging from the port, beach resources and future regional traffic conditions, Sanmen Bay Area has great strategic significance of reserve development. To develop the buried hill area to serve Ningbo-Zhoushan Metropolitan Area and build an ecological livable new city. Xiangshan (along the coast, along the Bay) and Fenghua-Ninghai (along the Bay) have an excellent natural environment, which will have the potential to build into the back garden of Ningbo-Zhoushan Metropolitan Area and become a high-quality, ecological and livable new city in the future.

To become an important international leisure tourism destination and international Leisure city in the south of Yangtze River Delta. The space carriers include Xiangshan Port, coastal zone, offshore islands and western mountainous area. The development strategy of whole region landscape integration: To build Xiangshan Port Ecological Urban New Area suitable for tourism, living and entertainment. To rationally develop the natural scenery tourism resources of Xiangshan Port and the coastal zone in the east of Xiangshan, explore the historical and cultural values of Shipu Ancient Town, and build an ecological Xiangshan Port and coastal zone with theme of leisure vacation, livable place for old people, business tourism and fishing culture festival. At the same time, the location of tourism branch airport is reserved in Xiangshan. To develop an island international leisure tourism project jointly with Zhoushan. To develop leisure tourism, high-end entertainment, vacation and recuperation tourism projects in combination with the city. To build suburban leisure tourism belt serving Ningbo-Zhoushan Metropolitan Area and Yangtze River Delta. To build suburban

leisure tourism belt. To appropriately develop buried hill areas, the development of leisure tourism, entertainment, education and training, facilities for old people and other urban suburban complexes.

To build a national historical and cultural city with the characteristics of eastern Zhejiang culture, and build an important cultural innovation base in the Yangtze River Delta. The space carrier includes old cities, historical and cultural towns and traditional villages in Ningbo. The development strategy of cultural prosperity includes the integration of historical and cultural resources and the promotion of Ningbo's cultural soft power. To explore the cultural values of Hemudu Culture, Temple of King Asoka of the Western Jin Dynasty, Shanglin Lake Yue Kiln Site, Maritime Silk Road site in the Tang Dynasty, and Tianyi Pavilion to further expand its popularity in the world and integrate Ningbo's business culture and scholarly culture into the urban development and construction. To build three innovation bases and Dongqianhu International Business and Cultural Exchange Center. Cixi Cultural Business District will be built to highlight the waterfront urban spatial characteristics of Yuci green city. Yinzhou New Product Innovation Center will be built, focusing on the development of high-end service industries such as headquarters economy, convention and exhibition, large-scale sports and leisure industry, and creative industry.

(III) The rising path of inland central cities: Chengdu

With the air passenger throughput of Chengdu exceeding 42 million in 2015, the operation of the Chengdu-Europe Express Railway from Chengdu to Rhodes, Poland became normal, significantly accelerating the pace of Chengdu's internationalization. The port economy, mainly based on airport and the land port of Chengdu-Europe Express Railway, has been developing rapidly, strengthening the pulling effect of foreign trade on economy. In 2015, Chengdu's total foreign import and export volume was close to USD40 billion, leading the central and western regions. Among them, the growth of trade with countries along the Belt and Road has accelerated significantly, with the growth rate of trade with Laos and Thailand in Southeast Asia at 30.3% and 111.6% respectively, and that of trade with Turkmenistan in Central Asia at 47.7%. At present, 268 of Fortune Global 500 enterprises are located in Chengdu, of which 199 are overseas enterprises. Thanks to all these, Chengdu's GDP exceeded one trillion in 2015, ranked among China's top ten, and its per capita GDP exceeded ten thousand US dollars.

In addition, Chengdu has made great progress in its international communication capacity. At present, Chengdu has 15 approved consulates (ranked the fourth in China), 29 international friendly cities, 85 international routes (ranked the fourth in China), the first entry-exit passenger transport volume of air ports in central and western China, and the first in central and western China in cargo and postal throughput. Its construction of transnational industrial parks has been on the right track, among which the China-Uganda Agricultural Industrial Park, China-Myanmar Grain Industry Demonstration Park, China-Cambodia Trade Park and so on have been launched. In July 2016, the G20 Finance Ministers and Central Bank Governors Meeting was held in Chengdu, significantly improving Chengdu's international status. Chengdu was also rated among the world's best emerging business cities and

top 10 cities to start up business in China by Fortune. According to DT Caijing statistics, Chengdu is closely followed by four first-tier cities, namely Beijing, Shanghai, Guangzhou and Shenzhen, and is also a talent gathering place like Hangzhou and Nanjing. At present, the rapid development of high-tech and advanced industrial bases in China, such as software information, automobile assembly, aircraft manufacturing, and Beidou Satellite, is also closely related to the internationalization of Chengdu.

1. China needs a central city in western China to serve as an international gateway

The acceleration of Chengdu's internationalization also benefits from the strategic reconstruction of the national urban system. On the one hand, China promotes the new urbanization strategy, and selects cities and towns intensive areas with high ecological bearing capacity, a large population size and a good economic basis in the central and western regions of China to cultivate urban agglomerations, so as to achieve the goal of urbanization of transferring 100 million rural people out of the central and western regions. The Chengdu-Chongqing City Cluster has become the key investment and construction area in the 13th Five Year Plan period. It is an important support for building a relatively balanced national urban system and a new engine of economic growth in China. The investment and construction mainly based on the national high-speed railway network and energy and power infrastructure make Chengdu more closely and conveniently connected with the central cities in central and eastern China. On the other hand, from the perspective of the development of countries or regions with the same scale and economic volume as the USA and the EU, it is an important global strategy to establish a relatively balanced pattern of opening up to the outside world. For example, the USA actively developed the port cities in the Pacific coastal zone in the middle of the 20th century, strengthened the position of the international aviation hub in the central region, so that the USA could simultaneously deal with the economic and trade exchanges with the Atlantic Rim and the Pacific Rim. While expanding its member states, the EU actively links with countries in its east, and establishes economic, trade and cultural exchange channels with West Asian and East Asian countries through the opening up of Eastern European countries.

Under the current Belt and Road Initiative, it is particularly urgent to open up western China to the west and the south. Establishing a number of inland international gateways is of national strategic significance. Therefore, in this context, Chengdu holds an important location of eastward integration, westward connection and southward coordination, which should become a national level central city of international gateway. There are two data that can explain Chengdu's role of internal and external coordination. Chongqing is the top source of Chengdu-Europe Express Railway, an express railway linking China and Europe, and Guangdong and Zhejiang provinces are also important sources of goods. Goods from these external provinces account for more than 50%; meanwhile, with the normalization of Chengdu-Europe Express Railway, more and more European goods can arrive in railway ports of Chengdu, thus enabling Chengdu to become both a domestic material distribution center and a distribution center for foreign trade with China. Meanwhile, the number of air routes

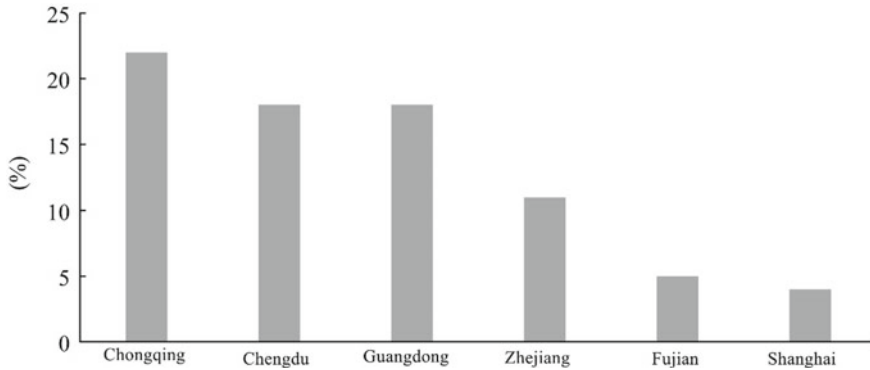


Fig. 5 Proportions of goods sources for Chengdu-Europe express railway

to Europe and North America from Chengdu ranks top in central and western China. Moreover, from the layout of large logistics giants at home and abroad, Chengdu is the most concentrated area in the western region, and companies such as Global Logistic Properties, SF Express, Amazon, JD and CAI NIAO, etc., all have established their regional logistics centers in Chengdu instead of Chongqing. Thanks to this advantage, Chengdu is an international city with high market capital recognition, thus it is necessary to build the city into a national level central city of international gateway in western China. At present, according to the latest GaWC ranking result, Chengdu is a city with high sufficiency, ranking first among inland cities of China (only after Beijing, Shanghai, Guangzhou, Shenzhen and Tianjin) (see Fig. 5).

2. The connotation and composition of international gateway

Firstly, to build a hub-type international airport gateway. Chengdu's air passenger throughput will reach 80 million by 2020, and its international transfer business will be greatly improved. In the future, with the development of Chengdu Shuangliu International Airport and Chengdu Tianfu International Airport, the value of Chengdu's hub-type international airport gateways is reflected in the following three spatial levels. First of all, to establish intercontinental air routes for North America and Europe, realize the close interaction between Chengdu and world cities and other top cities in the global urban system, and build a cross-border e-commerce trade circle. Secondly, to develop a 3000 km aviation business circle to radiate countries and regions in East Asia, South Asia and Southeast Asia, directly serving about 3 billion people. Finally, relying on the regional airlines of Sichuan Province and its surrounding provinces, to converge regional transfer business to Chengdu. From these three levels, to realize reallocation of the global industrial chain through free trade zones and airport-based comprehensive bonded zones, etc., while giving full play to the 72-h visa-free policy of inbound tourism and actively expanding the international tourism circle. Based on the international airport gateway, to actively strive for the right of navigation. Now the more popular is the Fifth Freedom of the Air, which allows the third party's aircraft of other countries to participate in the

transportation in its own country. For example, Chengdu has an airport economic zone, which allows transportation sections of other countries to transport transferred products in this place. At the same time, we need to expand the Sixth Freedom of the Air, and local airlines will undertake the aviation business of other countries. For example, Chengdu has Sichuan Airlines. In the future, the aircraft of Sichuan Airlines can undertake the air transportation functions of Southeast Asian and South Asian countries, then transfer in Chengdu, fly to Beijing, or fly to South Korea, Japan and other countries.

Secondly, to build an intercontinental freight railway hub. On the one hand, to give full play to the distribution advantages of Qingbaijiang Railway Container Center Station, gradually and steadily open up freight trains connecting the Yangtze River Delta, Pearl River Delta, the west coast of the Taiwan Strait, Beibu Gulf and Beijing-Tianjin-Hebei Urban Agglomeration; on the other hand, to give full play to Chengdu's cross-border transportation advantages westward and southward, comprehensively improve the train departure and return frequency of Chengdu-Europe Express Railway, and actively plan for Chengdu-Southeast Asia Express Railway, turning Chengdu into an important intercontinental freight hub in the Eurasia.

Thirdly, to plan for a global S&T innovation center. The competition among cities in the new era is more about knowledge economy and information economy, and cities with strong knowledge economy and information economy are also the fastest growing cities in the global urban system. Today's S&T innovation and achievement transformation more rely on the exchanges and cooperation between Chinese cities and other cities and high-tech parks in the world. Therefore, an important international gateway plays a very important role in promoting the S&T innovation of cities. On the one hand, we should play the role of international airports and land ports in promoting closer exchanges between schools, scientific research institutions and global S&T innovation centers in Chengdu, and promoting basic innovation work; on the other hand, we should also speed up attracting more high-quality international talents to start businesses and settle down in Chengdu, and establish a more diversified industrial technology cooperation platform through "Rongchuang + " model, so as to directly attract foreign advanced talents and technologies to speed up the transformation of S&T achievements.

Fourthly, to foster global cultural exchange centers. Among cities worldwide, all top cities give strategic priority to the promotion of urban culture. A city with open and inclusive cultural identity has a long-lasting appeal for entrepreneurs and enterprises. Therefore, building a cultural exchange center with global influence is also one of the important indicators of international gateway. Chengdu has a history of more than 3000 years, and its culture itself is the result of the continuous integration and development of human beings in the historical migration. In the process of gateway construction, Chengdu should combine its traditional culture with international cultural exchange, global digital media production, international leisure and entertainment, and especially integrate cultural elements such as the Silk Road and Tea Horse Road into urban development and construction, creating a model of international cultural city in inland China.

3. Space planning of international gateways: twin ports and twin cities

The necessary condition for the rise of inland central cities is to build a “twin port” system, i.e. the international airport and the international land port, and to build open policy platforms (such as the free trade zone) around airports and land ports to effectively reduce the industrial circulation cost and transaction cost. Chengdu should promote the differentiation of industrial chain services in the airport economic zones of Chengdu Tianfu International Airport and Chengdu Shuangliu International Airport. Chengdu Shuangliu International Airport serves Chengdu Metropolitan Area and western Sichuan area directly, and focuses on the development of airport-related high-tech industries and international express centers. Chengdu Tianfu International Airport transfers through high-speed rail and intercity rail, mainly serves Chengdu-Chongqing Urban Agglomeration, and focuses on high-end international leisure tourism and shopping, international distribution of green agricultural products and cross-border e-commerce logistics. Taking Qingbaijiang as the core, Chengdu will accelerate the construction of an international land port, establish a cross-border e-commerce logistics park based on the intercontinental freight railway hub, integrate the bonded zone and the advanced manufacturing base (export products), and take the international land port as the core guarantee area of industrial supply chain of Chengdu-Chongqing Urban Agglomeration.

While accelerating the construction of “twin ports”, Chengdu should promote the close connection between “twin ports” and the city’s various functions. Chengdu Science City should be the core of the construction of international S&T innovation center, and the formation of a rapid transportation system connecting the two international airports should be accelerated, so that Chengdu Science City can become a gateway and hub that conveniently integrates with the global innovation city and radiates the Chengdu-Chongqing Urban Agglomeration Innovation Industrial Cluster. Centering on the Science City, Chengdu should accelerate the layout of various international cooperation bodies (parks) and business innovation incubators, actively plan the national science experimental base, and make Chengdu Science City a model of “Garden City + Smart City”. Meanwhile, it is necessary to promote the organic urban upgrading of Chengdu’s existing main city area, fully protect the historical and cultural sites and intangible cultural heritage with a history of more than 3000 years, build a unique cultural boutique space with unique characteristics of “Capital of Shu Kingdom”, accelerate the establishment of an international cultural city, and attract entrepreneurs, inbound tourists as well as business and sightseeing travelers in a more open and inclusive manner.

Analysis Report on the Economic Corridors Under the Belt and Road Initiative



—The China-Indochina Peninsula and Bangladesh-China-India-Myanmar Special

Jicheng Zheng, Gang Duan, Chuankun Xu, and Meiyu Dong

I. China-Indochina Economic Corridor

The China-Indochina Peninsula Economic Corridor (CICPEC) is one of the six economic corridors planned to be jointly built by China and countries along the Belt and Road as proposed in the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road*. The economic corridor starts from Nanning in Guangxi Autonomous Region and Kunming in Yunnan Province of China, ends in Singapore City, and runs through Vietnam, Laos, Cambodia, Thailand, Myanmar and Malaysia on the China-Indochina Peninsula. It is a continental bridge connecting China to the China-Indochina Peninsula and also a transnational economic corridor for China to cooperate with ASEAN. The China-Indochina Peninsula and China share similar cultures and have close exchanges, which is an important support for the construction of the Belt and Road Initiative and upgraded construction of China-ASEAN Free Trade Area. Compared with other countries (or regions), the connectivity level of the China-Indochina Peninsula is above the average of countries along the Belt and Road, having enormous potential for cooperation.

(I) Background and concept

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1. China-ASEAN Free Trade Area

The China-Indochina Peninsula, which includes Vietnam, Laos, Cambodia, Myanmar, Thailand and western Malaysia, is located between China and the South Asian subcontinent. It is bordered by the Bay of Bengal, Andaman Sea and Malacca Strait in the west, and the South China Sea in the east. It is the peninsula containing the largest number of countries in the world, and also a bridge between the Pacific Ocean and the Indian Ocean, the connection between East Asia and South Asia, and the most important economic region in ASEAN.

In August 1967, the foreign ministers of Indonesia, Thailand, Singapore and the Philippines and the Deputy Prime Minister of Malaysia held a meeting in Bangkok and issued the *Bangkok Declaration*, officially declaring the establishment of the Association of Southeast Asian Nations (ASEAN). In 1997, in Kuala Lumpur, ASEAN leaders decided to develop ASEAN into a prosperous, stable and highly competitive economic zone, maintain stable economic development in the region, eliminate poverty and solve the imbalance of social development (*ASEAN Vision 2020*). After the Asian financial crisis, ASEAN has accelerated the pace of regional integration, actively adjusted its regional development strategy, and sought an upgraded version of regionalization. In October 2003, the ninth ASEAN Summit issued the *Declaration of ASEAN Concord II* (also known as *Bali Concord II*), which announced that the ASEAN Community would be established by 2020. In November 2004, the 10th ASEAN Summit adopted the *ASEAN Security Community Plan of Action* and the *ASEAN Socio-Cultural Community (ASCC) Plan of Action*, and formally listed the formulation of the ASEAN Charter as a goal of ASEAN to seek legal protection for the construction of the ASEAN Community. In February 2009, the 14th ASEAN Summit formally signed the *Roadmap for an ASEAN Community 2009–2015*, the *ASEAN Political-Security Community Blueprint*, *The second IAI Work Plan* and the *Joint Declaration on the Attainment of the Millennium Development Goals in ASEAN*.

In 1991, China and ASEAN began formal dialogue. With the deepening of political exchanges, China made clear in March 1996 that it hoped to become a comprehensive ASEAN dialogue partner, and this initiative was actively responded by ASEAN countries. In December 1997, Jiang Zemin, then president of China, attended the first ASEAN-China Summit. The leaders of China and ASEAN issued a joint declaration, which confirmed the good neighborly and mutual trust partnership facing the twenty-first century. The relations between China and ASEAN have entered a new stage. In November 2002, at the sixth ASEAN-China Summit, the two sides signed the *Framework Agreement on Comprehensive Economic Co-operation between ASEAN and China*, and set the goal of building China-ASEAN Free Trade Area in 2010. In 2004, Wen Jiabao, then premier of the State Council of China, attended the eighth ASEAN-China Summit and put forward ten new initiatives to strengthen bilateral cooperation. During the meeting, both sides signed the *Agreement on Trade in Goods of the Framework Agreement on Comprehensive Economic Co-operation between China and ASEAN* and the *Agreement on Dispute Settlement Mechanism of the Framework Agreement on Comprehensive Economic Co-operation between*

the Association of Southeast Asian Nations and the People's Republic of China. The China-ASEAN Free Trade Area entered into a substantive construction stage. In July 2005, the *Agreement on Trade in Goods of the Framework Agreement on Comprehensive Economic Cooperation* began effective. The two sides began to comprehensively reduce taxes on more than 7,000 kinds of goods, resulting into ever-growing trade volume. In January 2007, China and ASEAN signed the *Agreement on Trade in Services of the Framework Agreement on Comprehensive Economic Cooperation between the Association of Southeast Asian Nations and the People's Republic of China* in Cebu, Philippines. In August 2009, China and ASEAN jointly signed the *Agreement on Investment of the Framework Agreement on Comprehensive Economic Cooperation between the Association of Southeast Asian Nations and the People's Republic of China.* On January 1, 2010, China-ASEAN Free Trade Area was officially completed, cutting China's average tariff on ASEAN from 9.8 to 0.1% and its average tariff on six old ASEAN member states from 12.8 to 0.6%.

At the 10th China-ASEAN Expo in September 2013, leaders of China and ASEAN countries jointly celebrated the "golden decade" of cooperation between China and ASEAN, signed the *Framework Agreement on Comprehensive Economic Cooperation, the Agreement on Trade in Goods, the Agreement on Trade in Services and the Agreement on Investment*, and established the China-ASEAN Free Trade Area. China has become ASEAN's largest trading partner for many years, while ASEAN has become China's third largest trading partner. The volume of trade between the two sides has increased five times, and mutual investment has increased three times. Chinese Premier Li Keqiang proposed to build an upgraded version of the China-ASEAN Free Trade Area and strive to reach USD1 trillion in bilateral trade by 2020. In October 2013, Chinese Premier Li Keqiang put forward the "2 + 7 Cooperation Framework" to guide the future development of China-ASEAN relations at the 16th ASEAN-China Summit held in Brunei. "2" refers to two political consensuses, namely, deepening strategic mutual trust and expanding good neighborly friendship; focusing on economic development and expanding mutual benefit and win-win situation. "7" refers to seven key areas of cooperation, including politics, economy and trade, connectivity, finance, maritime, security, and cultural exchanges.

The establishment of China-ASEAN Free Trade Area, on the one hand, consolidates and strengthens the friendly and cooperative relations between China and ASEAN, promotes cultural exchanges and personnel exchanges, promotes the unity and cooperation between China and developing countries and neighboring countries, and improves the status and role of ASEAN in international affairs; on the other hand, further promotes the economic development and expansion of China and ASEAN, enlarged the scale of bilateral trade and investment, promoted the flow of logistics, capital and information among countries in the region, promoted the development of regional markets, created more wealth, improved the overall competitiveness of the region, and sought benefits for the people of all countries in the region. The establishment of China-ASEAN Free Trade Area has a huge driving effect on the common development of countries and regions along the Belt and Road, and has played a positive role in supporting the construction of the China-Indochina Peninsula Economic Corridor.

2. GMS and the economic ties of countries in the China-Indochina Peninsula

Greater Mekong Subregion Cooperation (GMS) is an important land bridge connecting China with Southeast Asia and South Asia. GMS was initiated by the Asian Development Bank in 1992, involving six countries in the basin, including China, Myanmar, Laos, Thailand, Cambodia and Vietnam. It aims to establish a mutually beneficial cooperation and self-strengthening mechanism for developing countries on the basis of equality, mutual trust and mutual benefit, strengthen economic ties and promote sub-regional economic and social development.

In November 2002, the first GMS Summit was held in Phnom Penh, capital of Cambodia. The leaders of the six countries participating in the summit summarized the achievements and successful experiences of the past decade, confirmed the cooperation prospects and commitments in the next decade, and further strengthened the six-country partnership. Zhu Rongji, then Premier of the State Council of China, attended the summit and made keynote speeches. He hoped that GMS countries would strengthen cooperation, give full play to their respective advantages and accelerate economic growth. The meeting approved the *10-year Strategic Framework of the Greater Mekong Subregion (GMS-SF) Economic Cooperation Program (GMS Program)*. In July 2005, the second GMS Summit was held in Kunming, Yunnan Province, with the theme of “A Stronger GMS Partnership for Common Prosperity”. Wen Jiabao, then Premier of the State Council, delivered a speech at the opening ceremony of the meeting, which adopted the *Kunming Declaration*. The six countries participating in the conference signed a number of cooperation documents such as facilitating passenger and cargo transportation, animal epidemic prevention and control, information highway construction and power trade, and approved *GMS Strategic Framework for Action on Trade Facilitation and Investment* and the Biodiversity Conservation Corridors Initiative. The meeting established the guiding principles of cooperation with the main contents of “mutual respect, equal consultation, focusing on effectiveness and step by step”, thus bringing the sub-regional cooperation to a new level. In March 2008, the third GMS Summit was held in Vientiane, Laos. Focusing on theme of “Enhancing Competitiveness through Greater Connectivity”, the participants exchanged views on strengthening the connectivity of infrastructure, facilitating trade and transportation, building partnerships, promoting economic and trade investment, developing human resources, enhancing competitiveness and sustainable environmental management, and sub-regional cooperation and development of partnership. In December 2014, the fifth GMS Summit was held in Bangkok, Thailand, with theme of “Committed to Inclusive and Sustainable Development in the GMS”. At the conference, participating countries expressed their willingness to further strengthen cooperation in the construction of land and sea transport infrastructure and economic corridors, facilitation of customs clearance, mutual investment, energy, environmental protection, disaster prevention and mitigation, and promote inclusive growth and sustainable development. Li Keqiang, premier of the State Council of China, attended and witnessed the signing of the Memorandum of Understanding on railway cooperation with Thai Prime Minister Prayuth Chan-ocha.

At present, the GMS mainly includes seven fields, namely transportation, energy, telecommunications, environment, tourism, human resources development, and trade and investment. With the gradual improvement of the cooperation mechanism, in 2015, China's trade with other five GMS countries reached USD193.9 billion, with more than 15 million bilateral personnel exchanges. The deep promotion of the economic cooperation in GMS has laid a solid economic foundation for the construction of the China-Indochina Peninsula Economic Corridor.

3. The Belt and Road Initiative and China's cooperation and development with countries on the China-Indochina Peninsula

In September and October 2013, Chinese President Xi Jinping visited to Central Asia and Southeast Asian countries. During this period, the Silk Road Economic Belt and the 21st-Century Maritime Silk Road initiatives (hereinafter referred to as the Belt and Road Initiative) were proposed. At the 2013 China-ASEAN Expo, Li Keqiang, premier of the State Council of China stressed the necessity of paving the maritime Silk Road facing ASEAN and building a strategic fulcrum to promote the development of hinterland.

On this basis, in order to implement the Belt and Road Initiative, bring vitality into the old Silk Road, link countries in Asia, Europe and Africa more closely through new forms and bring reciprocal cooperation to a new historical height, the Chinese government formulated and promulgated the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* in March 2015. The Belt and Road run through the continents of Asia, Europe and Africa, connecting the vibrant East Asia economic circle at one end and developed European economic circle at the other, and encompassing large number of inland countries with huge potential for economic development. The Belt and Road Initiative is designed to connect the Asian, European and African continents with adjacent oceans, establish and strengthen the partnership among all countries along the Belt and Road, and build an all directional, multi-level and composite interconnected network to realize the pluralistic, autonomous, balanced and sustainable development of all the countries along the Belt and Road. The Chinese government advocates peace and cooperation, openness and inclusiveness, mutual learning and mutual benefit. It promotes practical cooperation in all fields, and works to build a community of shared interests, destiny and responsibility featuring mutual political trust, economic integration and cultural inclusiveness. On land, the Initiative will focus on jointly building a new Eurasian Land Bridge and developing China-Mongolia-Russia, China-Central Asia-West Asia and China-Indochina Peninsula economic corridors by taking advantage of international transport routes, relying on core cities along the Belt and Road and using key economic industrial parks as cooperation platforms. At sea, the Initiative will focus on jointly building smooth, secure and efficient transport routes connecting major sea ports along the Belt and Road.

In 2016, Chinese President Xi Jinping further suggested that the Silk Road is the common wealth of all peoples. China is willing to work with countries along the Belt and Road to build reciprocal cooperation networks, create new cooperation models, develop diversified cooperation platforms, and promote key areas so as to create the

“Silk Road of green development”, the “Silk Road of health cooperation”, the “Silk Road of innovation” and the “Silk Road of peace”, which will benefit the countries and peoples along the Belt and Road.

Following the spirit of the Silk Road, China put forward the Belt and Road Initiative, based on the principle of joint construction, joint contribution and shared benefits, it promotes policy coordination, connectivity of infrastructure and facilities, unimpeded trade, financial integration, and close people-to-people ties, and has been widely recognized by countries along the Belt and Road. At present, more than 100 countries and international organizations have joined the initiative. China has signed cooperation agreements on building the Belt and Road with more than 30 countries, and entered into international industrial cooperation with more than 20 countries. The United Nations and other international organizations have also positively responded to the initiative. There has been further financial cooperation involving the Asian Infrastructure Investment Bank (AIIB), the Silk Road Fund and others, and a number of influential landmark projects have been implemented. The initiative started from scratch, but is now progressing rapidly yielding rich results beyond expectation. The China-Indochina Peninsula is a key surrounding cooperation area of China's Belt and Road Initiative. With the further development of the Belt and Road Initiative, China and the China-Indochina Peninsula will further promote cooperation and development in a wider range, at a higher and deeper level.

(II) Positioning and function

1. China-Indochina Peninsula Economic Corridor is an upgraded version of China-ASEAN Free Trade Area and the GMS

The economic globalization and the international industrial-capacity cooperation have enabled China to establish close bilateral and multilateral economic and trade cooperation and social exchanges with the countries in the China-Indochina Peninsula through official and non-governmental channels such as China-ASEAN Free Trade Area, Greater Mekong Subregion Cooperation, Pan-Beibu Gulf Economic Cooperation, which has effectively promoted the rapid economic growth of relevant cooperative countries. As a model of China's foreign cooperation, China and ASEAN began the dialogue process in 1991, and the trade volume has increased 75 times in the past 20 years. By the end of 2014, the cumulative two-way investment between China and ASEAN exceeded USD130 billion. In 2015, the total value of China's bilateral trade with ASEAN reached USD472 billion (RMB2.92 trillion), and the bilateral investment reached USD150 billion.

At present, the international financial crisis is still fermenting, the global economic recovery is weak, and Asia also faces downward pressure. However, the China-Indochina Peninsula is still a region with growth vitality in the world. This is due to the peaceful and stable development environment in the region and the continuous promotion of regional and sub-regional cooperation. China and the six countries in the China-Indochina Peninsula all belong to Asian cultures, and share common development needs. Further strengthening cooperation is in the common interests of all these countries. The China-Indochina Peninsula Economic Corridor proposed by the

Belt and Road Initiative starts with Nanning, Guangxi and Kunming, Yunnan, ends with Singapore, and runs through Vietnam, Laos, Cambodia, Thailand, Myanmar and Malaysia, which are all on the China-Indochina Peninsula. The corridor is the continental bridge connecting China with China-Indochina Peninsula, and the transnational economic corridor of China and ASEAN. On the basis of the original economic and trade exchanges, the building of China-Indochina Peninsula Economic Corridor will be organically integrated with Vietnam's "two corridors and one circle" and Cambodia's "four corners" strategy, and further improve the land-based contact between China and Vietnam, Laos, Cambodia, Thailand, Myanmar and Malaysia, striving to address the problems and bottlenecks in the fields of policy coordination, connectivity of infrastructure and facilities, unimpeded trade, financial integration, and close people-to-people ties, promote the facilitation of transportation, investment and trade, promote the optimization of the distribution of new industries and industrial chain division, deepen financial cooperation, and carry out extensive cultural exchanges, academic exchanges, talent exchanges and cooperation, media cooperation, youth and women exchanges, volunteer services, etc., so as to jointly build a community of shared destiny between China and ASEAN. This effort will push China-ASEAN Free Trade Area, the GMS and Pan-Beibu Gulf Economic Cooperation to a higher level, achieve fruitful results and benefit more people of all countries involved.

2. China-Indochina Peninsula Economic Corridor is a key step for the construction of infrastructure connectivity of the Belt and Road Initiative

The infrastructure connectivity is the priority area for the construction of the Belt and Road Initiative. China proposes to strengthen the alignment of infrastructure construction planning and technical standards system in the countries along the Belt and Road, jointly promote the construction of international backbone channels, and gradually form infrastructure networks connecting sub-regions in Asia and Asia, Europe and Africa on the basis of respecting the sovereignty and security concerns of relevant countries. China and the countries of the China-Indochina Peninsula are neighbors and share long border lines, including 5,080 km border lines on land, of which China-Vietnam land border line reaches 2,373 km; China-Myanmar border line, 1,997 km; and China-Laos border line, 710 km. As one of the six major international economic corridors proposed by the Belt and Road Initiative, the China-Indochina Peninsula Economic Corridor is located in the center of Asia, and is a continental bridge linking the Pacific Ocean with the India Ocean, connecting East Asia and West Asia and even Europe. China, Vietnam, Laos, Cambodia, Thailand, Myanmar and Malaysia, which are all countries along the corridor, have different economic and social development stages and development levels, but are rich in natural resources, mineral resources and human resources, with much complementary in economic development.

As early as the Han and Tang Dynasties in China, the China-Indochina Peninsula was an important channel for China to trade with India. From the middle of nineteenth century to the middle of twentieth century, Britain and France built some transportation infrastructure of railways and highways in Vietnam, Laos, Cambodia, Myanmar

and Malaysia to connect countries of the China-Indochina Peninsula or connect these countries with China, including famous Yunnan-Vietnam Railway and Yunnan-Myanmar Highway. In the 1960s–1980s, with the rise of emerging economies such as the Four Asian Dragons and Tiger Cub Economies in Asia, the rapid economic development of Thailand and Malaysia in the China-Indochina Peninsula led to the improvement of infrastructure conditions in this region. The improvement of China-Vietnam relations and the prosperity of border trade in the 1990s had greatly strengthened infrastructure cooperation between China and Vietnam, especially the construction of ports. However, the Asian financial crisis in 1998 greatly affected the economic development of Southeast Asian countries. For years since then, governments in the China-Indochina Peninsula region have been avoiding the upgrading of infrastructure. With the weakening of the pulling effect of consumption by private sectors on economy, the countries of the China-Indochina Peninsula are maintaining their economic expansion with the aid of expenditure from public sectors, and a new upsurge of infrastructure construction has been set off. *The ASEAN Economic Community Blueprint* adopted at the 13th ASEAN Summit in November 2007 made it clear that within the ASEAN region, an efficient, secure and integrated transport network is essential to the realization of ASEAN Free Trade Area, to enhance its attractiveness as a single destination for production, tourism and investment, and to narrow the development gap. ASEAN transport network is equally important for connecting ASEAN with its neighbors in Northeast Asia and South Asia. Through implementing Article 48 of the *ASEAN Transport Action Plan 2005–2010*, the development and facilitation of water, land and air transport are promoted, and information infrastructure construction and energy cooperation will be strengthened. In October 2010, the 17th ASEAN Summit adopted the *Master Plan on ASEAN Connectivity*, and proposed the ASEAN connectivity strategy supported by physical, institutional, and people-to-people connectivity, involving more than 700 construction plans and projects. Financial institutions estimate that the annual capital demand for infrastructure construction in the Asia Pacific region is about USD700 billion, and more than half of the demand is from Southeast Asia.

At present, although the countries in the China-Indochina Peninsula have made active efforts in promoting connectivity, due to continuously and deeply affected by the world financial crisis since 2008, the economy of the China-Indochina Peninsula has been seriously impacted again. The investment in the construction of transportation infrastructure, information infrastructure and energy infrastructure among countries in the China-Indochina Peninsula region is seriously insufficient, especially insufficient top-level design of cross-national and cross-regional infrastructure, inconsistent technical standard systems, serious situation of missing links in transport backbone networks, and lagging project construction, etc., which has become an important obstacle to restrict ASEAN, especially the countries of the China-

Indochina Peninsula, to integrate into the world economic system and to support the sustainable, healthy and high-speed development of their own economy and society. For example, as of December 2015, Vietnam had only 800 km of highways opened to traffic, 500 km of highways under construction, and the logistics cost was equivalent to 20% of Vietnam's GDP. Although the national highway of Laos is over 47,000 km, soil roads account for 48% and gravel roads account for 37%, there is no expressway yet, but the road transportation accounts for 82% of the total transportation. According to the statistics by the end of 2013, Myanmar has national roads and main roads of about 93,700 km totally, of which roads measure 34,200 km, and built highways amount to less than 500 km. Cambodia has about 15,000 km of roads, including 4,165 km of national roads and 3,335 km of provincial roads. There's no expressway.

The China-Indochina Peninsula Economics Corridor, proposed by the Belt and Road Initiative, is aimed at further improving and upgrading the backward infrastructure in the China-Indochina Peninsula, following the market rules and international common rules, giving full play to the decisive role of the market in resource allocation and the main role of all kinds of enterprises, and speeding up the construction of key infrastructure channels such as Trans-Asian Railway and high-grade highways, maritime shipping, aviation lines and network information with the countries along the Belt and Road. Priority should be given to the construction of key node projects, strengthening the communication and alignment of infrastructure construction planning and technical standards system, and providing support for the facilitation of freight trade, industrial chain cooperation, cultural exchanges and reasonable flow of development elements within and among countries along the economic corridor, thus promoting the economic and social development of the whole region to a new level. Such connectivity involves traditional roads, railways, aviation, shipping, pipeline and other new fields, such as power, telecommunication, post, border defense, customs, quality supervision and planning. The development of infrastructure networks will help connect the local and international markets. For example, the land access to Laos, Thailand and Myanmar will change Laos from a "land-locked country" to a "land-accessible country", transforming the disadvantages of an inland country into its geographical position advantages. Laos with inconvenient traffic will become a hub connecting neighboring countries through interconnection, especially an important node for interconnection between China and ASEAN. The roads and railways from Yunnan to Kyaukpyu Port, Myanmar, will greatly promote the transfer of industrial finished products and agricultural products in China, Laos and Myanmar to South Asia, West Asia, Europe and Africa through the Indian Ocean, so that Myanmar can benefit from the commercial prosperity and development. Meanwhile, with the smooth land, railway and air transportation in the China-Indochina Peninsula, more tourists from China and even the European and American countries will be attracted to Vietnam, Laos, Cambodia, Thailand, Myanmar and Malaysia for sightseeing and leisure, thus promoting the rapid development of the tertiary industry in these countries and increasing income of the people along the line.

3. The construction of the China-Indochina Peninsula Economics Corridor will benefit countries along the line in the new round of international industrial division pattern adjustment, value chain reconstruction and S&T industry revolution

In the era of economic globalization, the development of all countries is closely linked. The benefit to one means benefit to all, whereas harm to one means harm to all. No country can develop alone, so coordination and cooperation are inevitable choices. The Belt and Road Initiative is a great innovation by China, a world economic growth locomotive in the post financial crisis era, through transforming its own capacity advantages, technology and capital advantages, experience and mode advantages into market and cooperation advantages, and implementing all-around opening-up. The Belt and Road Initiative will share the dividends of China's reform and development, and the experience and lessons of China's development. China will strive to promote cooperation and dialogue among countries along the Belt and Road, establish a new type of global development partnership with more equality and balance, laying a solid foundation for the long-term and stable development of the world economy.

China and countries in the China-Indochina Peninsula are friendly neighbors, with strong economic complementarity and huge market capacity, cooperation space and development potential. Taking the opportunity of the Belt and Road Initiative to develop transnational connectivity, raise the level of trade and investment cooperation, and promote international industrial-capacity and equipment manufacturing cooperation, the essential is to increase the effective supply to generate new demand and achieve the rebalancing of the world economy. Especially in the current continuous economic depression worldwide, it will help stabilize the world economic situation to make China go global with huge industrial-capacity and construction capacity generated procyclically, and support the urgent needs of countries along the Belt and Road to promote industrialization, modernization and improve the level of infrastructure.

Judging from the resource endowment, geographical location and economic development level of the countries in the China-Indochina Peninsula, and according to the World Bank criteria, Malaysia and Thailand belong to the upper-middle-income countries, Vietnam, Laos, Myanmar and Cambodia belong to the lower-middle-income countries, and the development of the countries in the region is mixed. In the 1960s, ASEAN countries took the strategy of substitution and export orientation, and entered the preparatory stage of participating in the global network. In the 1970s-1980s, with the increasing dependence of the USA and Japan on East Asian product suppliers, the range of intermediate products provided by East Asian suppliers and the participation in production links is becoming wider and wider. The Four Asian Dragons are rapidly integrated into the production chain and further extended the chain to Malaysia and Thailand. In the 1990s, ASEAN has fully integrated into the global production network, and has gradually shifted from processing and assembly to parts production. In the twenty-first century, with the change of international industrial division and regional production network pattern, a lot of international investment and multinational companies poured in and a series of new changes

took place in the industrial division pattern in the Asia Pacific region. The traditional vertical division of labor changed to mixed division of labor, and the production network based on “intra-product specialization” took shape rapidly, which was different from the traditional inter-industry and intra-industry specialization. ASEAN became an important node in the regional production network dominated by multinational companies. However, ASEAN was still in the middle and low end of the global value chain in the Asia Pacific region. In these countries, the proportion of intermediate products trade was on the rise, the trade volume of intermediate products accounted for nearly 60% of the total trade volume, spare parts and semi-finished products were the main import commodities and the production model of processing and re-export of imported intermediate products continued. After the global financial crisis in 2008, with the economic transformation and industrial upgrading of various countries in the region, the production network in Asia Pacific region underwent the process of adjustment and reconstruction. Due to the rise of de-globalization, the USA actively promotes the return of its manufacturing industry. Germany actively promotes Industry 4.0. Japan continues to devalue the yen, resulting into the initial signs of the return of Japanese manufacturing industry. China promotes technological upgrading of the manufacturing industry and the cultivation of emerging industries. The Asia Pacific region is facing a new round of restructuring of division of labor and redistribution of value chain. In the China-Indochina Peninsula, Thailand, Malaysia and other countries urgently need to take advantage of this round of adjustment of global industrial division layout to eliminate the obstacles in the circulation of goods and services, promote trade and investment facilitation, realize the connectivity of infrastructure and mechanisms, adjust their positions in the regional supply chain, and accelerate the industrial upgrading of their own countries. While Vietnam, Laos, Cambodia, Myanmar and other rising countries need to increase infrastructure investment, accelerate the construction progress, make full use of the comparative advantages of natural resources, human resources and special locations, attract multinational companies to invest and set up factories there, and undertake some labor-intensive industrial relocation, becoming the regional parts suppliers and assembly plants of transnational corporations. In this process, the construction of the China-Indochina Peninsula Economic Corridor will greatly promote the improvement of infrastructure conditions and the supply of industrial development elements on the China-Indochina Peninsula. And it will attract Chinese enterprises and capital to distribute more capital, technology and industrial manufacturing links to this region, build a cross-border and cross-regional supply chain system, promote international industrial-capacity cooperation, and make up for the short board of the development of the rising countries in the China-Indochina Peninsula. It will work with China to build a community of shared interests, destiny and responsibility featuring mutual political trust, economic integration and cultural inclusiveness, so that countries along the economic corridor can avoid marginalization by but to benefit from the new round of adjustment to international industrial division pattern, rebuilding of the value chain and the fourth technological industrial revolution.

(III) Development achievements

The China-Indochina Peninsula is a leading area in the cooperation of “five-pronged approach” between China and its neighboring regions. It has made great achievements in connectivity of infrastructure and network construction, sub-regional cooperation, financial cooperation, food security cooperation, capacity-building, social and cultural exchanges, non-traditional security cooperation and many other aspects. Since the proposal of the China-Indochina Peninsula Economic Corridor was raised, with the positive response and joint efforts of countries along the corridor, relying on the central cities along the corridor, taking railways and highways as carriers, and based on the flow of people, logistics, capital and information, it is striving to build a regional economy with complementary advantages, regional division of labor, joint development and common development.

1. Improving cooperation mechanism

The comprehensive and multidisciplinary governmental and folk exchange and cooperation mechanisms between China and other countries and regions along the Belt and Road have kept improving, and the international and inter-ministerial working mechanisms have been further improved. The overall development mechanism of national advocacy, government coordination, social participation and market operation, and the coordinated development trend of cross-country, cross-region, cross-department and cross-industry cooperation are being formed. Up to now, more than 100 countries and international organizations have got involved, and China have signed cooperation agreements on jointly building the Belt and Road with more than 30 countries along the Belt and Road, started international industrial-capacity cooperation with more than 20 countries. The United Nations and other international organizations are also positive with the Belt and Road Initiative. Meanwhile, China will further consolidate and deepen existing multilateral cooperation mechanisms such as China-ASEAN “10 + 1”, APEC, ACD, CICA and GMS. Countries related will strengthen communication, and let more countries and regions learn and take a part in the Belt and Road Initiative, especially the construction of the China-Indochina Peninsula Economic Corridor.

China’s Belt and Road Initiative has been endorsed and supported by the overwhelming majority of ASEAN countries. All ASEAN members have become the founding members of the AIIB proposed by China. At present, the construction of “upgraded China-ASEAN Free Trade Area” has started, and the first round of negotiations on upgraded China-ASEAN Free Trade Area was held in September 2014. The economic cooperation with GMS has also entered a new stage. On December 20, 2014, the triennial GMS Summit was held in Bangkok, Thailand, with the theme “Committed to the Inclusive and Sustainable Development in the GMS”. The leaders of the six countries reached a series of cooperation consensuses.

In September 2016, Chinese Premier Li Keqiang and Lao Prime Minister Thongloun Sisoulith held talks to witness the signing of *the Memorandum of Understanding between the People’s Republic of China and the Lao People’s Democratic*

Republic on Jointly Formulating the Cooperation Plan for the Belt and Road Initiative. This memorandum of understanding, as the first governmental document on jointly building the Belt and Road between China and a country along the China-Indochina Economic Corridor, is of landmark significance. It will promote friendly relations between China and Laos, strengthen economic ties, enhance cultural exchanges, and set up a model for bilateral cooperation between China and countries in the China-Indochina Peninsula. Meanwhile, relevant departments of the two countries also signed the *Agreement on Key Projects to Identify and Jointly Promote Cooperation on Productivity and Investment* and the *Agreement of Jointly Formulating the Cooperation Framework for Special Economic Development in Key Areas such as Lao Electric Power, the Comprehensive Development of China-Laos Railways, and Tourism*, so that cooperation between China and Laos in the fields of industry, energy, transportation and energy has been on a fast track.

In October 2016, during Chinese President Xi Jinping's visit to Cambodia, China and Cambodia signed 31 important documents or cooperation agreements, including the *Memorandum of Understanding on Jointly Formulating the Cooperation Plan for Promoting the Belt and Road Initiative*, the *Agreement on Double Taxation Avoidance and Avoidance of Tax Avoidance*, the *Agreement on Identifying and Jointly Promoting Key Projects for Industrial-Capacity and Investment Cooperation*, the *Exchange of Notes on the Launch of the Sino-Cambodian Friendship Hospital*, and the *Memorandum of Understanding on Jointly Cooperating in the Launch of Water Conservancy Projects*, establishing the practical goal of reaching USD5 billion in bilateral trade in 2017. China and Cambodia agreed to further expand exchanges and cooperation in agriculture, ocean, S&T, education, culture, health, tourism and non-governmental exchanges. The two countries will give full play to their complementary advantages in economy, tap their potential, and promote cooperation in infrastructure construction, agriculture and water conservancy, energy resources, information and communication, so as to better promote the various cooperation projects between the two sides. China will actively support Chinese enterprises with strength and good reputation to strengthen cooperation with Cambodia in infrastructure, energy, communication, agriculture, industry, tourism and other key fields, and continue to implement cooperation projects such as Sihanoukville Special Economic Zone.

2. Gradually building the cooperation platform

Relying on Boao Forum For Asia, Pan-Beibu Gulf Economic Cooperation Forum, China-ASEAN Expo, China International Fair for Investment & Trade, China-South Asia Expo, Western China International Fair, Qianhai Cooperation Forum, the Greater Mekong Sub-region Economic Corridors Forum, the Belt and Road Forum for International Cooperation of China Hi-Tech Fair and other platforms, the construction of the China-Indochina Economic Corridor has been fully communicated and discussed, and a number of major infrastructure construction projects, cross-border cooperation parks, and cooperation agreements on major economic and trade projects have been reached. These special investment, trade and cultural

exchange activities, the China-ASEAN “10 + 1”, the Silk Road (Dunhuang) International Cultural Expo, the Silk Road International Film Festival and Book Exhibition shall be held well. The National Year, Cultural Year, Exchange Year and Tourism Year, as well as expositions, art festivals, book and film festivals shall be run with countries along the Belt and Road. The activity of “China in the Eyes of Silk Road Writers and the Silk Road in the Eyes of Chinese Writers” will be organized, the think-tank and media exchanges among countries along the Belt and Road, as well as exchanges and cooperation in the fields of cultural and academic, talent, media, poverty alleviation, youth and women will be actively and widely carried out. have helped fully excavate local and folk “historical and cultural heritage” in countries along the Belt and Road will be fully excavated. All these will strengthen the public opinion foundation of the China-Indochina Peninsula Economic Corridor.

Among them, on the level of economic and trade cooperation, the 9th Pan-Beibu Gulf Economic Cooperation Forum and the China-Indochina Peninsula Economic Corridors Development Forum was held in Nanning, Guangxi, China on May 26, 2016. Contracts on the China-Indochina Peninsula Cross-border E-commerce Settlement Platform, China-ASEAN (Qinzhou) Huawei Cloud Computing and Big Data Center, China Longbang - Vietnam Tra Linh Cross-border Economic Zone Planning Project, South China Sea International Cruise Ship Port and Route Construction Project, Myanmar-China (Jinshandu) Agricultural Demonstration Zone have been signed, with a total investment of RMB78.4 billion.

On the level of financial cooperation, the Chinese government has led the establishment of the New Development Bank, the Shanghai Cooperation Organization Development Bank and the Asian Infrastructure Investment Bank to serve as major important investment and financing platforms of the Belt and Road Initiative, and has invested USD40 billion to establish the Silk Road Fund, providing investment and financing support for the infrastructure projects of countries along the Belt and Road. In October 2013, Chinese President Xi Jinping proposed to set up the Asian Infrastructure Investment Bank (AIIB). In October 24, 2014, the finance ministers and authorized representatives of 21 first intending founding member countries, including China, India, Singapore, Vietnam, Laos, Cambodia, Thailand, Myanmar and Malaysia, signed a contract in Beijing to jointly establish the AIIB. On April 15, 2015, the AIIB determined 57 founding member states, including 37 countries in the region and 20 from outside the region. On June 29, 2015, the signing ceremony of the *Articles of Agreement of the Asian Infrastructure Investment Bank* was held in Beijing, and the finance ministers or authorized representatives of 57 intending founding member countries of the AIIB attended the signing ceremony. On December 25, 2015, the AIIB was officially established, giving birth to the first multilateral financial institution proposed to be set up by China. From January 16 to 18, 2016, the opening ceremony of the AIIB and the inaugural meeting of the Board of Governors were held in Beijing. Up to now, the number of AIIB members has increased to more than 80 countries, exceeding the Asian Development Bank with 67 countries and regions as its members. As a regional financial institution proposed by China, the AIIB's business is to assist the infrastructure construction of Asian Pacific countries. After the full operation, the AIIB will provide financing support

for infrastructure projects in Asian countries by a series of support methods, including loans, equity investment and guarantee, to revitalize investment in various industries including transportation, energy, telecommunications, agriculture and urban development. In addition, the China Development Bank, as China's largest policy bank, has launched several funds for the construction of the Belt and Road, including the UAE-China Joint Investment Fund, the China-France Cooperation Fund, the China-LAC Cooperation Fund and the China-Africa Development Fund, etc.

On the level of cultural exchanges, People's Daily organized the Silk Road Economic Belt Media Cooperation Forum and the Media Cooperation Forum on Belt and Road in 2014, 2015 and 2016, which brought together top political leaders, business leaders, authoritative experts and more than 200 mainstream media organizations. These forums played the roles of window, bridge and link to promote the understanding and trust among different countries and regions, promote related countries to enhance exchanges and cooperation in the areas of politics, economy and trade, culture and media, jointly blueprinting a new future based on the Belt and Road through innovation, cooperation, and common development.

3. Steady progress of cooperation projects

With the good foundation laid by China-ASEAN Free Trade Area and the GMS, since the Belt and Road Initiative was proposed, China's cooperation with countries along the China-Indochina Economic Corridor has achieved initial results, and a large number of cooperation projects have been well underway.

- (1) China-Vietnam cooperation. In 2015, Vietnam-Yongxin Coal-fired Power Plant Phase I, witnessed by leaders of China and Vietnam, was more than 30% completed in just one year. The Yongxin Coal-fired Power Plant Phase I project is composed of two 600,000 kW supercritical coal-fired units, and adopts the most advanced power generation technology in China. It is also Vietnam's first power plant to adopt supercritical "W" flame boiler technology. After the completion of 2019, it will effectively alleviate the power shortage in Central Vietnam and promote the upgrading of Vietnam's power industry. Meanwhile, the construction on Vietnam's first light rail line – Cat Linh-Ha Dong metro line, with China Railway Sixth Group Co., Ltd. as the general contractor, is in full swing. The pouring of last cast-in beam recently marks the completion of the construction of major structure of light rail bridge. The project will enter the stage of guardrail and deck pavement. It is expected to be opened to traffic in the end of 2017, which will greatly facilitate the travel of residents in Hanoi.
- (2) China-Laos cooperation. Laos has launched some projects under the framework of economic corridor, including the China-Laos railway project, as an important part of the Trans-Asian Railway. In September 2015, four Hunan-based enterprises including Hunan Construction Engineering Group signed a strategic cooperation agreement with a "bank consortium" composed of eight financial institutions including Export-Import Bank of China Hunan Branch. Under the agreement, they are expected to invest a total of USD13 billion to build an expressway in Laos. The project, with a full length of about 800 km,

is the southern section of the new expressway running through the whole territory of South and North Laos, from Vientiane, Laos to Pakse City, Champasak Province. On December 25, 2016, the opening ceremony of the China railway project was held in Luang Prabang, Laos, which was attended by the Lao Prime Minister Thongloun Sisoulith and the Ambassador of China to Laos Guan Huabing attended the ceremony. The China-Laos Railway is 417 km long, with a construction period of 5 years and a total investment of about RMB37.4 billion. The China-Lao Railway will run through Laos, linking Vientiane, the capital of Laos, with the China-Lao border in the north and Thailand in the south, and will connect the railway networks of other countries in the China-Indochina Peninsula, so as to enable the rich natural resources in Laos to go global and connect Laos with the world. With the construction of the China-Laos Railway, an economic artery connecting the two countries and benefiting the peoples will be opened. Vientiane Saysettha Development Zone, another major project of China-Laos cooperation, is planned to be constructed in three phases. After completion, it is expected to attract about 150 enterprises, with an annual output value of up to USD6 billion, create more than 30,000 jobs for locals, and contribute a financial revenue of USD300 million to the city of Vientiane and the Lao government each year. Phase I of the project has been completed. With a developed road network and complete basic facilities such as water, electricity, communication and network, the zone has attracted more than 30 enterprises to settle in. The eight enterprises that have been officially put into operation not only bring more than 700 jobs to the local area, but also bring advanced business and development zone operation management concepts to Laos.

- (3) China-Cambodia cooperation. China and Cambodia continue to expand pragmatic cooperation in economic and trade investment, connectivity, energy resources and other fields, and a number of infrastructure projects such as airports, ports and highways are underway. As a model project jointly built by China and Cambodia under the Belt and Road Initiative, the Cambodia Sihanoukville Special Economic Zone has been the focus of attention of the state leaders of the two countries. Chinese President Xi Jinping said that China and Cambodia should strengthen connectivity cooperation under the Belt and Road framework and well operate the Sihanoukville Special Economic Zone. Hun Sen, Cambodian Prime Minister, places great hopes on the country's largest special economic zone to become "Cambodia's Shenzhen". As of June 2016, a total of 100 enterprises, with an investment of USD280 million, have entered the Sihanoukville Special Economic Zone, creating more than 13,000 jobs for Cambodians.
- (4) China-Thailand cooperation. Thailand also looks forward to jointly promoting regional connectivity and economic cooperation. Thailand is exploring a development path in line with its national conditions, and hopes to exchange and learn from each other and deepen cooperation with China. In particular, with the help of construction of the Silk Road Economic Belt and the 21st Century

Maritime Silk Road, Thailand will promote agricultural and railway cooperation, promote regional connectivity, expand the export of Thai agricultural products to China, welcome Chinese enterprises to invest in Thailand, promote non-governmental exchanges, and strengthen personnel training. Thailand will further promote infrastructure construction, including road and water transport. The Thai government has formulated an infrastructure development plan with a total amount of THB 2 trillion for the next 10 years. Among them, the China-Thailand Railway is one of the key points of recent cooperation between China and Thailand. The China-Thailand Railway connects Vientiane, Laos, to Kunming in the north, and Malaysia and Singapore in the south, which may constitute an important part of the Trans-Asian Railway Plan. Since the start of negotiation on the cooperation of China-Thailand railway in January 2015, 16 meetings have been held, at which the two sides have fully discussed the feasibility study, detailed design, EPC and financing scheme. In December 2014, China and Thailand signed the *Memorandum of Understanding on Railway Cooperation between China and Thailand* and the *Memorandum of Understanding on Agricultural Trade Cooperation between China and Thailand* to promote the construction of regional connectivity. In July 2015, representatives of China and Thailand reached a consensus on the first phase of the Bangkok-Nong Khai Railway, which is 133 km from Kanchanaburi to Bangkok. The construction of the first phase is expected to start as early as October 2015 and will be put into operation by the end of 2017. In 2016, Thailand once again said that the construction of the Bangkok-Khorat section of the China-Thailand Railway is planned to start in early 2017 and be completed in about three years, while the whole line, namely the Bangkok-Nong Khai Railway, will be constructed in the next five years. In addition, with an area of four square kilometers, the first two phases of the China-Thai Rayong Industrial Zone on the east coast of Thailand have been fully developed, and the third phase measuring eight square kilometers wide is under construction. At present, more than 60 Chinese enterprises have settled down in the zone, with a total investment of more than USD1.2 billion.

- (5) China-Myanmar cooperation. On September 30, 2013, the China-Myanmar natural gas pipeline starting from Kyaukpyu Port in Myanmar was fully connected and gas transmission began. On January 30, 2015, the China-Myanmar oil pipeline was fully completed and oil transportation began. The railway from Ruili in Yunnan, China to Mandalay, Naypyidaw and Yangon in Myanmar, and the Kunming-Dali section in Yunnan Province have been completed and are undergoing capacity expansion and reconstruction. The construction on the Dali-Ruili section was fully started in December 2015, and the construction on the Ruili-Yangon and Ruili-Kyaukpyu sections in Myanmar are expected to restart in 2017. In August 2015, flood disaster caused serious damage to power facilities in some areas of Myanmar and China responded actively. In 2016, China provided assistance worth about RMB36 million in total to Myanmar. In March 2016, Yunnan Energy Investment Foreign Energy Development Co., Ltd., a wholly-owned subsidiary of

Yunnan Provincial Energy Investment Group Co., Ltd., signed an agreement with the Department of Hydroelectric Power of Myanmar to invest more than USD700 million in the development and construction of Gulang and Tongxin Bridge Hydropower Projects with a total installed capacity of 1200 MW in Myanmar's Nuochangka River Hydropower Project, and all power generated will be absorbed in Myanmar's market.

- (6) China-Malaysia cooperation. New breakthroughs have also been made in the cooperation projects between China and Malaysia. On November 1, 2016, witnessed by Chinese Premier Li Keqiang and Malaysian Prime Minister Naguib Sawiris, China Communications Construction Company Limited and Malaysia Rail Link signed a contract for Malaysia's eastern coastal railway project in Beijing, with the contract value of about RMB74.5 billion. The 600 km-long railway project will connect 8 major cities from Port Klang to Tumpat, Kelantan, and is expected to be completed in 5–6 years. The new railway line will reduce transportation costs between the west and east coasts of Malaysia, reduce commodity prices and shorten travel time, which will also create more employment and business opportunities for Malaysians, especially those living in rural areas.

4. The cooperation in different fields has achieved remarkable results

First, infrastructure connectivity

The infrastructure cooperation between China and Southeast Asia has achieved remarkable results. In terms of highways, Guangxi and Yunnan actively promote the construction of highway network connecting the countries in the GMS, and all the international highways in China have been upgraded. In terms of railways, China actively participates in the cooperation on the Trans-Asian Railway. The construction of the eastern, middle and western sections of the Trans-Asian Railway within the territory of China has been included in China's *Medium and Long-Term Railway Network Plan*, and the construction is well underway. China is also committed to supporting the construction of the eastern, middle and western sections of the trans-Asia railway beyond China's borders in the three schemes. According to the wishes of countries in the China-Indochina Peninsula such as Cambodia, Laos, Myanmar and Thailand, China has taken various ways to provide assistance for the construction of the overseas sections of the Trans-Asian Railway. In terms of shipping, the Lancang-Mekong River cross-border shipping has fully completed the Lancang River five-level waterway system, increasing the navigation time from half a year to basically full year. Since the Mekong 10.5 Massacre in 2011, China, Laos, Myanmar and Thailand have implemented joint patrol and law enforcement on the Mekong River. In terms of aviation, since 2008, Guangxi has opened routes from Nanning to Ho Chi Minh, Vientiane, Rangoon, Phnom Penh, Bangkok, etc., realizing all the navigable links between Nanning Airport and GMS countries. The opening of the Kunming Changshui International Airport in Yunnan at the end of 2011 has enhanced the air transport capacity with countries in the China-Indochina Peninsula. In May 2016, Peking University published the *Belt and Road Initiative: Report*

on *Five-Connective Index*. According to the evaluation index system comprehensively evaluated the level of development of countries along the Belt and Road in the five aspects: “policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds”, the five-pronged approach of the China-Indochina Peninsula economic corridor ranks top among the six major economic corridors in China and its neighboring countries.

In Guangxi, China, there are 12 points of international road access to the China-Indochina Peninsula, 28 international road transport lines have been approved, and 11 passenger and freight transport lines have been opened. At present, the Vietnam-China Bac Luan (Beilun) Bridge II is about to be closed, and projects such as Dongzhong (Hengmo) Bridge between China and Vietnam are actively promoted. At present, the countries in the Greater Mekong River Basin are building nine cross-border roads connecting the east and the west and linking the north and the south, some of which have been completed. Starting from Kunming, China, the north-south roads connecting Singapore have been built, and the construction on the east-west roads connecting Myanmar, Thailand and Vietnam are in full swing. The provincial section of the highway starting from Kunming and linking Vietnam, Laos and Myanmar has been built. The new Yunnan-Vietnam Railway has been opened to traffic. The construction on Yunnan sections of the China-Laos Railway and the China-Myanmar Railway all has started. The China-Myanmar natural gas pipeline has been completed for ventilation. The 13-million-ton oil refining project of the China-Myanmar crude oil pipeline is expected to be put into trial operation in the first half of 2017.

Since the Hanoi-Laocai Expressway, Vietnam’s first expressway connecting China-Vietnam border, was opened in September 2014, Vietnam began to speed up the construction of highway and railway network connecting China-Vietnam border. Up to now, the construction has officially started on the expressway from Bac Giang in the north of Vietnam to Lang Son, which is adjacent to Guangxi, China. At the same time, Vietnam is also studying and demonstrating the high-speed railway project connecting its northern cities such as Hanoi, Laocai and Haiphong and the Van Don-Mong Cai Expressway project.

Cambodia will repair and upgrade its southern and northern railways and further strengthen its railway links with Laos, Singapore and Nanning, China.

In September 2015, China officially established the China-ASEAN Information Harbor in Nanning.

Second, economic and trade cooperation

With the wide recognition of the Belt and Road Initiative and the active promotion of a large number of connectivity projects, the economic and trade exchanges between China and the countries in the China-Indochina Peninsula are becoming more and more closely related. China continues to become ASEAN’s largest trading partner, and ASEAN is China’s fourth largest export market and the second largest source of imports. According to the statistics of China Customs, the total value of China’s import and export of goods trade in 2016 was RMB24.33 trillion (USD3.68 trillion), of which the total value of China’s import and export with ASEAN was RMB2.98

trillion (up 1.9% YoY), second only to China's RMB3.61 trillion (up 3.0% YoY) with the European Union and RMB3.43 trillion (down 0.8% YoY) with the USA. From the perspective of trade structure, in 2016, China's export to ASEAN was RMB1.687 trillion (down 2.0% YoY), and its import from ASEAN was RMB1.298 trillion (up 7.4% YoY). The trade surplus between China and ASEAN was significantly reduced.

In 2016, the value of trade between China and Vietnam continued to rise. China has become Vietnam's largest trading partner for 12 consecutive years. The trade structure between China and Vietnam is constantly optimizing. The technology-based and capital-intensive industries have gradually replaced agricultural and sideline products, primary industrial products and mineral raw materials as the main products of bilateral trade. The breadth and depth of bilateral cooperation are constantly expanding. In 2016, the total value of China's import and export trade with Vietnam was RMB649.3 billion, showing a YoY increase of 8.9%. Among them, China's export to Vietnam was RMB403.39 billion (down 1.6% YoY), and its import from Vietnam was RMB245.9 billion (up 32.1% YoY).

At the same time, China has become Laos' largest source of foreign capital, largest donor and second largest trading partner. In 2015, the bilateral trade volume between China and Laos was USD2.78 billion. From January to November 2016, the bilateral trade volume between China and Laos was USD2.022 billion, of which Laos exported USD1.159 billion to China and imported USD863 million from China.

In 2015, the bilateral trade volume between China and Cambodia was USD4.43 billion, showing an increase of 18%, of which Cambodia exported USD670 million to China, showing an increase of 38.1%. From January to November 2016, the bilateral trade volume between China and Cambodia reached USD4.287 billion, of which Cambodia exported USD745 million to China and imported USD3.542 billion from China.

From January to November 2016, the bilateral trade volume between China and Myanmar reached USD10.884 billion, of which Myanmar exported USD3.48 billion to China and imported USD7.404 billion from China.

In 2016, the total value of bilateral trade between China and Thailand was RMB500.48 billion, showing a YoY increase of 6.8%. Among them, China's export to Thailand was RMB244.59 billion (up 2.8% YoY), and its import from Thailand was RMB255.88 billion (up 10.9% YoY).

In addition, according to the World Bank's forecast, the GDP growth rates of China, Vietnam, Laos, Cambodia, Thailand and Myanmar in 2016 would be 6.7%, 6.0%, 7.0%, 7.0%, 3.1% and 6.5% respectively, far higher than the GDP growth rates of the developed economies such as the USA (1.6%), the European Union (1.6%) and Japan (1.0%). China and ASEAN have made positive contributions to the world's economic development.

Third, international industrial-capacity cooperation

In accordance with the orientation of building the Green Silk Road and the Silk Road of Innovation, while promoting environmental protection and ecological protection, China has made an orderly progress in international industrial-capacity cooperation

in more than 10 key fields such as iron and steel, equipment manufacturing, automobile, electronics and textiles, and has carried out international industrial-capacity cooperation with more than 20 countries and established 56 overseas cooperation zones in the countries along the Belt and Road. In the process of carrying out bilateral key industrial-capacity cooperation with relevant countries, China not only focuses on efforts to relocate industries, but also help them cultivate and develop their own competitive industrial clusters, so as to support their economic development and industrial structure upgrading. In September 2017, at the 19th ASEAN-China Summit and the Commemorative Summit Marking the 25th Anniversary of China-ASEAN Dialogue Relations held in Vientiane, Laos, leaders of China and ASEAN countries issued the *Joint Statement between ASEAN and China on Production Capacity Cooperation*, which agreed that China and ASEAN have achieved rapid, comprehensive and significant development in terms of economic exchanges, and that both sides have become important economic partners for the development of economic cooperation. The industrial-capacity cooperation has laid a solid foundation. It's noted that China and ASEAN have vital needs for infrastructure development and acceleration of industrialization. The two sides can further strengthen China-ASEAN Economic and trade relations and boost the confidence and enthusiasm of the industries of both sides through the industrial-capacity cooperation. It's recognized that both China and ASEAN are facing challenges in achieving sustainable economic and social development. Both sides have complementary comparative advantages and great potential for expanding exchanges and cooperation. Both sides will continue to improve and enhance their respective national and regional industrial capacity.

Based on the practical needs and good foundation of cooperation, at present, the industrial parks jointly promoted by China and the countries in the China-Indochina Peninsula include Thai-Chinese Rayong Industrial Zone, Dongxing and Pingxiang in Guangxi, Mengla (Mohan) in Yunnan, Ruili Key Open Development Open Experimental Zone, China-Malaysia Qinzhou Industrial Park, Malaysia-China Kuantan Industrial Park, Cambodia Sihanoukville Special Economic Zone, and Songklah Special Economic Zone in Thailand, etc.

Thai-Chinese Rayong Industrial Park, which started construction in 2006, is the first Chinese industrial park in Thailand. Located on the east coast of Thailand, and close to Bangkok (the capital of Thailand) and Laem Chabang, the park has an overall planning area of 12 square kilometers, including general industrial area, bonded area, logistics storage area and commercial living area. It mainly attracts Chinese enterprises from sectors such as auto parts, machinery and household appliances to set up factories in the park. The park has been recognized by the Chinese government as one of the first batch of "overseas economic and trade cooperation zones"—the industrial cluster center and manufacturing and export base of China's traditional advantageous industries in Thailand, and finally formed a modern comprehensive park integrating manufacturing, exhibition, logistics and commercial living areas. Up to now, it has attracted more than 40 Chinese enterprises to settle there successfully.

In November 2016, witnessed by Premier Li Keqiang and Prime Minister Thongloun of Laos, China's Minister of Commerce Gao Hucheng and Laos' Minister of Planning and Investment Souphanh Keomixay signed the *Master Plan for Common*

Development of Mohan-Boten Economic Cooperation Zone (Outline) on behalf of the two governments. According to the development base of the China-Lao cooperation zones, relying on the traffic conditions, the two sides will take areas along the Kunming-Bangkok Road and the China-Laos Railway as the economic belt, and Mohan and Moding International Trade Financial Areas as the two cores to form a focus area for industries such as comprehensive service, bonded logistics, commerce and finance, and tourism. The Mohan area of the Chinese side mainly develops the headquarters economy, while the Moding area in Laos mainly develops processing and manufacturing. Meanwhile both sides strengthen cooperation in commerce, modern logistics and tourism, and form a highly integrated and complementary industrial development pattern.

Fourth, cooperation in the financial field

Along with the deepening of financial cooperation represented by the AIIB, the Silk Road Fund is also increasing efforts to serve the Belt and Road Initiative, and the scale of cross-border transactions of RMB is also expanding. On January 16, 2016, the AIIB ushered in the first anniversary of its opening. During this period, the AIIB established and improved its organizational structure, provided USD1.727 billion in loans to 9 projects in seven Asian developing countries, mobilized public and private sector funds of USD12.5 billion, paving for the future implementation of more infrastructure projects. The AIIB has 57 founding members, 75% of which are in Asia. At present, the AIIB has received written applications for accession from more than 20 countries, and the number of its member states is expected to reach nearly 90 in 2017. The investment and construction of these projects will be of great significance to improve the capacity and utilization efficiency of the borrower countries in fields of urban facilities, transportation, and energy supply, help them improve their industrial capacity, accelerate the process of industrialization and urbanization, promote international industrial-capacity cooperation, and promote regional connectivity. The AIIB actively cooperates with other multilateral development banks in a win-win manner. The AIIB has signed cooperation agreements with the World Bank, Asian Development Bank, European Bank for Reconstruction and Development, and European Investment Bank. In 2016, six of the nine loan projects were jointly financed with other multilateral development banks. In this series of cooperation, the AIIB has demonstrated the professional spirit of standardization and efficiency, demonstrated practical actions of seeking common development, established a good image of good faith partners and strengthened the overall strength of multilateral development banks.

In the first three quarters of 2016, the amount of China's investment agreement with Vietnam reached USD1.01 billion, showing a YoY increase of 304%. Among them, 208 new projects, with an agreement amount of USD670 million. Up to now, China has 1,492 direct investment projects in Vietnam, with an agreed investment of USD11 billion. China has become the ninth largest source of foreign investment in Vietnam. Meanwhile, Vietnamese enterprises have also begun to invest in China as destinations. The number of Vietnam-based projects in China reached 20 in the first nine months of 2016, showing a YoY increase of 900%.

China is Cambodia's largest source of foreign capital. In 2015, Cambodia's total investment reached USD4.644 billion, showing a YoY increase of 18%. China ranked the first place with an investment of USD865 million, accounting for 18.62% of Cambodia's total investment, 6.5% more than the total investment in Cambodia from all other countries. In 2015, China invested USD390 million in Cambodia through non-financial direct investment, with a total direct investment of about USD3.61 billion; the newly signed contractual amount of the contracted projects was USD1.42 billion, an increase of 0.5%, and recorded an accumulative contractual amount of USD1.21 billion, with a turnover of USD7.66 billion. As of June 2016, China's direct investment in Cambodia has exceeded USD12 billion in total. China's investment industry in Cambodia is mainly distributed in hydropower stations, power grids, communication, service industry, textile industry, agriculture, medicine, and energy. China Huadian Corporation Ltd, Sinohydro Group Ltd, China Datang Corporation Ltd, Jiangsu Hodo, China Duty Free Group, and Cambodia Bayon Airlines have carried out investment activities in Cambodia. These investments have directly promoted the rapid development of Cambodia's national economy.

Fifth, cooperation in the field of science, education and culture

In terms of cultural exchanges, China-Thailand relations are at the forefront of other ASEAN countries. In 2015, the number of Chinese language learners in Thailand reached 850,000. So far, Thailand has established 14 Confucius Institutes and 18 Confucius Classrooms. Thailand has become a popular destination for Chinese students to study abroad in Asia. At present, about 30,000 people in China study in 44 universities in Thailand.

In terms of tourism, the number of Chinese tourists to ASEAN has continued to increase. Among them, the number of tourists to Thailand in 2015 was over 7.9 million person-times, up 603% in five years compared with 1.12 million in 2010, and 71.6% compared with 2014. In 2015, Chinese tourists accounted for more than 30% of total visitors to Bangkok, compared with 7% in 2009. The number of mainland Chinese tourists to Vietnam reached 2.228 million in the first 10 months of 2016, showing a YoY increase of 55.2%, ranking the first in the number of tourists to Vietnam. From January to October 2016, Cambodia received 653,000 Chinese tourists, and China was only second to Vietnam in terms of the number of tourists to Cambodia, becoming the second largest tourist source country in Cambodia.

IV. Prospects

The Belt and Road Initiative is China's cause as well as a common international cause. From the proposal of the Initiative to the vision and planning, and then to the specific construction, the Belt and Road Initiative has always been based on the great convergence of China's economic transformation and world economic recovery, explored the way of China's development and world development together, and promoted the economic development of all countries along the Belt and Road to win a better future. The Belt and Road, as an economic artery, provides a Chinese approach and opportunities at a time of weak world economic recovery.

The six countries of the China-Indochina Peninsula are China's close neighbors in ASEAN. As China's best cooperation area of connectivity, the China-Indochina Peninsula Economic Corridor is most likely to harvest cooperation projects in the first place, and hopefully yield fruitful results. It will become a model of the six major economic corridors along the Belt and Road. China will stick to the road of peaceful development, unswervingly maintain regional peace and stability, always take ASEAN as the priority of China's diplomacy, firmly develop friendly cooperation with ASEAN, firmly support the construction of ASEAN Community, support ASEAN's central role in regional cooperation, and support ASEAN to play a greater role in international and regional affairs. China is willing to continue to implement the principles of amity, sincerity, mutual benefit and inclusiveness in our relations with neighboring countries, promote friendship and partnership with our neighbors, work with the six countries of the China-Indochina Peninsula to promote the tradition of good neighborliness and friendship. Taking China-Indochina Peninsula Economic Corridor as a platform, it will further strengthen cooperation in the areas such as the construction of land and sea transport infrastructure and economic corridors, customs clearance facilitation, mutual investment, energy, environmental protection, disaster prevention and mitigation. China will strive to advance regional economic development and people's livelihood improvement, deepen mutually beneficial cooperation in all fields, promote inclusive growth and sustainable development, and make unremitting efforts to achieve long-term prosperity and stable development in the region.

First, to deepen cooperation in infrastructure. In terms of traffic system construction, we will strengthen planning alignment, scientifically select route plans, take environmental impact into consideration of port and station layout, and actively develop transport modes with less energy consumption and friendlier environment, such as sea-rail transport and inland river transportation. We will jointly accelerate the construction of backbone infrastructure channels including Trans-Asian Railway, high-level highways, maritime shipping, aviation line and network information development, give priority to promoting the construction of key node projects, and strengthen the communication and alignment of infrastructure construction planning and technical standards system, to gradually form a smooth, convenient, fast, efficient, green and coordinated international channel of China-Indochina Peninsula, promote the free flow and efficient allocation of resource elements, and enhance the mutual promotion of the opening up of countries along the economic corridor to the outside world. Taking the establishment of the Regional Railway Alliance as an opportunity, we will promote the construction of the comprehensive transportation system in the sub-region and improve customs clearance facilitation and software connectivity level. In terms of energy infrastructure construction, the cooperation will be strengthened in the construction of transnational oil and gas pipelines, power stations and cross-border power grid interconnection, focusing on the promotion of green energy infrastructure cooperation such as PV and wind energy. China always adheres to the principle of developing and protecting water resources simultaneously and making rational use of water resources. China is willing to share hydrological information with relevant countries and strengthen disaster prevention cooperation.

In the aspect of communication network construction, China will optimize the energy consumption of the power supply and cooling system of the core network and the power supply and distribution system of the base station, actively develop and utilize new energy, carry out all-round green transformation of the communication network, and build the information bridge of the green Silk Road. In the meantime, China will promote facilitation and expand investment and trade exchanges. We will jointly promote investment trade and facilitation of personnel exchanges, promote customs cooperation such as “one inspection between the two countries”, and bilateral or multilateral cooperation in inspection and quarantine, certification and accreditation, standard measurement and statistical information, so as to promote the full and orderly flow of essential resources. We will make full use of the connectivity to further expand the scale of trade and investment, and improve the level of economic and trade cooperation.

Second, to innovate on industrial cooperation mode. In accordance with the *Joint Statement between ASEAN and China on Production Capacity Cooperation*, we encourage industrial-capacity cooperation led by commercial principles, and promote economic development through industrial upgrading, so as to match the production and demand of all industries and achieve sustainable development and common prosperity. We will focus on promoting cooperation in the industries with comparative advantages in the China-Indochina Peninsula that meet their respective priority development direction and development level, and promote the formation of a new pattern of regional industry development with the basic capabilities of transnational elements and market radiation. China is willing to actively participate in the establishment of technical and industrial parks in six countries of the China-Indochina Peninsula, especially along the railway to be jointly constructed by China and Thailand, and willing to build factories with advanced industrial-capacity to directly help neighboring countries increase employment. China advocates the establishment of a sub-regional cross-border e-commerce cooperation platform and is willing to host the annual economic corridor forum. Relying on the overseas economic and trade cooperation zones of China and various industrial parks built by countries along the Belt and Road, we will build customs special supervision areas, accelerate international industrial-capacity cooperation and equipment manufacturing, and cooperate with the customs special supervision areas of countries along the Belt and Road in terms of information exchange, mutual recognition of supervision, and mutual assistance in law enforcement. In the field of agriculture, we will establish cooperative production and processing bases for green agricultural products, develop e-commerce of green agricultural products, introduce excellent germplasm resources and talents technology, and form a deep processing industry chain of green agricultural products. In the industrial field, green industrial parks will be regarded as the main mode of cooperation between China and other countries along the economic corridors. With the green infrastructure construction as the priority, we will carry out the utilization of renewable water, ground-coupled heat pump and other green technologies to minimize material consumption and energy consumption of production. In accordance with the principle of extensive consultation, joint efforts and shared benefits, the international industrial-capacity cooperation will be

promoted in an orderly manner. China pays attention to the strategic alignment and industrial complementarity with the countries of the China-Indochina Peninsula, and respects and takes care of the vital interests of all parties. For developing countries with abundant labor resources, low production cost and market demand but insufficient production capacity, such as Vietnam, Cambodia, Laos and Myanmar, China will mainly invest in the construction of cement, flat glass, building sanitary ceramics, new building materials, new housing and other production lines in combination with various ways of design, engineering construction and equipment supply, and the construction of cotton textile, chemical fiber, household appliances, food processing, and other projects in the light textile industry, to improve the industrial production capacity and international market participation capacity of the host country, and increase the local market supply. For the countries along the economic corridors with good industrial basis and maritime transportation conditions, such as Thailand and Malaysia, China will focus on supporting the development of key industries such as automobile and accessories, electrical electronic and communication equipment, petrochemical and environmental friendly chemical industry, agricultural product processing, textile and clothing, and strive to form a pattern of cross-border, trans-regional, upstream and downstream supporting and clustered development. We will encourage the active role of research institutions such as think tanks and academic partners to jointly conduct industrial-capacity cooperation research and provide policy suggestions in line with the national interests of all parties.

Third, to strengthen financial support for trade and investment cooperation. China will carry out pilot projects on cross-border trade in local currency settlement with countries in the Mekong River Basin, expand the scale of direct exchange of local currency, support the expansion of economic and trade cooperation between the two sides, and support key projects of regional connectivity and industrial cooperation in accordance with the principles of marketization and sustainability. We will continue to make good use of special infrastructure loans between China and ASEAN, and explore various investment and financing methods conducive to local large-scale project cooperation, such as public-private joint ventures. Relying on the construction of the comprehensive financial reform pilot zones along the border of Guangxi and Yunnan, China, we will steadily promote cross-border financial cooperation and investment facilitation. Through the strict control of investment in industries causing pollution through financial instruments such as stock, bond, loan, private investment and insurance, and supported with policy export credit insurance and the bank insurance cooperation mechanism, we will guide social funds to green industries such as energy conservation and environmental protection and clean energy, so as to realize the investment and financing mode of sustainable environmental development, and help to build the green Silk Road and green economic corridors. We will establish a complete evaluation system and technical index for the green risk of industrial projects, and establish a third-party green project evaluation market. We will strengthen international cooperation, establish regional green funds, and strengthen the support of professional international organizations such as the AIIB for green finance. In 2017, the projects supported by the AIIB will be gradually expanded to various infrastructure industries and other productive fields. The

country-specific distribution of the projects will not only be extended to all regions in Asia, but also to the extraterritorial developing members conducive to the connectivity with Asia. While continuing to invest in sovereign-backed projects, we will also make efforts to cultivate non-sovereign-backed projects; in addition to loans, we will study equity investment, guarantee and other innovative financial instruments more in line with the needs of developing countries. In addition to joint financing with other multilateral development institutions, we will explore joint financing or parallel financing with relevant national development institutions and commercial financial institutions. Meanwhile, we will further expand the scale of loan investment independently developed and operated by the AIIB, and enhance the ability to develop, reserve and manage investment projects. We will effectively implement the “Global Infrastructure Connectivity Alliance Initiative” and the 2030 agenda for sustainable development approved and launched by the Hangzhou G20 Summit, follow the green principles of *The Paris Agreement*, attach equal importance to quantity and quality, continuously strengthen the capacity of project development, reserve, audit and implementation, and jointly promote infrastructure investment with other multilateral development agencies.

Fourth, to promote the people-to-people and cultural exchanges and social development. We will further enhance people-to-people and cultural exchanges, implement the *Development Plan of Overseas China Cultural Centers (2012–2020)*, give priority to establishing China cultural centers in countries along the China-Indochina Peninsula Economic Corridor, such as Myanmar, Malaysia and Vietnam, and extensively cooperate in various fields, and cooperate with countries and regions along the corridor in archaeological research, cultural relics restoration and exhibition, personnel training, museum exchange, world heritage declaration and management, carry out joint creation with artistic talents and cultural institutions in the countries and regions along the corridor, and actively promote cultural and creative products by using the “Belt and Road” cultural exchange and cooperation platform, to promote the integration of the Internet and the cultural industry and build a solid foundation for China’s international economic cooperation in the China-Indochina Peninsula.

Fifth, to improve the level of opening and linkage of regional development. We will encourage countries in the China-Indochina Peninsula to increase their investment, welcome the active participation of all parties from outside the region, and continue to play a good role in international institutions such as the Asian Development Bank. We will strengthen the alignment of their own development and sub-regional planning, maintain communication and coordination with ASEAN Community, “10 + 1”, and “10 + 3” regional cooperation mechanisms, improve the competitiveness of the countries in the global supply chain, industrial chain and value chain of the China-Indochina Peninsula countries, negotiate and formulate plans and measures to promote regional cooperation, promote practical cooperation step by step, and jointly create an efficient integrated economic zone to finally achieve the maximum economic benefits of their own. We will protect the ecological environment, establish cross-border ecological corridors and reserves, sign framework agreements on macro contents such as joint subjects, supervision entities and mutual assistance in case of emergency, establish wider adjacent area and deeper joint prevention and control for

the protection of natural ecology and environment, realize comprehensive ecological protection along the China-Indochina Peninsula Economic Corridor, and promote the continuous and healthy development of the China-Indochina Peninsula Economic Corridor.

II. The BCIM Economic Corridor

The BCIM Economic Corridor is one of the six major economic corridors planned for China and countries along the Belt and Road as proposed in *The Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road*. BCIM Economic Corridor is based on the important cities along Kunming, Mandalay, Dhaka and Calcutta, takes the international channels such as railway, highway, aviation, water transportation, power, communication, oil and gas pipeline as the links, and takes the flow of people, logistics, capital and information as the basis, to form an economic belt with complementary advantages, division of labor and cooperation, coordinated development and common development, and construct an economic corridor linking Kunming, Mandalay, Dhaka and Calcutta through jointly creating advantageous industrial clusters, characteristic town system, industrial park, port system, border economic cooperation zones, etc. BCIM Economic Corridor is designed to give full play to comparative advantages of the countries involved, strengthen the regional transportation links, reduce the regional transportation costs and trade costs, promote the resource complementarity and the flow and use of production factors in the countries along the corridor, promote the free flow of various resources and production factors, and strive to build an international economic channel featured with complementary resources, regional division of labor, win-win cooperation and common development.

(I) Background and foundation of cooperation

As the concept and behavior of a cooperative mechanism, BCIM Economic Corridor was proposed by Yunnan scholars in the 1990s. Then, the academic circles of India, Bangladesh and Myanmar expressed their willingness to participate in the discussion of this mechanism. In the early 1990s, some scholars proposed to carry out regional cooperation in China, India, Myanmar and other countries. At this stage, scholars pay more attention to the economic cooperation in Southwest China, South Asia and East Asia, and the concept of BCIM Economic Corridor has not been put forward yet. Yunnan Province is an active advocate of economic cooperation between Bangladesh, India and Myanmar. Under the background of the large-scale development of the western region, Yunnan proposed to take advantage of its regional advantages, seize the development opportunities and promote economic cooperation between Bangladesh, India and Myanmar. In August 1999, the international seminar on Bangladesh-China-India-Myanmar sub-regional cooperation was held in Kunming. During the meeting, scholars discussed the economic cooperation between Bangladesh, China, India and Myanmar, and the concept of economic cooperation between Bangladesh, China, India and Myanmar was formally proposed. Discussions

on promoting economic cooperation in the region have not been stopped. Until 2006, the academia generally accepted the idea of regional cooperation on Bangladesh, China, India and Myanmar economy. During Premier Li Keqiang's visit to India in May 2013, in the signed the *Joint Statement between the People's Republic of China and the Republic of India*, it was pointed out that, in view of the successful holding of the BCIM Car Rally, the two sides agreed to establish a joint working group with other countries to study and strengthen the connectivity of the region, promote economic and trade cooperation and people-to-people and cultural exchanges, and propose to build the BCIM Economic Corridor.

1. Background of cooperation

- (1) Origin of the corridor: 12 BCIM Forums for Regional Cooperation were held continuously

Although the relationship between Bangladesh, India and Myanmar is very close in history, there is no cooperation mechanism to promote economic cooperation in the region for a long time since the founding of People's Republic of China. On August 15, 1999, the scholars from Bangladesh, China, India and Myanmar jointly launched the first meeting in Kunming, and the representatives of the four countries signed the *Kunming Initiative* to promote economic cooperation and academic exchanges, ushering in a new era of economic cooperation between Bangladesh, China, India and Myanmar. In 2000, the four countries held the second BCIM meeting for economic cooperation and development in New Delhi, India. In 2002, the third meeting was held in Dhaka, the capital of Bangladesh, adopting the *Dhaka Statement*. The four parties officially renamed the meeting as the BCIM Forum for Regional Cooperation. In 2003, the fourth meeting was held in Yangon, the capital of Myanmar, issuing the *Yangon Statement*. In 2004, the fifth meeting was held in Kunming, at which the representatives signed framework documents such as the *Kunming Statement on Cooperation*, and established the purpose, principle, development direction and cooperation mechanism of the forum. The four countries not only proposed to continue to promote practical cooperation in important fields such as transportation, trade, tourism and culture, but also put forward effective cooperation in science and technology, education, environmental protection, human resources development, pairing of friendship cities, non-traditional security issues (such as drug smuggling and illegal immigration). As a result, the forum has become a multilateral meeting held in four countries in turn every year. The BCIM Forum for Regional Cooperation has been held 12 times in Kunming (China), New Delhi or Calcutta (India), Dhaka (Bangladesh), and Rangoon or Naypyidaw (Myanmar) since the first time the landmark *Kunming Initiative* was jointly signed. Consensus has been reached in many fields, and a series of "initiatives" or "statements" were passed to promote cooperation, such as the *Dhaka Statement*, the *Kunming Statement on Cooperation*, the *Delhi Statement*, the *Calcutta Statement*, the *Yangon Statement* and the *Naypyidaw Statement*, reflecting the strong desire of all parties to enhance cooperation and exchange, and providing internal impetus for the four countries to promote the construction of the economic corridor (see Table 1).

Table 1 Previous meetings of the BCIM forum for regional cooperation

Meetings	Time	Places	Agreements signed
1st meeting	August 15–17, 1999	Kunming, China	Kunming initiative
2nd meeting	December 2000	New Delhi, India	–
3rd meeting	February 2002	Dhaka, Bangladesh	Dhaka statement
4th meeting	March 2003	Yangon, Myanmar	Yangon statement
5th meeting	December 21–22, 2004	Kunming, China	Kunming statement on cooperation
6th meeting	March 30–31, 2006	New Delhi, India	Delhi statement
7th meeting	March 31–April 1, 2007	Dhaka, Bangladesh	Dhaka statement 2007
8th meeting	July 23–24, 2009	Naypyidaw, Myanmar	Naypyidaw statement
9th meeting	January 18–19, 2011	Kunming, China	Memorandum of understanding on promoting BCIM economic cooperation
10th meeting	February 18–19, 2012	Calcutta, India	Calcutta statement
11th meeting	February 23–24, 2013	Dhaka, Bangladesh	Dhaka joint statement
12th meeting	February 10–11, 2015	Yangon, Myanmar	Yangon joint statement

Source Sorted based on the reports of the official websites and newspapers of various places on the previous meetings of the BCIM Forum for Regional Cooperation

(2) Deepening of the Corridor: Two meetings of the BCIM Economic Corridor Joint Working Group were successfully held

Premier Li Keqiang's visit to India in May 2013 has become an important turning point in the construction of the BCIM Economic Corridor. In the signed *Joint Statement between the People's Republic of China and the Republic of India*, it was pointed out that in view of the successful holding of the BCIM Car Rally, the two sides agreed to consult with other countries to establish a joint working group to study how to strengthen connectivity in the region, and promote economic and trade cooperation and people-to-people and cultural exchanges, and propose the construction of the BCIM Economic Corridor. The construction of the BCIM Economic Corridor is based on the combination of China's westward opening-up and India's eastward policy, which will greatly promote the extensive cooperation between the two countries in energy, information, resources, science and technology, agriculture, infrastructure and other aspects, promote the close connection between the two countries' markets, and cultivate new highlights of Asian cooperation. During his visit to China in October 2013, the Indian Prime Minister pointed out that the two sides had set up working groups on the BCIM Economic Corridor Initiative to maintain communication and consultation with Bangladesh and Myanmar, and held the first meeting of the joint working group in December to study the specific planning for the construction of the BCIM Economic Corridor.

The first meeting of the joint working group on economic corridor was held in Kunming from December 18 to 19, 2013. Government officials, experts and

scholars, international organizations and representatives of Yunnan Province from Bangladesh, China, India and Myanmar attended the meeting. The meeting sorted out the consensus reached by the regional cooperation forum, drew on the experience of international mechanisms, conducted friendly and in-depth exchanges in the development prospects, priority areas of cooperation and mechanism construction of economic corridor, and reached consensus in many aspects, such as transportation infrastructure construction, investment and trade circulation, and people-to-people and cultural exchanges. The meeting established a government mechanism for cooperation on the BCIM Economic Corridor, and agreed that the economic corridor starts from Kunming in the east, passes through Mandalay and Dhaka, and ends in Calcutta, India in the west. It also made various countries reach consensus in the fields of transportation infrastructure, trade and investment, and people-to-people and cultural exchanges. At the meeting, the minutes of the meeting and the joint research plan for the BCIM Economic Corridor were signed.

From December 17 to 18, 2014, the second meeting of the joint working group on the BCIM Economic Corridor was held in Coxs Bazaar, Bangladesh. The meeting discussed the national reports on the BCIM Economic Corridor submitted by the four countries, and deeply discussed the ideas and mechanisms for cooperation in key areas such as connectivity, energy, investment and financing, trade in goods and services and trade facilitation, sustainable development and poverty alleviation, human resources and people-to-people and cultural exchanges. The meeting affirmed the efforts and positive progress made by the four countries in the construction of the BCIM Economic Corridor, re-emphasized the importance of strengthening the connectivity of the corridor, and promised to accelerate the construction of the BCIM Economic Corridor in line with the principles of mutual trust, mutual respect, fairness and mutual benefit, pragmatism and efficiency, consensus and win-win results, so as to safeguard regional peace and stability, promote economic development, and benefit the people of the four countries. The meeting reached a consensus on the next work and signed the minutes of the second meeting of the joint working group (see Table 2).

(3) Development of the Corridor: Leaders of the four countries along the Belt and Road attach great importance to it

In 2016, Chinese president Xi Jinping further suggested that the Silk Road is the common wealth of all peoples. China is willing to work with countries along the Belt and Road to build reciprocal cooperation networks, create new cooperation models, develop diversified cooperation platforms, and promote key areas so as to create the “Silk Road of green development”, the “Silk Road of health cooperation”, the “Silk Road of innovation” and the “Silk Road of peace”, which will benefit the countries and peoples along the Belt and Road. China and Bangladesh signed the *Memorandum of Understanding on Cooperation under the Belt and Road Initiative between the Governments of the People’s Republic of China and the People’s Republic of Bangladesh* during President Xi Jinping’s state visit to Bangladesh in October 2016. The MOU is the first landmark document between governments on jointly building the Belt and Road Initiative signed by China and a South Asian

Table 2 Previous Meetings of the Joint Working Group on the BCIM Economic Corridor

Meetings	Time	Places	Meeting achievements
1st meeting	December 18 to 19, 2013	Kunming, China	Sorted out the consensus at the regional cooperation forum; Established the government mechanism of cooperation on BCIM economic corridor; Signed the minutes of the meeting and the joint research plan for the BCIM Economic Corridor
2nd meeting	December 17–18, 2014	Coxs Bazaar, Bangladesh	Discussed the national reports on the BCIM Economic Corridor submitted by the four countries; Discussed the idea of cooperation in key areas and the construction of promotion mechanism; Reached a consensus on the next work; Signed the minutes of the second meeting of the joint working group

Source Sorted based on the reports of the official websites and newspapers of various places on the meetings of the joint working group of the BCIM Economic Corridor

country. The signing of this document will not only promote the reciprocal cooperation between China and Bangladesh under the Belt and Road Initiative framework, but also play an active role in the construction of the BCIM Economic Corridor. Bangladesh's Premier Sheikh Hasina said that Bangladesh agreed on the Belt and Road Initiative proposed by China and was willing to take part in the construction of the Belt and Road and the BCIM Economic Corridor to promote regional cooperation and boost their own development. The construction of the BCIM Economic Corridor can help connect the region through roads and even railways, such as the highway Kunming–Myanmar–India–Bangladesh, which is of great significance to activating regional economy. At the same time, on the other side, we are trying to connect Bhutan, Nepal, India and Bangladesh. The realization of connectivity will further promote the development of commerce.

In October 2013, Indian Prime Minister Singh visited China. During the visit, representatives of entrepreneurs from the two countries signed nine cooperation agreements. Indian Prime Minister Singh delivered a keynote speech entitled *China and India in a New Era* at Party School of the Central Committee of C.P.C, in which

he stressed that “India welcomes the rise of China, and China also welcomes the rise of India. Asia and the world have enough space to accommodate the development and prosperity of China and India.”

On April 22, 2015, Chinese President Xi Jinping met with Myanmar President Thein Sein in Jakarta. Xi Jinping pointed out that during Myanmar’s President Thein Sein’s two visits to China the previous year, China and Myanmar reached a broad consensus on advancing the comprehensive strategic partnership of cooperation, and he hoped that the two sides would continue to work hard to create a new bright spot for bilateral cooperation. Thein Sein said Myanmar was committed to close cooperation between the two countries at all levels and enhance cooperation in all fields under the new situation. Myanmar supported and was willing to take an active part in the Belt and Road Initiative and the AIIB initiative proposed by China, hoping that China would participate in Myanmar’s infrastructure construction through the Silk Road Fund.

2. Basic conditions

- (1) The consensus reached by the four countries provides the basic premise for the construction of the BCIM Economic Corridor

As early as the 1990s, scholars from Bangladesh, China, India and Myanmar realized the importance of cooperation among Bangladesh, China, Myanmar and India relying on geographical proximity in the context of the booming regional cooperation in Asia. In 1999, scholars from the four countries initiated the first economic cooperation conference and signed *the Kunming Initiative*. Since then, more and more officials from the four countries have been involved. Bangladesh–China–India–Myanmar Forum for Regional Cooperation (BCIM) gradually changed from a “two-track” dialogue mechanism to a “one-track and a half” dialogue mechanism, and rose to “one-track” cooperation after China and India proposed to jointly build the BCIM Economic Corridor. Bangladesh, China, India and Myanmar are all at the critical stage of economic development, poverty eradication and improvement of people’s livelihood, facing the urgent task of accelerating economic transformation and upgrading. Under the general trend of international regional economic integration and economic globalization, facing the impact of the international financial crisis and a new round of global industrial competition, Bangladesh, China, India and Myanmar need to tap their own potential, realize complementary advantages and common development, and have a strong desire to participate in the construction of the economic corridor. In May 2013, China and India jointly proposed to build the BCIM Economic Corridor. The initiative has received a positive response from the governments of Bangladesh and Myanmar. Leaders of the two countries publicly expressed their support for the construction of the BCIM Economic Corridor on important occasions. The construction of the BCIM Economic Corridor has risen from the initial advocacy of scholars to the common will of governments of the four countries.

In June 2014, Bangladeshi Prime Minister Hasina said in a speech during her visit to China that the construction of the BCIM Economic Corridor would help to enhance regional connectivity, and Bangladesh would actively promote and implement the BCIM Economic Corridor.¹ In November 2014, when Myanmar's then president Thein Sein met with visiting Premier Li Keqiang, he said that Myanmar supported and would actively participate in the construction of the BCIM Economic Corridor.² Bangladesh, China, India and Myanmar are all at the critical stage of economic development, poverty eradication and improvement of people's livelihood, facing the urgent task of accelerating economic transformation and upgrading. The senior leaders of Bangladesh, China, India and Myanmar have realized that by giving full play to their geographical advantages and building economic corridors, they can further enhance political mutual trust, deepen investment and trade, promote connectivity and strengthen people-to-people and cultural exchanges, which will bring new opportunities to their own and regional development.

(2) The initial formation of the cooperation mechanism provides institutional support for the construction of the BCIM Economic Corridor

In October 2013, Indian then Prime Minister Singh visited China. In the *Joint Statement—A Vision for Future Development of India-China Strategic and Cooperative Partnership*, the two countries decided to establish a joint working group on the basis of consultation to study how to strengthen the connectivity within the sub region, promote economic and trade cooperation and people-to-people and cultural exchanges, and promote the construction of the BCIM Economic Corridor. The establishment of the joint working group marks the initial formation of a cooperation mechanism for the governments of four countries to promote the cooperation. By the end of 2015, the joint working group had held two meetings in China and Bangladesh, and reached broad consensus on key areas of cooperation.

The establishment of the BCIM joint working group, and especially the smooth holding of the two working group meetings, are not only the concrete performance that the governments of four countries support the joint construction of the BCIM Economic Corridor, but also further enhancements of the consensus of the four countries and their understanding of each other's wishes and demands. Although the cooperation mechanism of the BCIM Economic Corridor still needs to be further improved, the establishment of the joint working group marks the beginning of the establishment of the four countries' cooperation mechanism, which lays the foundation for the formation of a more mature cooperation mechanism and provides the necessary institutional guarantee for the in-depth cooperation in the construction of the BCIM Economic Corridor.

¹ Prime Minister of Bangladesh Hasina: To actively promote and implement the construction of BCIM Economic Corridor [DB/OL]. People.cn <http://world.people.com.cn/n/2014/0610/c1002-25125403.html>.

² In talks with Myanmar's president U Thein Sein, Li Keqiang held stressed to comprehensively enhance the level of strategic cooperation between China and Myanmar, and the two countries will always be good neighbors, good friends and good partners [DB/OL]. Xinhua.net. http://news.xinhuanet.com/world/2014-11/14/c_1113257535.htm

(3) The improvement of bilateral relations has provided the political guarantee for the construction of the BCIM Economic Corridor

Bangladesh, China, India and Myanmar are geographically adjacent and have a long history of exchanges and cooperation. With the acceleration of economic globalization and regional integration, the cooperation among the four countries has been developing in depth and the political relationship has been improving, which has created a better political atmosphere for the construction of the BCIM Economic Corridor.

In 2013, the prime ministers of China and India exchanged visits for the first time since 1954, opening a new journey of China-India strategic partnership. In June 2014, China and Bangladesh signed *Joint Statement on Deepening the Closer Comprehensive Partnership of Cooperation between Bangladesh and China*, and in 2015, the two countries jointly held various activities to commemorate the 40th anniversary of the establishment of diplomatic relations. In 2011, China and Myanmar established a comprehensive strategic partnership of cooperation. Promoted by the “eastward policy”, India’s relations with Bangladesh and Myanmar have been improving. In July 2012, when Indian then Prime Minister Singh visited Myanmar, he became the first Indian Prime Minister to visit Myanmar in 25 years, which effectively promoted the development and deepening of bilateral relations. Myanmar and Bangladesh successfully solved the maritime disputes triggered in 2008 through the ruling of the International Tribunal for the Law of the Sea, clearing the obstacles for the smooth development of bilateral relations. Since Bangladesh Awami League came to power in January 2009, the relationship between Bangladesh and India has improved significantly. The two countries have carried out consultations and cooperation in various fields such as anti-terrorist, border disputes, water resources, transportation and energy.

(4) Economic complementarity brings great potential for the construction of the BCIM Economic Corridor

With the rapid economic development and active participation in regional economic cooperation since the reform and opening up, the fields of economic and trade cooperation between China and Myanmar, Bangladesh and India have been expanding, the scale of cooperation has been expanding, the content of cooperation has become increasingly rich, and the forms of cooperation have become increasingly diversified. As the world’s largest economy and a well-deserved trading power, China has become India’s largest trading partner, and Myanmar’s largest trading partner and largest source of foreign capital. India, one of the BRICs, is also an important partner of Myanmar and Bangladesh. The difference of development degree and speed and the demand of foreign cooperation give the four countries good economic complementarity and bring great development space for their cooperation.

Among the four countries in the BCIM Economic Corridor, China, with a vast consumer market, has continuously enhanced its ability to invest abroad, accumulating rich experience in infrastructure construction and human resource development, and having a huge demand for mineral resources, energy, agricultural products, etc. of Bangladesh, India and Myanmar. India has a strong demand for China’s

optical instruments, automobiles and parts, furniture and other products. China has entered the middle stage of industrialization, while India, Bangladesh and Myanmar are still in the initial stage of industrialization. China, whose manufacturing industry is powerful, has become a new manufacturing center in the world, known as the “world’s factory”. At the same time, India’s economy presents a pattern dominated by the high-tech industry and led by the service industry. Its development of the modern service industry with service outsourcing and IT as the main industries has attracted worldwide attention, and has formed obvious comparative advantages, known as the “world’s office”. Besides the service industry, agriculture is the economic base of India, while the manufacturing base is relatively weak. Myanmar is rich in forest, mineral, oil, natural gas and water resources, which are yet to be developed. Bangladesh has a large amount of natural gas resources. It is a major textile exporter in the world, with its industry mainly producing raw materials and primary products, weak heavy industry and underdeveloped manufacturing industry. However, the shortage of funds and technology in Myanmar and Bangladesh urgently needs to be made up through international cooperation. At the same time, the infrastructure of the two countries has seriously restricted the development of the whole society and economy. China and India are both big developing countries with huge energy demand, and can obtain certain external energy supply from Bangladesh and Myanmar. Due to the low level of industrialization, the contribution rate of manufacturing industry to GDP is not high in Bangladesh and Myanmar. As long as external capital and technology are introduced, their economic growth potential can be huge. In terms of commodity, market, capital and technology, Bangladesh, China, India and Myanmar have strong economic complementarity.

- (5) The opening and pragmatic policies of the four countries have created a good atmosphere for the construction of the BCIM Economic Corridor

At the end of 2013, China put forward the Belt and Road Initiative, a new strategic concept of promoting the Silk Road Economic Belt and the 21st-Century Maritime Silk Road. This is a major strategic plan made by Chinese leaders to coordinate the domestic and international situations, based on the current situation and plan for the long term, which has greatly benefited the construction of the BCIM Economic Corridor. The BCIM Economic Corridor is in line with and an important part of the Belt and Road Initiative. *The Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* clearly pointed out that “the economic corridors of China-Pakistan Economic Corridor and the BCIM Economic Corridor are closely related to the Belt and Road Initiative, and we should further promote cooperation and make greater progress”.³ The key direction of the 21st Century Maritime Silk Road is to connect the Indian Ocean and reach Europe via the China’s coastal ports and across the South China Sea. The BCIM Economic Corridor lies right in the southwest route of the Silk Road Economic Belt.

³ *The Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* [DB/OL]. Xinhua.net. http://news.xinhuanet.com/finance/2015-03/28/c_1114793986.htm.

At the same time, India has deeply implemented the “eastward” policy and actively expanded cooperation with ASEAN countries. Myanmar and Bangladesh have also increased their efforts in opening up to the outside world, with particular emphasis on strengthening economic cooperation with neighboring countries. Bangladesh, China, India and Myanmar have increasingly frequent high-level visits and signed a series of documents, agreements and memoranda to promote economic and trade cooperation. The open and pragmatic development strategy of the four countries has ushered in a period of strategic opportunities for the construction of the BCIM Economic Corridor.

- (6) The operation of Silk Road Fund and the AIIB has widened financing channels for the construction of the BCIM Economic Corridor

On November 8, 2014, Chinese President Xi Jinping announced that China would invest USD40 billion to establish the Silk Road Fund to provide investment and financing support for the infrastructure development, resource development and industrial cooperation with countries along the Belt and Road. At the end of 2014, the Silk Road Fund was officially put into operation. In October 2013, Chinese leaders proposed to establish the Asian Infrastructure Investment Bank (AIIB) at the East Asia series summits. After more than two years of preparation, jointly witnessed by 57 member states including Bangladesh, India and Myanmar, the AIIB was officially launched on January 16, 2016. The AIIB is committed to promoting infrastructure construction in Asia, and has made up for the capital gap in the field of infrastructure investment in Asian countries. At the end of 2016, the AIIB announced six projects that the bank had participated in investment and construction. With a total loan of RMB829 million, the six projects involved five countries including Bangladesh, Indonesia, Pakistan, Tajikistan and Myanmar, covering energy, transportation and urban development, among which the power transmission upgrading and expansion project in Bangladesh was independently funded by the AIIB, while the rest projects were jointly financed with other multilateral development banks and commercial banks such as the World Bank, the Asian Development Bank, and the European Bank for Reconstruction and Development.

The BCIM Economic Corridor is an important part of the Belt and Road Initiative, and its development also breathes new vitality into the latter. The infrastructure connectivity in the BCIM Economic Corridor needs to be improved. Strengthening transportation connectivity is the common requirement for the construction of the BCIM Economic Corridor and the Belt and Road Initiative. The establishment and operation of the Silk Road Fund and the AIIB can provide start-up capital and financing support for the infrastructure construction projects in the BCIM Economic Corridor. Further widening financing channels will alleviate the financial pressure faced by Bangladesh, China, India and Myanmar in the construction of the economic corridor to some extent, thus accelerating the construction process of the economic corridor.

(II) Positioning and function

It is of great strategic and practical significance to promote the construction of the BCIM Economic Corridor. On the one hand, it is conducive to accelerating infrastructure construction such as transportation and communication, promoting economic development of countries along the corridor, enhancing economic strength of countries, attracting foreign investment, optimizing resource allocation, forming a reasonable international division of labor and accelerating economic restructuring and upgrading. On the other hand, it is conducive to promoting “South-South Cooperation” and creating a peaceful and developing regional international environment, and also conducive to expanding the development space, enhancing the power of economic development, improving the living conditions of the regional people and realizing common development. At the same time, it is also conducive to improving the economic development environment of the region, solving various non-traditional security problems in this area, and maintaining the stability of the border areas. Therefore, the construction of the BCIM Economic Corridor is in the fundamental interests of all countries in the region, and has positive significance for regional economic development and stability.

1. Functional Positioning

- (1) It is a hub for China to connect with Southeast Asia and South Asia. With the emphasis on the construction of cross-border passages and ports, accelerating the infrastructure construction of railway, highway, aviation, water transportation and pipeline transportation is conducive to the formation of international channels connecting the three countries, including Bangladesh, India and Myanmar, radiating Southeast Asia and South Asia, and linking with the hinterland of China.
- (2) It is a base to deepen industrial cooperation between China and countries in Southeast Asia and South Asia. China will give full play to regional comparative advantages, improve the ability of scientific and technological progress and independent innovation, strengthen the division of labor and cooperation between domestic and international industries, expand and strengthen the industries with advantages and features, and build a Chinese export-oriented industrial base for countries in Southeast Asia, South Asia and along the Indian Ocean coast.
- (3) It is a platform for expanding communication and exchange between China and countries in Southeast Asia and South Asia. China will accelerate the establishment of communication mechanisms with neighboring countries, upgrade and build various international forums, exhibitions and other foreign exchange and cooperation platforms, and establish closer communication and contact with the regions along the corridor.
- (4) It is a window to strengthen cultural exchanges between China and countries in Southeast Asia and South Asia. With the focus of expanding foreign exchanges, strengthening cultural exchanges, promoting educational cooperation and enhancing publicity and interaction, China will promote and deepen

people-to-people and cultural exchanges and cooperation featured with higher levels, wider areas and more forms with neighboring Southeast Asian and South Asian countries.

- (5) It is a pilot zone to innovate opening-up models for China, Southeast Asian and South Asian countries. The first step is to explore cooperation and build cross-border economic cooperation zones, diversify and expand international cooperation fields, accelerate regional customs clearance facilitation, and improve the mechanism for promoting foreign trade and investment, providing experience and demonstration for China to expand opening up on land with countries in Southeast Asia and South Asia.

2. Core Role

- (1) To work together to create a good environment for development. At present, the situation of “peace, development, cooperation and prosperity for all” have become the trends of the times. Bangladesh, China, India and Myanmar are all developing countries, and accelerating development became their “top priority”. To this end, these countries need a peaceful and stable international environment and external conditions, among which maintaining a good regional environment and surrounding environment is the most important. At present, the biggest opportunities, the most potential and the biggest challenges for the rapid development of the BCIM region all lie in the surrounding areas, and the most likely problems also lie in the surrounding areas. Building the BCIM Economic Corridor is an effective way for the four countries to strengthen cooperation, enhance economic relations and promote common development. It is also an important channel for further communication, mutual understanding and mutual trust. Through the construction of the economic corridor, Bangladesh, China, India and Myanmar have carried out in-depth regional economic cooperation, which will not only integrate the region into the world’s economic development at a faster pace, enhance the economic strength of all these countries, change the backwardness of the region and create a peaceful and stable environment conducive to regional development, but also further promote “South-South Cooperation”, strengthen the international status of the four countries, and promote fair dialogues with developed countries, thus improving the international environment for the development of the four countries.
- (2) To jointly promote regional connectivity. In order to build the BCIM Economic Corridor, the countries involved must speed up the construction of international channels and realize connectivity, so as to enhance the driving force of regional economic development. The construction of the international channels not only is conducive to giving full play to the regional advantages, connecting East Asia, Southeast Asia and South Asia, as well as the Pacific Ocean and Indian Ocean, optimizing the allocation of various resources of different countries, driving the economic and social development of countries along the Belt and Road, but also facilitates India, Myanmar, Bangladesh and other countries

to strengthen economic cooperation with China and promote their economic development by taking advantage of China's fast economic growth.

- (3) To jointly deepen international economic and trade cooperation. The construction of the BCIM Economic Corridor is an effective way to promote the industrial development and economic prosperity of the region, and an important measure for the four countries to promote regional economic cooperation. On the one hand, it is conducive to promoting the four countries to establish mutually open economic systems, effectively connecting the markets of the four countries, promoting the economic communication and integration of the four countries, creating huge investment and consumption demand, improving the level of regional cooperation, and promoting common development. On the other hand, it is conducive to improving the basic conditions of the BCIM region, promoting the rational flow and optimal combination of production factors in the region, and deepening the interaction of funds, complementary resources and industrial integration in countries along the economic corridor. It can be seen that the BCIM Economic Corridor is an important carrier for the four countries to promote economic and trade cooperation and benefit the people of the countries along the corridor. It plays a positive role in promoting the ability of Bangladesh, China, India and Myanmar to participate in international competition.
- (4) To jointly maintain harmony and stability in the border areas. The construction of the BCIM Economic Corridor not only helps the four countries speed up the pace of opening up, strengthen economic cooperation, promote economic development, and promote the establishment of a unified regional market, but also provides opportunities for the border areas such as southwest China, northern Myanmar, northeast India, and eastern Bangladesh to connect with domestic central cities and foreign markets, which is conducive to breaking closed, backward and conservative situations in the border areas, attract foreign capital, technology and talents to revitalize the economy of the border areas and drive the people to increase their income, thus promoting the stability, national unity and social harmony of these areas.

(III) Achievements and characteristics

1. Gradually Improving Cooperation Mechanism

After years of development, the scope of economic cooperation in the BCIM has become wider and wider, with increasingly higher levels of cooperation and more and more complete cooperation mechanisms. From the perspective of development process, from the initial "international seminar" to today's "BCIM Forum for Regional Cooperation", from the initial "international seminar" advocated by scholars of the four countries to "the BCIM Forum for Regional Economic Cooperation", and then to today's "BCIM Forum for Regional Cooperation", it has progressed step by step and deepened layer by layer. From the perspective of cooperation fields,

from the initial focus on the four major issues of transportation, trade, tourism and cooperation mechanism to today's "all-round and wide-ranging" cooperation that covers trade, investment, communication, agriculture, education, science and technology, culture, infrastructure construction, transportation development, industrial cooperation and other fields. From the perspective of cooperation carriers, it developed from the China Import and Export Fair in Kunming in 1993 to the China-South Asia Expo in 2016. After more than 20 years of cooperation and development, the four countries have successively promoted important cooperation platforms such as China-South Asia Business Forum, China-South Asian Countries Think-Tank Forum, Kunming Calcutta Cooperation Forum, China (Yunnan)-Myanmar Cooperation Forum, and China-Bangladesh Cooperation Forum. This has made the mechanism of regional cooperation increasingly sound and perfect, the content and form richer, and the effectiveness greater.

In October 2016, China and Bangladesh issued the *Joint Statement on Establishing Strategic Cooperative Partnership*, according to which the two sides agreed to expand and deepen trade and investment cooperation, promote infrastructure, industrial-capacity cooperation, energy and power, transportation, information and communication, and agriculture as key areas of practical cooperation between China and Bangladesh, and encourage enterprises of the two countries to strengthen cooperation. In the same month, during Chinese President Xi Jinping's state visit to Bangladesh, China and Bangladesh signed cooperation documents on the Belt and Road Initiative, concerning aspects such as industrial-capacity, energy, information and communications, investment, marine, disaster prevention and reduction, and humanities.

2. Significantly Improved Level of Connectivity Significantly Improved Level of Connectivity

With the further development of Bangladesh, China, India and Myanmar, remarkable achievements have been made in the connectivity of transportation networks among China, India, Bangladesh and Myanmar. According to the geographical location and regional space, China's transportation networks connecting India, Bangladesh and Myanmar are mainly concentrated in Yunnan Province.

- (1) Construction of aviation network. On December 4, 2000, Yunnan Province opened the first business charter flight from Kunming to New Delhi, India, ending the long history of no air service between China and India. On April 1, 2002, China Eastern Yunnan Airlines opened the Kunming-Mandalay route. From October 27, 2002, China Eastern stopovered its flights from Beijing to New Delhi every Monday at Kunming. India Airlines opened the regular flight from Mumbai to Shanghai via New Delhi and Bangkok in December 2003. In May 2005, China Eastern officially opened the Beijing-Kunming-Dhaka International route. After that, Kunming-Calcutta and Kunming-Rangoon routes were opened one after another, which led to the opening of routes in Bangladesh, China, India and Myanmar.

- (2) Construction of highway network. In 2007, the Tengchong-Myitkyina Highway connecting Tengchong in Yunnan and Myitkyina in Myanmar was opened. The India section of the China-India Highway was upgraded in 2008. The border tourism routes jointly launched by China and Myanmar, such as the Wanding-Lashio, the Ruili-Bhamo, the Ruili-Mandalay and Menghai-Mengla-Kyaing Tong, are also being opened in succession. All these land road connectivity projects between Bangladesh, China, India and Myanmar provide conditions for the conceive of Asian Road Network. The BCIM Car Rally is a prominent achievement of the BCIM Forum for Regional Cooperation. On February 22, 2013, the car rally officially started in Calcutta and arrived in Kunming after 12 days. The successful holding of the rally showed the enthusiasm of China and India for promoting road connectivity, which was also inseparable from the support and cooperation of Bangladesh and Myanmar, playing a good demonstration role for the road connectivity of the BCIM Economic Corridor.
- (3) Construction of railway network. In May 2011, China and Myanmar signed a memorandum of understanding on the construction of Kyaukpyu-Kunming Railway between China and Myanmar. In August 2014, China and the government of Bangladesh signed a memorandum of understanding on the construction of a new Dhaka-Chattogram high-speed dual-track railway. On December 29, 2014, the foreign minister of Bangladesh proposed to build a railway and a highway connecting Chattogram and Kunming, which received a positive response from the Ministry of Foreign Affairs of China. In November 2014, China and India signed an agreement on the construction of Delhi-Chennai High-speed Railway Corridor (1,754 km).

3. Wider Economic and Trade Cooperation

With the promotion of the governments of Bangladesh, China, India and Myanmar, China-South Asia Expo, the BCIM Forum for Regional Cooperation and other mechanisms, the scale of economic and trade cooperation among the four countries has been expanding and the results of cooperation have become increasingly remarkable. Over the past decade, China's trade with India, Bangladesh and Myanmar has shown rapid growth.

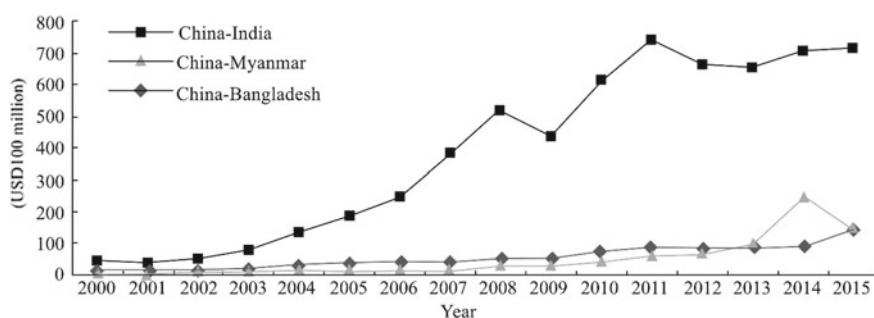
From the perspective of economic and trade transactions, China's trade volume with India, Bangladesh and Myanmar was USD3.211 billion in 1999, and reached USD101.607 billion in 2015, showing an increase of 31.64 times in 15 years, with an average annual growth of 280%.

By country-specific cooperation, China's trade volume with India increased from USD1.988 billion in 1999 to USD71.623 billion in 2015 (an increase of 36.02 times), that with Myanmar increased from USD508 million in 1999 to USD15.282 billion in 2015 (an increase of 30.08 times), and that with Bangladesh increased from USD715 million in 1999 to USD14.707 billion in 2015 (an increase of 20.57 times). China has become the largest trading partner of India and Myanmar. India has become China's largest trading partner in South Asia and China's seventh largest export market (see Table 3 and Fig. 1).

Table 3 China's Trade with Bangladesh, India and Myanmar from 2000 to 2015 (Unit: USD100 million)

Year	China and Bangladesh			China and India			China and Myanmar		
	Export	Import	Total	Export	Import	Total	Export	Import	Total
2000	9.00	0.18	9.18	15.61	29.14	44.75	4.96	1.25	6.21
2001	9.55	0.17	9.72	18.96	17.00	35.96	4.97	1.34	6.31
2002	10.66	0.33	10.99	26.71	22.74	49.45	7.25	1.37	8.62
2003	13.35	0.33	13.68	33.44	42.51	75.95	9.07	1.70	10.77
2004	19.06	0.57	19.63	59.36	76.78	136.14	9.39	2.06	11.45
2005	24.03	0.79	24.82	89.34	97.66	187.00	9.35	2.74	12.09
2006	30.90	0.99	31.89	145.81	102.77	248.58	12.07	2.53	14.60
2007	33.26	1.14	34.40	240.11	146.17	386.28	17.00	3.78	20.78
2008	45.48	1.32	46.80	315.85	202.59	518.44	19.78	6.47	26.25
2009	4.40	1.40	45.82	296.56	137.27	433.83	22.54	6.46	29.00
2010	67.90	2.70	70.60	409.15	208.46	617.61	34.76	9.66	44.42
2011	78.07	4.49	82.56	505.37	233.71	739.08	48.20	16.80	65.00
2012	79.71	4.80	84.51	476.78	187.96	664.74	56.70	13.00	69.70
2013	80.90	6.54	87.44	484.32	169.71	654.03	74.16	27.34	101.50
2014	82.10	7.91	90.01	542.25	163.78	706.03	93.76	155.81	249.57
2015	139.01	8.06	147.07	582.40	133.83	716.23	96.56	56.25	152.82

Source Website of the Ministry of Commerce of the People's Republic of China

**Fig. 1** China's Total Trade with Bangladesh, India and Myanmar (2000–2015)

(1) Trade between China and Bangladesh

In 1975, China and Bangladesh formally established diplomatic relations and began normal bilateral trade, recording a trade volume of USD3.06 million in that year. On September 12, 1996, the leaders of China and Bangladesh signed in Beijing the *Agreement Between China and Bangladesh for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income*, and the *Agreement*

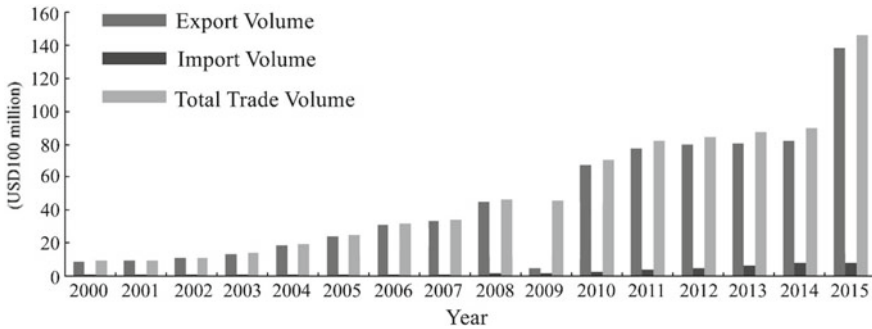


Fig. 2 Trade between China and Bangladesh (2000–2015)

between the Government of the People's Republic of China and the Government of the People's Republic of Bangladesh on the Encouragement and Mutual Protection of Investment. In addition, China and Bangladesh also signed a number of intergovernmental economic and technological cooperation agreements. The signing of the cooperation agreements between the two countries provides preferential policies and guarantees for the development of economic and trade cooperation, and effectively promotes the trade cooperation between the two countries.

China and Bangladesh are both developing countries in Asia. In recent years, the economic and trade cooperation between the two countries has been deepening and significant breakthroughs have been made in bilateral trade. At present, China has become an important trading partner and source of foreign investment of Bangladesh.

In 2015, the bilateral trade volume between China and Bangladesh was USD14.707 billion, showing a YoY growth of 17.2%, including USD13.901 billion in exports to Bangladesh, showing a YoY growth of 18.0%, and USD806 million in imports from Bangladesh, showing a YoY growth of 5.8%. In 2015, Chinese enterprises signed a total of USD18.886 billion in new engineering contracts in Bangladesh, with a total turnover of USD13.172 billion. As of the end of 2015, China's accumulative direct investment in Bangladesh was USD187 million, and the total actual investment of Bangladesh in China was USD41.14 million (see Fig. 2).

At present, more than 200 Chinese enterprises have invested in Bangladesh in fields of textile, construction, aquaculture, breeding, medicine and health. The investment enterprises include China Overseas Engineering Group Co. Ltd., China Road and Bridge Corporation, China Harbour Engineering Company Ltd, COMPLANT, China National Technical Import & Export Corporation, China National Machinery Import and Export Corporation, China National Machinery Import & Export Corporation, China National Construction & Agricultural Machinery I/E Corporation, Dongfang Electric Corporation, Sinohydro Corporation, China National Chemical Engineering Group Corporation Ltd., China National Electric Cable & Wire Imp./Exp. Corp., China Huanqiu Chemical Contracting & Engineering Corporation, China National Electric Engineering Corporation, China Geo-Engineering Corporation, Fujian Thermal Power Engineering Contracting Co., China Coal Construction

Group Co., Ltd., Shenzhen ZTE Co., Ltd., Huawei Technology Co., Ltd., Jiangsu Yongye Water Purification Plant, China Guangzhou International Economic and Technical Cooperation Co., Ltd., Daqing Petroleum Technology Import and Export Co., Ltd., Nanning International Economic and Technological Cooperation Co., Ltd., the Bridge Group of Heilongjiang International Economic and Technological Cooperation Co., Ltd., China Shipping (Group) Corporation, China CTEXIC Corporation, Shanxi Ceramics Factory, and China-Bangladesh Hospital. Among them, Liz Fashion, the largest Chinese private enterprise in Bangladesh, has more than 7000 workers.

On the basis of the long-term development of their friendly relations, China and Bangladesh have also launched some large engineering projects. For example, on March 29, 2016, Bangladesh-China Power Co., Ltd. signed a 1320 MW coal-fired power station construction contract with the Chinese enterprise consortium in Dhaka, the capital of Bangladesh, with a total contract amount of USD1.56 billion. The coal-fired power station project is located in Patuakhali in the south of Bangladesh, covering an area of 397 hectares. It is a supercritical coal-fired power station project and is planned to be put into operation in December 2019. The new power station project is an important part of Bangladesh's energy development planning.⁴ On August 8, 2016, China Railway Group Limited and Bangladesh Railway signed the contract on railway connecting line project of Padma Multipurpose Bridge, which is the largest overseas bridge project undertaken by Chinese enterprises so far, with the contract amount of about USD1.55 billion. Traffic conditions in western and south-western Bangladesh will be greatly improved after the completion of the project. In June 2016, CECEP Green Building Industry Co., Ltd., a subsidiary of China Energy Conservation and Environmental Protection Group, and China Building Material Federation, as the leading parties, contracted the brick and tile industry upgrading and park construction in Bangladesh. With an expected total investment of USD2.1 billion, the project is planned to build 300 production lines of sintered bricks with a daily output of 300,000 pieces in Bangladesh.

(2) Trade between China and India

China and India are the two oldest countries with ancient civilizations in the world, and their friendly exchanges have a long history. On April 1, 1950, China officially established diplomatic relations with India. However, due to the unstable political relations between the two countries, the trade and business exchanges between have been at a low level. China and India began their reform and opening up in 1978 and 1991 respectively, transforming from a planned economy to a market economy, and are committed to developing economic ties with the world, which has led to the continuous development of bilateral economic and trade cooperation. In 1984, China and India signed a trade agreement to grant each other MFN status. In 1989, the bilateral trade volume between China and India was only USD271 million, accounting for

⁴ Chinese enterprises won US\$1.56 billion contract on construction of coal-fired power plant in Bangladesh [DB/OL]. Xinhua.net. http://news.xinhuanet.com/2016-03/30/c_1118488122.htm, 2016-03-30.

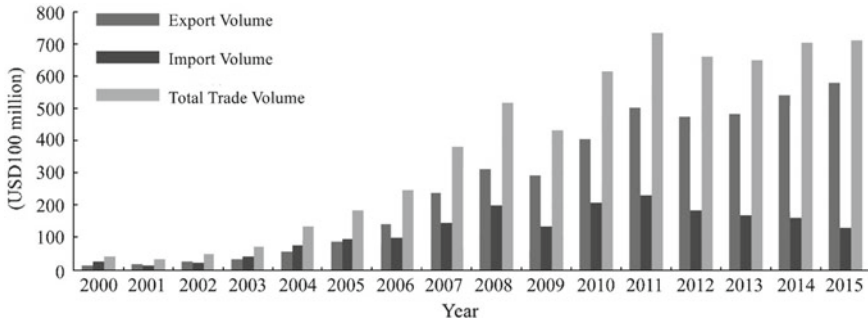


Fig. 3 Trade between China and India (2000–2015)

0.24% of China's foreign trade volume in that year and 0.69% of India's total foreign trade volume in that year. It was not until the 1990s that China-India economic and trade relations developed rapidly with the economic development of the two countries and the improvement of bilateral political relations. From 1990 to 2002, the average annual growth rate of the total trade between the two countries was 27.18% and China's trade with India maintained a surplus for most years.⁵

In 2015, China's total import and export trade with India was USD71.623 billion, showing a YoY increase of 1.4%, including USD58.24 billion in export, up 7.4% YoY, and USD13.383 billion in import, down 18.35% YoY. Foreign trade data show that India is China's 11th largest trade partner and 10th largest export market. In 2015, the total flow of China's non-financial direct investment in India was USD143 million, showing a YoY decrease of 41.2%. By the end of December 2015, the stock of China's non-financial direct investment in India was USD3.550 billion. In 2015, the total amount of new contracts signed by China to India was USD1.811 billion, showing a YoY increase of 15.6%. The total business turnover of India's engineering projects contracted by China was USD2.675 billion, showing a YoY increase of 5.5%. As of the end of December 2015, the total amount of accumulative contracts signed by China to India was USD65.778 billion, with a total turnover of USD44.011 billion (see Fig. 3).

At present, China is India's largest trading partner, and India is China's largest trading partner in South Asia. From the perspective of the structure of trade products, in recent three years, China's export to India has mainly focused on technology-intensive power machinery, precision instruments and chemical products, while the main products imported from India are mineral products and raw materials. In recent three years, the major Chinese products exported to India include electric motor, electrical, audio-visual equipment and its accessories, nuclear reactors, boilers, machinery and parts, organic chemicals, steel, fertilizer, etc. The products imported from India to China are mainly ore sand, slag and ash, cotton, copper and its products, jewelry, precious metals and products, imitation jewelry, coins and

⁵ Jingrong (2004).

so on. In 2015, China's export to India was relatively concentrated, with industrial products accounting for about 97%. Among them, the export of labor-intensive products accounted for more than half of the total export to India, chemical products and mechanical products accounted for 42% and 22%, capital-intensive products accounted for 33%, and primary products accounted for less than 3%. The structure of product imported by China from India is relatively uniform, with capital-intensive products accounting for 49%, labor-intensive products for 20%, and primary products for about 30%. The great difference in technology content of many products between China and India has promoted the rapid development of industry and trade in China and India.

(3) Trade between China and Myanmar

Since Myanmar opened up to the world in 1988, China has been its largest source of investment, and maintained good economic and trade cooperation with it for many years. The great changes in Myanmar's internal and foreign affairs since 2015 have a certain impact on China-Myanmar economic and trade cooperation. With the successful takeover of Myanmar's new government, China-Myanmar relations will face more challenges and opportunities in the future. Political relations to some extent are reflected by economic and trade relations, and China is Myanmar's second largest export market, the largest trading partner and import source. China and Myanmar are comprehensive strategic partners, involving political and economic, humanity, security, regional and international affairs and other fields. China and Myanmar have a deep foundation for economic and trade cooperation. Under the circumstances of the changes in international environment and regional situation and the adjustment of the policies to Myanmar by the USA, India and Japan, the economic and trade cooperation between the two countries faces some new problems while expanding. China and Myanmar have strong complementarity in economic and trade cooperation, and have achieved remarkable cooperation results in infrastructure and energy. Under the frameworks of the Belt and Road Initiative, the BCIM Economic Corridor, GMS and CAFTA, China's economic and trade cooperation with Myanmar still enjoys a great potential of growth.

In 2015, China-Myanmar trade volume was USD15.28 billion, down 38.8%. Among them, the export was USD9.66 billion, up 3.1%, and the import was USD5.63 billion, down 63.9%. In 2015, Chinese enterprises signed contracts amounting to USD1.98 billion in Myanmar, with a turnover of USD1.89 billion. By the end of 2015, China had a non-financial direct investment of USD200 million in Myanmar, showing an increase of 16.3%. In the first half of 2016, China's investment in Myanmar increased by USD170 million, up 56% YoY. In 2015, China's trade with Myanmar accounted for 3% of China's total trade volume with ASEAN. Myanmar has strong trade dependence on China. As China is Myanmar's largest trading partner, the change of China-Myanmar trade volume has a great impact on Myanmar. Myanmar's exports to China are mainly commodities, and the decline in commodity prices has led

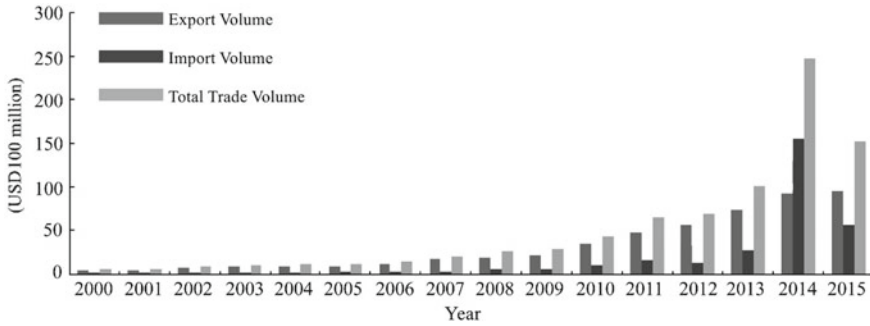


Fig. 4 Trade between China and Myanmar (2000–2015)

to a sharp drop in imports to Myanmar. Precious metals, jewelry and mineral products account for 70% of China-Myanmar trade. The decline in international commodity prices, especially oil and gas, has led to the decline in commodity prices, and the trade volume between China and Myanmar has naturally declined substantially (see Fig. 4).

The rapid development of China-Myanmar trade also benefits from the strong complementarity of economy. For various reasons, Myanmar's economic development level is still relatively low and industrial production is backward, while China has comparative advantages in industrial production technology and capital. At present, China's products exported to Myanmar mainly include nuclear reactors, boilers, machinery and equipment, vehicles and their spare parts (except railway vehicles), electric, electrical, audio-visual equipment and their accessories, steel and steel products. Myanmar has abundant natural resources, with a very high per capita share, especially for natural gas, tungsten, tin, lead, gold, chromium, gemstone and other minerals, as well as rice, wheat, corn, cotton, sugarcane, peanut and other agricultural products. This caters to the demand of China for these resources. Therefore, China mainly imports mineral products, agricultural products, aquatic products, wood, jewelry and other raw material products from Myanmar.⁶ In the late 1980s, Yunnan Machinery Import and Export Co., Ltd. and Electric Power & Renewable Energy Myanmar jointly built Myanmar Paunglaung Hydropower Station. The Paunglaung Hydropower Station is a model project for Chinese enterprises to undertake large-scale projects in Myanmar. It greatly eases the power tension in Myanmar and contributes to promoting the social development of Myanmar. The bidding of Paunglaung Hydropower Station comes at a time when the western countries had imposed severe sanctions on Myanmar, and multinational companies of the USA, Japan and Europe all took a wait-and-see attitude. However, leaders of China and Myanmar led the cooperation, minimized the political risks and successfully completed the project.

⁶ Analysis on Restrictive Factors and Countermeasures of China-Myanmar Trade Development [IDB/OL]. <http://www.1think.com.cn/economic/201307/2013073123677.html>, 2013-07-31.

4. Orderly Development of Industrial Cooperation

(1) Industrial cooperation between China and Bangladesh

Since 2013, China's direct investment flow to Bangladesh has kept increasing, and the FDI stock from China has also been on the rise. By 2016, the Ministry of Land and Resources of China had organized the "Cooperation Forum on Mineral Resources in the Silk Road Economic Belt", and signed a number of memoranda of understanding and cooperation agreements with Bangladesh and other countries in the fields of geoscience research, mineral exploration and development, and effectively promoted practical cooperation with Bangladesh in the field of mineral resources. In addition, the two countries have made great progress in cooperation in defense security, education and culture.

In the fields of transportation, power, energy and communication, Chinese enterprises have been working hard with the majority of builders in Bangladesh. Chinese enterprises have built Shahjalal Fertilizer Factory, the most advanced modern large-sized fertilizer plant in Bangladesh, and Bangabandhu International Conference Center, the largest international convention and exhibition center, and are undertaking the construction of Padma Bridge, the "Dream Bridge" of the people of Bangladesh. The first batch of projects loaned by the AIIB initiated by China include the upgrading and transformation project of the distribution system in Bangladesh, which will benefit tens of millions of rural people in Bangladesh. Hemp products from Bangladesh are becoming more and more popular in China.

China's key investment enterprises in Bangladesh include China-Bangladesh Ceramics Co., Ltd., Bangla Yuncheng Plate Making Co. Ltd., Leeds Clothing, etc. With the acceleration of the construction on the BCIM Economic Corridor, Chinese enterprises will be more active in investment in Bangladesh.

(2) Industrial cooperation between China and India

Economic and trade exchanges between China and India can be traced back to a long time ago. The Shu-Hindu Road in ancient times supported the commodity trade and folk exchanges between the two countries. In modern times, the official industrial and economic cooperation between the two countries has experienced setbacks. Since the twenty-first century, the two countries take strengthening economic exchanges as an important part of their strategic partnership. Over the years, governments of the two countries have been committed to further expanding bilateral trade and industrial investment cooperation. Compared with the rapid growth of trade between China and India, the situation of foreign direct investment (FDI) of Chinese enterprises in India is outshone. According to statistics, China's FDI in India was only USD1.2 billion in 15 years from 2000 to 2015, because of the insufficient development of China's market to India, the poor connection between the two countries' enterprises and the insufficient policy guarantee of India, in addition to India's backward economic infrastructure construction. With the strengthening of high-level interaction between the two countries, the deepening of cooperation between Chinese and Indian enterprises will enter a new period. It is expected that China's investment in India will

reach USD5 billion to USD10 billion in 2015–2018. Accelerating the investment pace in India has become a major highlight of the construction of BCIM Economic Corridor.

In order to promote cooperation between Chinese and Indian enterprises in the fields including India's industrial park development and to build a platform for the development of the two enterprises' clusters, the construction of "India-China Industrial Park" was initiated by President Xi Jinping and launched through the *Joint Statement between the People's Republic of China and the Republic of India*. In May 2016, with the first batch of land transferred for India-China Industrial Park, the park planning, infrastructure construction and investment invitation of enterprises are in full swing. As an important project of the Belt and Road Initiative, the first India-China Industrial Park was officially settled in Ahmedabad, Gujarat. The opening ceremony of the park held in Beijing on June 20, 2016 marked the initial fruits of the "partnership for economic development" between China and India.

In recent years, Sany Group has made rapid development in the Indian market. Since its first entry into the Indian market in 2002, Sany Group has provided more than 10,000 engineering machinery and equipment to India. In addition, the wind turbine installation line of Sany Group is being established in India and is planned to be built into a global wind power manufacturing center outside China. After 15 years of intensive cultivation, Sany India has become a manufacturing center covering the whole South Asia and even Asia, radiating the Middle East and the whole African continent. On January 22, 2016, Wanda Group, the largest Chinese real estate developer, signed a memorandum with the government of Ludhiana in northern India. Both parties agreed to build an industrial park and an amusement park on land with an area of 13 square kilometers in Ludhiana. According to relevant reports, SAIC Motor, China's largest auto manufacturer, has told GM that it intends to merge its already in-business depressed factories in India. China's Xiaomi Technology Group plans to invest in the establishment of an enterprise in Allahabad, southern India, to produce and assemble its famous brand smartphones and sell them in the local market in India.

(3) Industry cooperation between China and Myanmar

Myanmar, located on the eastern edge of the South Asian subcontinent, has the status of South Asia and Southeast Asia. The connectivity between China and Myanmar is also under the connectivity plan between China and South Asia in a broad sense. Since Myanmar first approved foreign investment in 1988, in 2015, the Myanmar Investment Commission approved a total foreign investment of USD59.153 billion from 1,033 enterprises. By the end of 2014, China has invested USD14.47 billion of agreements with Myanmar, accounting for 27.7% of the total amount of foreign investment (agreement) in Myanmar, ranking the first place in foreign investment in Myanmar. China's investment in Myanmar is mainly made by state-owned enterprises, with the investment and cooperation targets concentrated in official or military enterprises. The investment in Myanmar is mainly in resource development, and water conservancy, oil and gas and mineral resources almost account for all of China's investment in Myanmar.

Table 4 Myanmar's Industrial Structure of Utilizing China's Direct Investment in 2015

Investment industry	Number of foreign-funded enterprises	Investment value (USD100 million)	Proportion in total investment (%)
Oil and gas industry	10	20	40.8
Telecommunication industry	8	15	30.6
Manufacturing	108	7.2	14.7
Real estate and construction	3	2.39	4.9

In Myanmar, although the oil and gas resources industry invested by Chinese enterprises accounts for more than 40% of the dominant share, 30% of the telecom market has rarely seen Chinese enterprises. In addition, the proportion of the manufacturing industry is close to 15%, and the real estate and construction industries are close to 5%. This indicates that Myanmar's industrialization and urbanization will start and will accelerate gradually. The opportunity window for Chinese enterprises to enter has opened (see Table 4).

Under the Belt and Road Initiative, China has supported Myanmar's implementation of a number of highway, railway and port projects, and the China-Myanmar oil & gas pipelines had been built and begun operating.⁷ In 2013, Chinese enterprises signed 77 new engineering contracts in Myanmar, with a contract value of USD919 million and a turnover of USD1.261 billion. China undertook the technical cooperation project for the opening and closing ceremony of the 27th Southeast Asian Games in Myanmar in 2014. As of 2015, Yunnan's optical cable transmission system connecting Myanmar has been completed, and its construction of power interconnection, power trade and power supply with Myanmar have been actively promoted. It is not only an important indicator for the two countries to form a "community of common destiny", but also a major strategic measure for the two countries to jointly promote the formation of regional cooperation network. It is of great significance for the future development and prosperity of the region, and is in line with the inevitable trend of complementary advantages and mutual convergence of the two major markets in East Asia and South Asia.

5. People-To-People and Cultural Exchanges Are Becoming More and More Active

With the accelerating pace of coordinated promotion of infrastructure construction between Bangladesh, China, India and Myanmar, international routes have been basically unblocked, roads and railways have been basically connected, greatly promoting the exchange of personnel in the four countries. Senior government officials visited each other frequently, folk exchanges were becoming more and more active, and

⁷ According to the agreement between the Chinese government and the Myanmar government in June 2009, the Myanmar section of the China-Myanmar oil & gas pipeline project was fully completed in early June 2013 after four years of construction.

cooperation exchanges such as commerce, academic, education, culture, science and technology, medicine and health were increasing.

(1) Cultural exchanges between China and Bangladesh

With the signing of cultural cooperation agreement between China and Bangladesh in 1979, bilateral exchanges in the fields of culture, sports and education between the two countries have become more and more frequent. In order to celebrate the 30th anniversary of the establishment of diplomatic relations, the two countries designated 2005 as a year of friendship and held a series of literary and artistic activities. Kunming and Chattogram also established friendly urban relations. In 2006, China opened the first Confucius Institute in South Asia in Bangladesh, and now it has 2,600 students who have registered for Chinese language learning. In 2012, in order to promote more young Bangladeshi students to study in China, the number of government scholarships provided by the Chinese government increased to 160. On the 40th anniversary of the establishment of diplomatic relations between China and Bangladesh in 2015, the two countries have further expanded their cultural exchanges. The China Research Center was established at the University of Dhaka, and the youth delegation of 100 people from Bangladesh visited China.

(2) Cultural exchanges between China and India

The exchange between China and India began in the Qin Dynasty (221–206 BC), and gradually became frequent in the Han Dynasty (206 BC–AD 220), more and more intense in the Sui and Tang dynasties (AD 581–907), and deeper in the Song and Yuan dynasties (AD 960–1368). In the history of more than 2,000 years of communication, cultural exchange is the pillar. Indian Buddhism, music, dance, astronomical calendar, literature language, architecture and sugar making were introduced into China, and their influence was as Lu Xun said, “India has brought great prosperity to China since it had traffic access to China in the ancient times, and its thoughts, beliefs, art and culture also have had great impact on China.” Similarly, the introduction of Chinese paper, silk, porcelain, tea and music into India greatly enriched the Indian culture. *The Twenty-Four Histories* and the travel notes by eminent monks became the foundation of the ancient history of India. The two great countries, which are geographically adjacent, have such a long history of communication, yet with few wars and conflicts but only cultural exchanges and learning, and the spread and deepening of friendship, which is rare in the world’s history.

Since the 1950s, cultural exchanges between the two countries have flourished again. Since cultural exchanges are the basis for consolidating friendship, governments of the two countries attach great importance to the role of culture. With every major breakthrough in bilateral relations, there were also great actions in cultural cooperation between the two countries. In 1988, when Indian Prime Minister Rajiv Gandhi visited China, the two countries signed a cultural cooperation agreement. In 2003, Prime Minister Atal Bihari Vajpayee signed the *Implementation Planning of the Agreement on Cultural Cooperation between China and India from 2003 to 2005* when he visited China. In 2006, China and India signed the *Implementation Planning of China-India Cultural Exchange from 2006 to 2008*. In 2010, China and

India warmly celebrated the 60th anniversary of the establishment of diplomatic relations between the two countries. In order to encourage more friendly and in-depth exchanges, the two countries designated 2012 as the Year of Friendly Cooperation. In order to commemorate the 60th anniversary of the initiation of five principles of peaceful coexistence, the two countries designated 2014 as the Year of Friendly Exchange.

(3) Cultural exchanges between China and Myanmar

After the founding of the People's Republic of China, the friendly relations between China and Myanmar have been developing continuously, and cultural exchanges have become increasingly frequent. During the Chinese National Day in 1960, Prime Minister of Myanmar U Nu led a friendly delegation of over 400 people composed of cultural, artistic and film delegates to China, and held the Myanmar Culture Week in Beijing. During the Independence Day in Myanmar in January 1961, Chinese Premier Zhou Enlai led a delegation of more than 530 people composed of cultural, artistic and film delegates to visit Myanmar and held the China Film Week in Yangon. The visits of such large-scale state leader-led friendly delegations fully reflect the pauk-phaw friendship between China and Myanmar, and become a favorite tale in the history of cultural exchanges between the two countries. Since the 1980s, high-level visits for cultural exchanges have been ongoing, with 13 ministerial cultural delegations visiting each other. In January 1996, the two countries signed the *Protocol on Cultural Cooperation between the Ministry of Culture of the People's Republic of China and the Ministry of Culture of the Union of Myanmar* in Beijing.

With the deepening of China-Myanmar relations, the cooperation and exchanges between the two countries in the fields of art, literature, film, news, education, religion, archaeology and books are becoming increasingly close. According to incomplete statistics, since the establishment of diplomatic relations, more than 600 groups of mutual visits have been held. Among them, the Sacred Buddha Tooth, a national treasure relic, was invited to visit Myanmar four times in 1955, 1994, 1996 and 2011 respectively, and was warmly welcomed by the Myanmar government and people from all walks of life. Since 1998, Myanmar's art troupes have participated in performance activities of all previous Asia Arts Festivals. In 2004, China and Myanmar signed the *Memorandum of Understanding on Educational Cooperation*. In June 2005, the series of "Chinese Culture Month" activities were successfully held in Yangon. In September 2008, Khin Aung Myint, Minister of Culture of Myanmar, led a delegation to officially visit China and participated in the Asia Arts Festival. In August 2009, Minister Khin Aung Myint went to China to attend the Asia Cultural Ministerial Round-Table Meeting held in Ordos, Inner Mongolia, and organized a 12-member art troupe for the 11th Asia Arts Festival. In October 2011, U Kyaw Hsan, Minister of Culture of Myanmar, was invited to lead a delegation to attend the 12th Asia Arts Festival. In May 2012, the China NGO Network for International Exchanges and the China Foundation for Peace and Development jointly held the first "deep-rooted" good neighborliness and friendship activities between China and Myanmar, aiming to consolidate China-Myanmar folk friendship, deepen the practical cooperation and promote the development of traditional friendly relations

between China and Myanmar. The activities include large-scale art performances, cataract patients' rehabilitation surgery, signing on the joint building of a medical center, donation of computers to primary and secondary schools in Myanmar and dialogue meeting of small and medium-sized entrepreneurs. In 2010, in commemorating the 60th anniversary of the establishment of diplomatic relations between China and Myanmar, the artistic delegations of the two countries conducted an exchange visits and jointly issued commemorative stamps. In 2004 and 2011, the government departments of China and Myanmar signed agreements on cooperation in fields of education and sports, which promoted the exchanges and cooperation between the two countries in the two fields. On the 65th anniversary of the establishment of diplomatic relations between China and Myanmar in 2015, the two countries jointly signed the *Agreement on the Establishment of Cultural Centers between China and Myanmar*, displayed in Myanmar the pictures of the establishment of diplomatic relations and pictures of China's aid to Myanmar, and organized delegations of more than 100 excellent youth from government departments of Myanmar and more than 120 overseas students to China for a visit.

(IV) Vision and prospects

1. Vision of future development

Building the BCIM Economic Corridor is China's initiative and the common aspiration of China, Bangladesh, Myanmar and India. Standing at a new starting point, China, together with Bangladesh, Myanmar and India, will take the opportunity of jointly building the BCIM Economic Corridor, negotiate on an equal footing, take into account the interests of all parties, reflect the demands of all parties, and work together to promote greater openness, greater exchanges and greater integration in a wider scope and at a higher level.

The way to jointly build the BCIM Economic Corridor is to focus on goal coordination and policy communication, not to deliberately pursue consistency, but to be highly flexible and elastic, which is an open and multi-cooperated process. China, together with Bangladesh, Myanmar and India, will continue to enrich and improve the contents and methods of cooperation in the BCIM Economic Corridor, jointly formulate a timetable and roadmap, and actively connect with the development and regional cooperation planning of countries along the corridor.

Together with the BCIM Economic Corridor, China will steadily promote the construction of demonstration projects, jointly identify a number of projects that can take care of bilateral and multilateral interests, and speed up the start and implementation of projects recognized by all parties and with mature conditions, so as to strive to complete the project and bear fruits earlier.

The BCIM Economic Corridor is a corridor of mutual respect and trust, a corridor of win-win cooperation and a corridor of mutual learning of civilizations. As long as the four countries involved work together, they will surely be able to write a new chapter in the construction of the Silk Road Economic Belt and the twenty-first century Maritime Silk Road, and let the peoples of all countries along the corridor share the achievements of the co-construction of the BCIM Economic Corridor.

2. Prospects of Corridor Construction

(1) Connectivity is top priority of the BCIM Economic Corridor

The facility connectivity plays a leading role in the construction and development of economic corridor, and is an important prerequisite for the effective construction of economic corridor. It includes not only the “hard connectivity” of infrastructure such as transportation channels, but also the “soft connectivity” of construction planning, technical standards and cooperation mechanism. The infrastructure construction with connectivity as the guide is directly related to the construction cost of the economic corridor and the flow cost of economic elements such as people and goods in the economic corridor, which is the key link of the construction of economic corridor.

At present, the lag of infrastructure construction such as transportation and the lack of effective alignment between construction planning and technical standards are the prominent problems in the construction of the BCIM Economic Corridor. First of all, there is a lack of convenient and accessible transportation conditions between Bangladesh, China, India and Myanmar, and the existing transportation infrastructure can only barely meet the needs of transit transportation of the BCIM Economic Corridor in the short term. In order to form an interconnected and convenient regional transportation network, many new roads need to be built and reconstructed, which requires huge funds,⁸ and the construction of transportation infrastructure faces great financing difficulties. Secondly, the highway and railway networks of Bangladesh, China, India and Myanmar have their own systems, the construction standards of roads and bridges are different, and there are still some problems, such as lack of road sections and backward border management facilities. Finally, the bilateral transit transport agreements currently implemented by Bangladesh, China, India and Myanmar impose too many restrictions on transit vehicles, goods and personnel in countries along the economic corridor, which is not conducive to the promotion of sub-regional trade. The four countries have not paid enough attention to the convention on international transport facilitation on land and have not signed any framework agreement on transit transport.

In this context, if Bangladesh, China, India and Myanmar want to make the economic corridor an interest link for deepening reciprocal cooperation and accelerate the free flow of economic elements in the corridor, they must further accelerate the construction of infrastructure such as land transportation, water transport and shipping, strengthen infrastructure connectivity, and deepen the connectivity cooperation along the economic corridor. First, with the help of the AIIB, the New Development Bank, the Silk Road Fund and other financing platforms, we will strengthen the financial support for the construction of transportation infrastructure for the key channels, key nodes and key projects of the BCIM Economic Corridor, give priority to opening up the missing sections and unblocking the bottleneck sections, and improve the road safety protection facilities and traffic management facilities and

⁸ Weiguang and Guangrong (2009).

equipment, so as to improve the road access level.⁹ Second, we will promote the interconnection of border ports, energy channels, information and communication infrastructure along the BCIM Economic Corridor by means of joint consultation and tackling easier problems before difficult ones. Third, we will strengthen the construction of “soft connectivity” such as the construction planning, technical standards and cooperation mechanism of the BCIM Economic Corridor, promote the promulgation of the *Master Plan for the Construction of the BCIM Economic Corridor* as soon as possible, and study and formulate the *Agreement on the Facilitation of Cross-border Passenger and Freight Transportation between Bangladesh, China, India and Myanmar*.

- (2) The cooperation on the BCIM Economic Corridor should take benefit sharing as the core element

The economic corridor is built on the basis of common interests. Without common goals and interests, we cannot form a strong willingness to cooperate. The creation, interweaving and reasonable distribution of interests are the important principles of the construction of economic corridor. Among them, close economic cooperation and bigger “interest cake” are the manifestations of construction of economic corridor. The reasonable distribution and sharing of interests are the core elements of economic corridor’s construction, and also the key to the smooth progress of economic corridor’s construction and ultimately achieve actual results.

At present, the BCIM Economic Corridor has entered the stage of substantive construction. The four countries should make full use of the rich resources and broad market in the areas along the economic corridor, and give full play to the economic growth potential of Bangladesh, China, India and Myanmar through close industrial cooperation and innovative cooperation mode, so as to enlarge the interest cake of the economic corridor’s construction. At the same time, in the process of economic corridor’s construction, the four countries should be more clear about their interest demands in the process of economic corridor’s construction, and strengthen policy communication with a more open and inclusive attitude. They should not only strive to safeguard their own interests in the process of participating in the economic corridor’s construction, but also fully take care of the interest concerns of other countries in the process. On the one hand, the four countries should start from the interests of the peoples along the economic corridor, establish a multi-level cooperation, dialogue and consultation mechanism, and scientifically and reasonably formulate the construction planning of the route and direction of the economic corridor, and the road section with the sequence of construction. On the other hand, the four countries should further expand the reciprocal space for the construction of the economic corridor, deepen reciprocal cooperation in various fields, strengthen the integration of interests, establish the interest balance mechanism and dispute settlement mechanism, and gradually form an interest community for the construction of the BCIM Economic Corridor. The four countries can make more substantive

⁹ Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road [M]. Beijing: People’s Publishing House, 2015, p. 8.

progress in the construction of the economic corridor only when they pursue their own interests and at the same time take into account the reasonable concerns of other countries, promote common development of all countries in the process of seeking their own development,¹⁰ actively build a mutually comfortable strategic partnership, and jointly build a community of shared interests and a community of common destiny in the region.

- (3) The BCIM Economic Corridor should be based on the complementarity and exertion of industrial advantages

The essence of economic corridor's construction is to carry out sub-regional economic cooperation, and the core of economic cooperation is industrial cooperation.¹¹ Industrial cooperation is not only an important support but also an important content of economic corridor construction. Only relying on the geographical economic advantages of the region and close industrial cooperation can the economic development potential along the corridor be fully realized.

The construction of the BCIM Economic Corridor should be based on the complementarity and exertion of the regional industrial advantages, take the cooperation of advantageous industries as the core, take the project cooperation as the platform, and use the financing support of the AIIB, New Development Bank and the Silk Road Fund to continuously consolidate the industrial support for the construction of the economic corridor. First, the countries involved should carry out energy cooperation. Bangladesh, China, India and Myanmar should actively promote the cooperative development and utilization of hydropower, solar energy, wind energy, oil and gas, biomass energy and other energy resources along the economic corridor, vigorously develop regional energy trade, improve the energy transmission system, and improve the energy utilization efficiency according to the characteristics of rich energy resources, shortage of electric energy and backward infrastructure such as equipment and transmission network in the region. Second, they should carry out agricultural cooperation. Bangladesh, China, India and Myanmar are all big agricultural countries. The countries should further strengthen agricultural production technology cooperation and build a number of leading agricultural demonstration zones, animal husbandry cross-border cooperation zones and agricultural products processing bases along the economic corridor. Third, they should carry out tourism cooperation. Bangladesh, China, India and Myanmar have unique regional culture, historical heritage, natural and cultural tourism resources, so strengthening tourism cooperation has a good foundation and broad prospects. The four countries should organize their own tourism departments and tourism enterprises to jointly investigate the golden tourism routes along the economic corridor, study and design tourism products and routes highlighting the regional characteristics of Bangladesh, China,

¹⁰ China's Development is not for One-Win Results or Expansion. Chinanews.com. <http://www.chinanews.com/gn/2012/12-05/4385579.shtml>.

¹¹ Lijun (2014).

India and Myanmar, jointly develop the tourist source market, cooperate in publicity and promotion, and establish transnational tourism enterprises. Fourth, they should carry out international industrial-capacity cooperation and equipment manufacturing cooperation. At present, China has entered the middle and late stage of industrialization, and has become a global manufacturing power, known as the “world’s factory”. Although India’s industrialization progress is slow, its achievements in service industry, especially in IT industry, pharmaceutical industry, biotechnology and other high-tech products have attracted worldwide attention. Myanmar and Bangladesh are still in the initial stage of industrialization, with low degree of industrialization, but they are rich in mineral resources and have great development potential. Bangladesh, China, India and Myanmar should give full play to their respective advantages and needs in terms of industrial-capacity and equipment manufacturing, and strengthen international industrial-capacity cooperation and equipment manufacturing cooperation in the fields of rail transit, communication equipment, textile industry, engineering machinery, biopharmaceutical, software design, etc.

(4) The BCIM Economic Corridor can try to establish a “4-X” cooperation mechanism

Economic corridor construction is a long-term development process. Because some countries and regions cannot benefit from the construction of economic corridor quickly, they may become less passionate for and confident in the construction. It is of great value and significance for the relevant countries to eliminate differences, establish consensus, enhance confidence and cooperate closely to select the countries and regions with relatively strong willingness to cooperate, relatively stable foundation for cooperation and relatively superior conditions for cooperation to give priority to the construction of local and small-scale economic corridors and harvest from the economic corridors earlier.

Due to the weak economic foundation, complex ethnic and religious backgrounds, political instability, lack of political mutual trust and cooperation willingness in some countries, it is neither feasible nor realistic to comprehensively promote the construction of the BCIM Economic Corridor. Bangladesh, China, India and Myanmar should try to establish a “4-X” cooperation mechanism, and give priority to the formation of bilateral and small multilateral economic corridor cooperation mode between two or three countries according to different factors such as willingness and basis of cooperation. The “4-X” cooperation mode is conducive for relevant countries and regions to make full use of the cooperation basis and conditions of the construction of the BCIM Economic Corridor in different periods, gather consensus, and flexibly select the construction routes and cooperation fields of the economic corridor. At the same time, the cooperation mode can also be used as a breakthrough and experiment to promote the construction of the BCIM Economic Corridor. By giving full play to the enthusiasm and initiative of different countries in the economic corridor to participate in the corridor construction, this mode can help create favorable conditions for gradually promoting the comprehensive construction of the BCIM Economic Corridor.

- (5) The construction of the BCIM Economic Corridor should attach great importance to the influence of many non-economic factors

The construction of economic corridor is the result of economic and non-economic factors.¹² In some cases, non-economic factors will have a local or even global impact on the construction of economic corridor, and become an important variable to determine whether the construction of economic corridor can proceed smoothly.

The BCIM Economic Corridor has the characteristics of transcending the sovereign border. In the process of construction, the countries involved must attach great importance to the influence and restriction of political mutual trust, sub-national government and other non-economic factors. On the one hand, they should strengthen policy communication, seriously make relevant plans and response mechanisms, try to reduce and avoid the negative impact of non-economic factors on the construction of economic corridor; strive to appropriately separate “geo economy” from “geo politics”, concentrate energy and financial resources to give priority to the development of economic corridor’s construction, accelerate the fruiting progress and produce demonstration and pull effect. On the other hand, Bangladesh, China, India and Myanmar should have a rational and optimistic understanding of the influence of non-economic factors in the construction of economic corridor, and be good at using the “positive side” of non-economic factors to serve the construction of economic corridor. First, they should make full use of the urgent desire of Yunnan Province of China and the northeast states of India to participate in the construction of the BCIM Economic Corridor, try to build platform mechanisms such as “governors forum”, reasonably give play to the autonomy and role of the local governments of the countries along the corridor in promoting the construction of the economic corridor, and promote the central governments of all relevant countries to increase their strategic investment in the BCIM Economic Corridor. Second, they should give full play to the important role of local governments in improving and reshaping the geopolitical environment of the BCIM Economic Corridor,¹³ and make rational use of the different interest perspectives of the local governments and the central governments in the construction of the economic corridor. By guiding the local governments to actively help the central governments to improve the geopolitical environment and other non-economic cooperation in the BCIM region, the central governments of countries along the economic corridor will attach importance to and support their economic cooperation within the economic corridor.

- (6) The BCIM Economic Corridor should strengthen competition and cooperation with other economic corridors

The construction of economic corridor needs to be based on rich resources and broad market, and also needs to learn from the successful experience and lessons on the construction of other economic corridors. These internal needs determine that the economic corridor must be open and inclusive. Countries and regions participating in the cooperation of economic corridor’s construction should actively participate in

¹² Ying (2007).

¹³ Siling and Huiping (2014).

the cooperation-competition development of different economic corridor cooperation mechanisms, give full play to the scale effect and cluster effect of the construction of economic corridor, and promote common development.

The BCIM Economic Corridor is featured with relatively weak infrastructure, relatively backward economic development level, and relatively shortage of corridor construction funds. At the same time, Bangladesh, China, India and Myanmar, which are involved in the construction of the economic corridor, also participate in sub-regional economic cooperation mechanisms such as GMS Economic Corridor, China-Pakistan Economic Corridor, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation¹⁴ and the South Asian Association For Regional Cooperation. In 2013, India put forward the concept of cooperation in building the India-Mekong Economic Corridor.¹⁵ India has also cooperated with Japan to jointly promote the construction of the “Asian Economic Corridor”.¹⁶ The BCIM region is facing the development situation of coexistence of multiple economic corridors and overlapping cooperation mechanisms. In the process of promoting the construction of different economic corridors, the relevant countries will inevitably have their own choice and emphasis, which will have a certain negative impact on their enthusiasm and efforts for the construction of economic corridor. The construction of different economic corridors will also face the adverse situation of resource duplication and low efficiency. In this context, Bangladesh, China, India and Myanmar should strengthen strategic communication, form a consensus on cooperation, closely align with the construction planning of different economic corridors, reasonably allocate their respective resources in different economic corridors, strengthen the connectivity between the construction lines of different economic corridors, learn from each other’s experience in the construction of different economic corridors, and strengthen the competition and cooperation with other economic corridors.

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¹⁴ Formerly known as “Bangladesh, India, Myanmar, Sri Lanka, Thailand Economic Cooperation” (BIMSTEC), it was established under the leadership of India in April 1997. In July 2004, the organization was renamed “The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation”.

¹⁵ India plans to build the India-Mekong Economic Corridor [DB/OL]. <http://inmofcom.gov.cn/article/jmxw/201311/20131100394032.shtml>.

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Promote the Belt and Road Initiative Through Enhancing Service Capability of Logistics System



Junjie Hong

The Belt and Road Initiative has made a series of important progress since 2013, when President Xi Jinping proposed the initiative of the “Silk Road Economic Belt” and “the 21st-Century Maritime Silk Road”, and has been upgraded to one of the important national strategies. As logistics infrastructure and services are both important contents and strategic support of the Belt and Road Initiative, with the practical promotion of the Initiative, the backwardness and insufficiency of logistics service capability have become increasingly prominent. It is urgent to form a convenient and smooth cross-border logistics channel network as well as high-quality and efficient logistics service capacity through strengthening consultation among countries along the Belt and Road to formulate stepwise logistics facilities planning, open up key channel nodes, and establish a market-oriented community of shared interests.

I. The Belt and Road Logistics System has made Great Progress

(I) Great progress has been made in the construction of transportation infrastructure.

Weak transportation infrastructure is the primary problem faced by the Belt and Road logistics system. Since the Belt and Road Initiative was put forward, China’s cooperation and alignment with other countries along the Belt and Road on planning, construction and technical standard system of transportation infrastructure has advanced rapidly.

Land transport infrastructure cooperation focuses on cross-border roads and railways, in combination with six international economic corridors, accelerates the connectivity between China and countries and regions along the Belt and Road. In the aspect of highway transportation, it is mainly to open up key missing road sections,

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accelerate the construction of national expressways and important border ports, open up land transportation with Central Asia, South Asia and Southeast Asia, and gradually form international transportation channels. The focus of railway transportation is to strengthen the existing channels, speed up the transformation of domestic lines, and strengthen the receiving, dispatching and reloading capacity of port stations. Since the official opening of “Suzhou-Manzhouli-Europe international freight trains” in March 2014, more than 10 cities in China have opened the operation lines of China–Europe freight trains, which directly reach more than 10 cities in seven European countries. A series of high-speed rail lines have been launched in succession, such as the China-Kyrgyzstan-Uzbekistan Railway, China-Pakistan Railway, China-Laos Railway, China-Thailand Railway and Moscow-Kazan High-Speed Railway, etc. (Report of China Logistics Development 2016).

The priorities of water and aviation infrastructure are the construction of port infrastructure, smooth land water transportation channels, promote port cooperation and construction of western aviation hubs and other measures. For example, Fujian is speeding up the construction of an important strategic channel connecting land and sea, strengthening cooperation with ASEAN countries in the construction and management of port terminals, logistics parks and distribution centers, supporting overseas port and shipping enterprises to cooperate with Fujian in the construction of ports, and encouraging Fujian-based enterprises to carry out port and shipping cooperation in Southeast Asia, South Asia and other regions.

(II) National ministries and key provinces have successively issued supporting implementation plans.

The supporting policies and implementation plans put forward by the General Administration of Customs in May 2015 pointed out that we should give play to ports as the key node of logistics corridor connectivity and give priority to the areas along the Belt and Road when formulating the national port development planning and annual hearing plan of port opening. In June 2015, the Ministry of Transport put forward the *Implementation Plan for the Belt and Road Initiative* and set construction of key transportation infrastructure such as oil and gas pipeline, port shipping, railways, highways and cross-sea channels as the priority. All areas have basically completed the integration of the Belt and Road implementation plans with the national planning. Xinjiang and Fujian, as core areas under the Belt and Road Initiative, have accordingly developed a detailed planning for integrated development, in which transportation infrastructure and logistics services are all important contents.

(III) Chinese enterprises actively participate in construction projects of logistics system.

Chinese enterprises are also actively investing in logistics system construction in countries along the Belt and Road. In 2015, China signed 3,987 new contracts for foreign contracted projects with countries along the Belt and Road, amounting to USD92.64 billion, representing 44.1% of the total amount of new contracts signed by China in the same period. The key area of investment for Chinese enterprises in these countries is the transportation infrastructure such as roads, railways, ports and

airports. Companies such as China Communications Construction Co., Ltd., China Railway Construction Corporation Limited, China Railway Group Limited are the main force in China's participation in the construction of transportation infrastructure in countries along the Belt and Road. China Merchants Group, as a representative enterprise in the construction of logistics system, has now invested in several ports in countries along the Belt and Road.

(IV) The level of trade facilitation improved significantly.

China is strengthening customs cooperation, such as information exchange, mutual recognition of supervision, mutual aid in law enforcement and so on with countries along the Belt and Road, improving customs clearance conditions at the border ports, reducing the cost of customs clearance, and significantly improving the level of trade facilitation. Since 2014, the Beijing-Tianjin-Hebei region, the Yangtze River Economic Belt, Guangdong Province, the Silk Road Economic Belt and North-east China have carried out the regional customs clearance integration reform in China, realizing the regional integration among the five regions. In October 2015, seven inspection and quarantine bureaus of Guangdong, Guangxi, Fujian and Hainan provinces signed the cooperation memorandum to profoundly promote the integration of inspection and quarantine in the Pan Pearl River Delta region, achieving positive results in terms of jointly promoting regional integration of inspection and quarantine and strengthening collaboration between the Pan Pearl River Delta region and inspection and quarantine port organizations along the Belt and Road.

II. Main Obstacles Faced in the Construction of the Belt and Road Logistics System

The promotion of the Belt and Road Initiative needs the support of convenient and efficient logistics channels and services. Despite the great progress in the current infrastructure connectivity, the Belt and Road logistics system is still facing many obstacles, mainly in the aspects of politics, financing, infrastructure and business environment.

The main political obstacle is the doubt or wait-and-see attitude of some countries along the Belt and Road Initiative. In order to maintain global hegemony, the United States adopts the strategy of containment and confrontation against China politically and militarily. Russia, Japan and other neighboring powers do not want to see China deepen economic and trade cooperation with Europe, Africa and the Middle East. To block the Belt and Road Initiative, they have repeatedly provoked troubles in the East China Sea, the South China Sea and the Middle East, making the political security situation uncertain and the layout of the logistics system more difficult (Xia 2016). Some SCO countries are also worried that over binding and connecting with China may damage their national security and economic independence.

The main financing obstacle lies with the huge capital gap (Liu 2016). In areas along the Belt and Road, many countries are featured with backward economic development and infrastructure, huge investment demand and large investment risks. Although China has taken the lead in setting up the AIIB, and has set up financial institutions such as the Silk Road Fund and the New Development Bank to provide financial support, it is still far from meeting the huge infrastructure investment needs of countries along the Belt and Road. As a developing country with a large population and relatively insufficient resources, China is still unable to bear the huge outflow of interests, which needs to be solved through multi-party financing.

Logistics infrastructure construction itself also faces two difficulties: technical barriers and insufficient market demand (Liu 2016). The geographical environment of areas along the Belt and Road is complex, so the development of large-scale infrastructure will surely encounter a series of technical difficulties. At present, Europe and Americas remain the center of the global division of labor, and many countries along the Belt and Road do not have enough population and economic activities, and are short of goods. Construction of high-level logistics corridors in countries with a low level of economic development can help stimulate local economic growth, but may also result in too long a construction cost recovery period because of the small volume of logistics absorbed by countries along the Belt and Road.

The obstacles of business environment are mainly reflected in the management of transnational logistics and the coordination of policies and regulations. Countries along the Belt and Road manage and influence logistics activities within the scope of their sovereignty, which inevitably leads to many barriers, multiple charges, rent-seeking corruption and other drawbacks. The inconsistency of policies, regulations, facilities and operation standards also increases the logistics time and cost.

III. Suggestions on Countermeasures for the Improvement of the Belt and Road Logistics Service Capacity

The construction of the logistics system under the Belt and Road Initiative is facing a very complicated obstacle, as it requires not only international policy coordination and system design at the macro level, but also scientific planning and management innovation at the micro level, and more importantly, promotion of priorities and opening-up of the key points and the further cultivation of market entities and mechanisms.

(I) To explore cooperation mechanism and strengthen policy coordination in the field of logistics among countries.

We should make full use of such political or economic organizations as the Shanghai Cooperation Organization, the BRICs Organization, the Free Trade Area of the Asia Pacific and the AIIB to strengthen policy coordination among relevant countries. In the regions along the Silk Road Economic Belt, it is necessary to strengthen China's close cooperation with Russia, European and Asian countries. We will spare no effort to connect railways, highways, air ports and all kinds of checkpoints in countries along the line, and strengthen the construction of relevant infrastructure. For example, in Northeast China, we should combine Russia's "Look East" Policy

to accelerate the connectivity project between Northeast China and the neighboring countries in Northeast Asia. We should strengthen the “geo-economic union” with the European Union, make full use of high-speed rail diplomacy to realize China’s access to infrastructure construction in Western Europe, especially give full play to the role of China–Europe Railway Express, and achieve mutual benefit and win–win results between China and European countries.

The “21st Century Maritime Silk Road” should advocate the construction of a new maritime order, open up safe and open maritime transport channels through promoting cooperation mechanism, and jointly build coastal development economic belt with maritime related countries. China should establish cooperation mechanisms with ASEAN, Indian Ocean, Gulf and other countries along the Maritime Silk Road to ensure the safety of maritime transport channels, and establish bilateral or multilateral strategic dialogue and consultation mechanisms for maritime cooperation to advocate the peaceful use of marine resources, resolve maritime conflicts, and realize maritime cooperation for mutual benefit and common development.

(II) To make reasonable overall planning and formulate phased logistics facilities construction plan.

As the construction of logistics facilities under the Belt and Road Initiative require heavy investment, we should scientifically assess the logistics needs in the long term, medium term, and near term, and based on the assessment, scientifically plan backbone logistics corridors, arrange hub logistics nodes, and work out a stepwise construction plan (Zhang et al. 2015).

“The Belt” should take the New Eurasian Continental Bridge as the link, promote the connectivity of road networks of countries along The Belt and Road, form closely connected railway and highway channels, open up the last kilometer, and improve transport capacity with half the effort, supplemented by an important air cargo network. “The Road” should focus on maritime transport and port cooperation, build a shipping system with coordinated functions, reasonable layout, safety and reliability, and focus on the construction of container transportation and international multimodal transport system.

(III) To establish the pioneer zone of international logistics cooperation under the Belt and Road Initiative, and open up key channels and nodes.

We should give full play to typical demonstration roles, select one or two countries with positive attitude and willingness to cooperate to carry out key investment and construction, such as China-Kazakhstan Eurasian Comprehensive Transportation Corridor, China-Pakistan (China-Myanmar) Energy Transportation Corridor Connecting the Two Oceans, explore and implement the integration projects of high-standard logistics network, and establish an express road, high-speed railway and aviation, navigation network that is integrated with China’s transportation system and dominated by China. With finance as the tool and talents as the link, we should promote the export of technology, management and standards, and drive the economic prosperity of the countries in the pioneer zone, so that these countries can really benefit from the improvement of infrastructure and cooperation.

(IV) To cultivate the market entities, form the mechanism of risk sharing and benefit sharing.

We should consider establishing multinational logistics enterprise groups, guide and organize Chinese logistics enterprises to actively carry out business cooperation and strategic alliance with similar enterprises in relevant countries, actively promote logistics standardization and trade facilitation, simplify transit and customs clearance procedures, and vigorously develop international multimodal transport. We should guide the industrial-capacity transfer of China's manufacturing industry along the main logistics routes and nodes, cultivate a close industrial relationship between China and the countries along the Belt and Road, and form a mutually supportive development pattern of the manufacturing industry and the logistics industry. We should give full play to the advantages of Internet and express delivery, encourage and guide e-commerce enterprises, express delivery enterprises and third-party payment enterprises to establish platforms and carry out business in relevant countries, so as to realize closer integration of business flow and logistics.

We should accelerate the actual operation of international financial institutions such as the AIIB, the Silk Road Fund and the New Development Bank as soon as possible. At the same time, we should actively introduce private capital into the construction of logistics facilities, adopt internationally accepted financing methods such as PPP, and establish multinational syndications, multinational bidding and construction consortium, and multinational mixed ownership enterprises, so as to share interests and risks. For infrastructure projects with strong public welfare, social and strategic nature, it is suggested that the relevant national governments and regional financial development institutions should give necessary subsidies to ensure the basic profit of commercial entities.

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Development of Transportation Logistics Under the Belt and Road Initiative with Northeast China as an Example



Yang Zhang and Jianguo Qin

The construction of regional economic corridors based on high-speed transportation channels or upgrading existing low-quality roads is an important part of regional economic cooperation (Srivastava 2011). The transportation logistics has become one of the important forces to shape the regional economic spatial pattern and lead the evolution of economic spatial pattern. Constructing the transportation system of all countries along the Belt and Road is the prerequisite and important foundation for the implementation of the Belt and Road Initiative. The connectivity has greatly promoted the economic and trade exchanges between the countries concerned, so that both sides can get more economic benefits from the region and outside the region (Chengzhi 2013). In the context of the Belt and Road Initiative, Northeast China actively participates in the construction of the Belt and Road, speeds up the construction of its logistics channels that open up externally, and develops the advanced transportation and organization pattern, which is of great significance to injecting a new impetus into the “short boards” with a low degree of opening up and lagging behind in the process of opening up so as to promote the revitalization of Northeast China.

I. Improving the Level of Opening Up and Getting Integrated into the Belt and Road Initiative Are the Inevitable Choices for Revitalizing the Old Industrial Base in Northeast China

At present, Northeast China is in the key node of revitalization and transformation development. *The Three-Year Rolling Implementation Plan for Promoting the Revitalization of Northeast and Other Old Industrial Bases (2016–2018)* issued by the

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Table 1 List of some national plans involving northeast China

Document name	Issuance time	Issuer
Opinions on the implementation of the revitalization strategy of northeast China and other old industrial bases	October 2003	The Central Committee of the Communist Party of China and the State Council
Planning of revitalizing northeast China	August 2007	National Development and Reform Commission and the Office of the Leading Group of State Council for Revitalizing northeast China and other old industrial bases
Liaoning Coastal Economic Zone Development Planning	July 2009	The State Council
Opinions on Further Implementing the Revitalization Strategy of Northeast China and Other Old Industrial Bases	September 2009	The State Council
Outline of China Tumen River Regional Cooperation and Development Plan—With Changchun-Jilin-Tumenjiang as the Pioneer Zone	November 2009	The State Council
The 12th Five Year Plan for the revitalization of Northeast China	March 2012	The State Council
Opinions on Several Major Policy Initiatives to Support the Revitalization of Northeast China in the Near Future	August 2014	The State Council
The Vision and Proposed Actions Outlined on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road	March 2015	The National Development and Reform Commission, Ministry of foreign affairs, and Ministry of Commerce
Several Opinions on the Comprehensive Revitalization of Northeast China and Other Old Industrial Bases	December 2015	The Central Committee of the Communist Party of China and the State Council
Reply on the Development Planning of Harbin Great Wall City Cluster	February 2016	The State Council
The Three-Year Rolling Implementation Plan for Promoting the Revitalization of Northeast China and Other Old Industrial Bases (2016–2018)	August 2016	The National Development and Reform Commission

Source Website of the Central People's Government of the People's Republic of China

Table 2 Statistics of GDP growth in China and some regions in the first half of 2015–2016 (Unit: %)

Region	First half of 2016	First half of 2015
Liaoning	−1.0 (31)	2.6 (31)
Jilin	6.7 (26)	6.1 (28)
Heilongjiang	5.7 (29)	5.1 (29)
Inner Mongolia	7.1 (23)	6.9 (25)
Chongqing	10.6 (1)	11.0 (1)
Tibet	10.6 (1)	9.1 (4)
Whole Country	6.7	7

Note The figures in brackets are the national ranking of provinces

Table 3 Statistics of dependence on foreign trade of the whole country and northeast China from 2000 to 2015 (Unit: %)

Region	2000	2005	2010	2015
Liaoning	33.74	41.53	29.88	20.73
Jilin	10.90	11.88	13.30	8.24
Heilongjiang	7.84	14.22	16.87	6.35
Inner Mongolia	12.83	11.13	6.78	4.38
Whole Country	39.58	63.22	47.39	36.31

National Development and Reform Commission makes the revitalization of Northeast China become the focus of attention again. China has always attached great importance to the comprehensive revitalization of Northeast China and other old industrial bases. The Political Bureau of the Central Committee of the Communist Party of China has studied this issue for many times and issued relevant policy documents (see Table 1).

However, the economic development of Northeast China still faces certain difficulties, especially in the first half of 2016, among the 31 provinces (excluding Hong Kong, Macao, Taiwan and other special administrative zones), Northeast China, especially Liaoning Province, continued to stay at the bottom in terms of GDP growth (see Table 2), which was −1.0%, far lower than the national average of 6.7%.

The obstacle to the economic development of Northeast China is the problem of economic structure on the surface, but the deep-set reason is the lack of industrial competitiveness. The root cause lies with the prominent economic structural contradiction, relatively low innovation level and insufficient momentum for innovation, and incomplete system and mechanism needed for the optimization and upgrading of economic structure. One of the important manifestations of the lack of industrial competitiveness is that the dependence of Northeast China's foreign trade is lower than the national average level (see Table 3). The low degree and lagging process of opening up are one of the "short boards" that need to be broken through in the

revitalization of Northeast China. Promoting the construction of the Belt and Road Initiative will help expand and deepen the opening up of the northeast region, and is of great significance for the formation of a new pattern of opening up to the outside world and the transformation and upgrading of the economic structure in the northeast region. Therefore, further promoting the opening up of Northeast China and actively integrating it into the Belt and Road Initiative are the inevitable choices for the revitalization of the Northeast China Industrial Base.

II. Accelerating the Construction of Logistics Channel and Improving the Efficiency of Logistics Service are Important Measures to Revitalize the Old Industrial base in Northeast China

The Plan for the Adjustment and Revitalization of the Logistics Industry issued by the State Council in 2009 pointed out that logistics industry played an important role in promoting industrial structure adjustment, transforming economic development mode and enhancing national economic competitiveness. International experience shows that, in the period of economic growth slowdown, the basic and strategic position of the “third profit source” of logistics industry will be highlighted. Recently, the *Three-Year Rolling Implementation Plan for Promoting the Revitalization of Old Industrial Bases such as Northeast China (2016–2018)* issued by the National Development and Reform Commission recently involves railway, expressway, airport and other transportation and logistics fields. Under the precondition of further promoting the opening up of Northeast China and actively integrating it into the Belt and Road Initiative, Northwest China should speed up the opening of the logistics corridor, improve the efficiency of logistics services, reduce the logistics cost and enhance the industrial competitiveness of the northeast region.

(I) Construction of logistics channels in Liaoning Province

Liaoning Province has accelerated the construction of comprehensive transportation corridors such as the “Liaoning-Manzhouli-Europe”, formulated the development strategy of integrating Liaoning Province into the national Belt and Road Initiative, and proposed opinions on the implementation of building the Liaoning-Manzhouli-Europe Comprehensive Transportation Channel.

1. The Liaoning-Manzhouli-Europe Comprehensive Transportation Channel

The Liaoning-Manzhouli-Europe Comprehensive Transportation Channel is a fast and convenient international trade channel which starts from Dalian Port and Yingkou Port, passes through Russia and then to Europe. It mainly includes three channels. The first one is the Dalian-Manzhouli-Russia-Europe channel, with a total length of 10,868 km. Relying on Dalian Port, the channel mainly develops transit trains through Manzhouli, Russia and Europe through Yantai-Dalian ferry, Bohai branch line network and foreign trade transfer, and carries out international sea-rail combined transportation business. The second one is Yingkou-Manzhouli-Russia-Europe channel, with a total length of 10,681 km. The channel is a comprehensive transportation network of land logistics trunk line which is based on Yingkou Port, Liaoning-Shandong land-sea tractor-and-trailer transportation channel in the ro-ro

terminal as the main line of marine logistics, Harbin-Dalian Railway as the main axis, and expressways and general highways as the gathering and distribution channel. The third one is the Dalian-Yingkou (or Yingkou-Dalian)—Manzhouli-Russia-Europe channel, with a total length of 10,968 km. The channel focuses on gathering the freight functions of the above two channels to realize the rapid transport of goods between different nodes.

2. The Liaoning-Mongolia-Europe Comprehensive Transportation Channel

The Liaoning-Mongolia-Europe Comprehensive Transportation Channel includes two channels that start with Jinzhou Port (or Huludao Port) and Dandong Port respectively, run through the sea passage from Liaoning Province to Choibalsan Railway in Mongolia, and then reach different places in Europe. Of the two channels, the western channel starts from Jinzhou Port (or Huludao port), passes through Jinzhou-Chifeng Railway, Chifeng-Daban-Baiyinhua Railway, Bayan-Uul-Xinqiu Railway, Balagargol-Zhuengadabuqi Railway and other railways, then passes through Zhuengadabuqi Port, Xilinguole League, Inner Mongolia to Biqigetu Port of Mongolia, and reaches the Choibalsan of Mongolia, with a total length of 1,240 km, and then reaches Russian Railway via Choibalsan and then all parts of Europe. The eastern channel starts from Dandong Port, passes through Shenyang-Dandong Railway, Beijing-Harbin Railway, Siping-Qiqihaer Railway, Baicheng-A'ershan Railway, etc., and then passes through the Aershan Port of Hinggan League in Inner Mongolia to Songber Port of Mongolia, reaching Choibalsan of Mongolia, with a total length of 1,730 km, and then to Russia Railway through Choibalsan to reach all parts of Europe.

3. The Dalian-Arctic-Europe Shipping Logistics Channel

In July 2015, the Dalian-Arctic-Europe Shipping Logistics Channel (also known as the Arctic Navigation in the Northeast Route) was opened. The channel starts from Dalian Port, goes west to Bering Strait, reaches near the North Point of Norway, and then goes to European ports, reducing the mileage of Asia-Europe navigation route from 13,000 nautical miles to 8,000 nautical miles, shortening the voyage by about 35%, and cutting the transportation cost by about 30%, thus opening up a convenient, economic and efficient sea transportation channel to Europe for the northeast region and even the whole country. Compared with traditional routes, this route shortens the sailing time by about 9 days. The development and construction of the Arctic Navigation in the Northeast Route is conducive to shortening the trade voyage and time between China and Western Europe and North America. Its economic benefits and business opportunities are considerable, and it will also have a significant impact on the re-distribution of China's industrial centers.

(II) Construction of the Jilin Provincial Logistics Channel

Jilin Province speeds up the construction of “five vertical, four radiating and three horizontal” expressway networks, improves “one main and multiple auxiliary” airport clusters, opens up the sea ports with the help of Rajin Port in North Korea and Zarubino Port in Russia, fully promotes the integration of Changchun and Jilin, builds

the Changchun-Jilin-Hunchun logistics channel, and creates the second sea logistics channel in Northeast China, aiming at comprehensively improving the transportation conditions for the international economic and trade cooperation in the greater Tumen River Region, so as to speed up the integration of land-sea transport in China, Russia and North Korea.

Jilin Province focuses on building Changchun-Hunchun-Rajin (North Korea) and Changchun-Hunchun-Zarubino (Russia) sea passages, and actively promotes the development of Hunchun-Rajin (North Korea) Port—BUSAN (South Korea) Route and Hunchun-Zarubino (Russia)—Niigata (Japan) Route. Firstly, based on the development of trade-driven logistics, with the aid of the existing highways and port facilities in Hunchun and Rajin, Korea, the sea passages from Rajin Port to South Korea, Japan, Europe and the USA and other countries would be opened. Secondly, it invested and built the secondary highway from Quanhe Port in Hunchun to Rajin Port in North Korea to realize the north-south flow of domestic trade goods between inland and coastal areas in Northeast China and to face South Korea, Japan, Europe, the USA and other countries. Thirdly, it invested in the construction of “China Industrial Park” in the Rajin Port area of North Korea, so as to speed up the economy of the border areas of the two countries.

(III) Construction of Heilongjiang Logistics Channel

The Heilongjiang Maritime and Land Silk Road Economic Belt Construction Plan put forward by Heilongjiang Province was incorporated into the “China-Mongolia-Russia Economic Corridor” under the Belt and Road Initiative. Relying on the construction planning of Heilongjiang Maritime and Land Silk Road Economic Belt, Heilongjiang Province takes Harbin as the center, with four main lines including Dalian-Harbin-Jiamusi-Tongjiang, Suifenhe-Manzhouli, Harbin-Heihe and the Border Railway as the main framework, connecting with Trans Siberian Railway and the Baikal-Amur Railway across Eurasia in Russia, supported with surrounding roads, water transportation, air transportation, pipeline, power grid and optical cables, and taking relevant stations, ports and airports as nodes, to build a large international freight transportation channel connecting Asia and Europe, with channels of sea land combined transportation, railway channel, water transport channel and air channel as the main body. The construction on China-Russia Tongjiang Railway Bridge, the first cross-border railway bridge between China and Russia, is in full swing, and the construction on Heihe River Highway Bridge, another cross-border channel connecting China and Russia, has entered the preparatory stage.

1. Channels of Sea Land Combined Transportation Channel

Starting from ports such as Guangzhou, Ningbo and Shanghai of China, Busan of South Korea, Niigata of Japan and so on, the channels of sea land combined transportation reach Vladivostok, Nakhodka, Vostochny and other ports in the Far East of Russia by sea, Suifenhe by railway, Harbin and Manzhouli by Suifenhe-Manzhouli Railway, and Transbaikal after exiting Manzhouli, connects with Siberian Railway of Russia and reaches Baltic Sea coast westward, Hamburg and Rotterdam Port.

2. Railway Access

The transit passage of Suifenhe-Manzhouli Railway is generally east–west, starting from Vladivostok and other ports in the Far East of Russia in the east, passing Suifenhe-Manzhouli Railway, Suifenhe and Harbin to reach Manzhouli. After leaving the country in Manzhouli, it reaches Transbaikal and connects with the Siberian Railway of Russia, reaching the Baltic Sea coast, Hamburg and Rotterdam ports in the west. The transit passage from northeast port to Tongjiang Railway Bridge is generally north–south, starting from Dalian Port and other ports in the south, to Harbin via Harbin-Dalian Railway, then to Tongjiang via Harbin-Jiamusi Railway, leaving the country from Tongjiang Railway Bridge to Birobidzhan, and connecting with the Siberian Railway and the Baikal-Amur Railway in Russia. The transit passage of Harbin-Heihe Railway is generally north–south, starting from Harbin in the south, passing Harbin-Bei'an Railway and Bei'an-Heihe Railway to Heihe, leaving the country from Heihe Bridge to Blagoveshchensk, and connecting with Siberian Railway and Baikal-Amur Railway in Russia. The transit passage of the Border Railway is generally southeast-northwest, starting from Laoheishan in the south and ending at Luogu River in the north. It passes through the Border Railway of Heilongjiang Province, passing through Dongning, Suifenhe, Hulin, Raohe, Fuyuan, Tongjiang, Mingshan, Xunke, Heihe, Mohe and other border ports, and leaves the country at these ports to connect with Russia's Siberian Railway and Baikal-Amur Railway.

3. Waterways

With Harbin Port and Jiamusi Port as the hub and ports such as Heihe and Fuyuan as the nodes, waterways to be built mainly include Heilongjiang, Songhua River and Wusuli River water transport channels and river-sea intermodal transport channels.

4. Air Passages

Airways mainly include China-Russia, China–Europe, and Asian routes with Harbin Taiping International Airport as the hub and branch airports such as Qiqihar, Mudanjiang, Jiamusi, Heihe, Mohe and Fuyuan as the nodes.

III. To Develop Advanced Transportation Organization Mode of Multimodal Transport, Improve Channel Utilization Efficiency and Reduce Logistics Cost

Multimodal transport, based on the independent development and relative maturity of various transport modes, is an advanced form of transport service development, an important direction of global logistics innovation and development, and an important grasp to improve logistics service efficiency and reduce social logistics cost. Multimodal transport is a strategic issue in the development of China's logistics industry and the purpose of the construction of China's comprehensive transportation system. At the same time, multimodal transport is also an important part of the supply-side structural reform of transportation at present and in the future.

Table 4 Throughput ranking of China's top ten container ports from 2014 to 2015 (Unit: 10,000 TEUs)

Serial number	Port	2014	2015
1	Shanghai	3529.0	3653.7
2	Shenzhen	2403.0	2421.0
3	Zhoushan, Ningbo	1870.0	2062.6
4	Hong Kong	2223.0	2011.4
5	Guangzhou	1616.0	1757.0
6	Qingdao	1662.0	1734.0
7	Tianjin	1405.0	1411.0
8	Dalian	1013.0	930.1
9	Xiamen	857.0	918.0
10	Yingkou	577.0	592.2

Source China Merchants International Annual Report

(I) Development status

At present, the sea land combined transportation with Dalian Port and Yingkou Port as the sea ports has always been the main organization mode of intermodal transport between Northeast China and neighboring Northeast Asian countries. Dalian Port and Yingkou Port completed container throughput of 9.301 million TEUs and 5.922 million TEUs in 2015, respectively, ranking eighth and tenth in China (see Table 4).

In 2015, the “Yingkou-Manzhouli-Europe” channel completed 25,200 TEUs of sea-rail combined transportation, with an average annual growth rate of more than 50%. Six trains operated steadily every week, accounting for 90% of the total volume of the land-bridge transportation in Northeast China. Yingkou Port accounted for 51% of the total container volume of all China Railway Express trains leaving the country through Manzhouli Port, ranking first in the coastal ports of China, becoming a veritable trunk road of the East Route of the New Eurasian Continental Bridge (see Fig. 1).

(II) Development trend

With the adjustment of industrial structure and optimization of product structure in Northeast China, profound changes will also take place in the structure of transportation demand. Although the growth rate of total freight volume has slowed down, the transportation demand derived from the change of goods has brought an important opportunity to promote the development of advanced organization modes such as multimodal transport. The increasing proportion of containerized goods in transportation further expands the demand for container transportation and promotes the rapid development of container transportation and multimodal transportation such as sea-rail combined transportation.

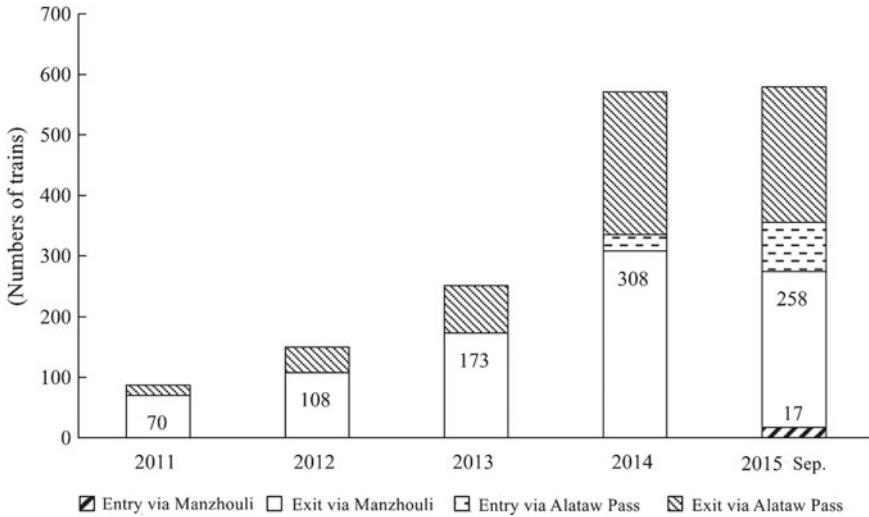


Fig. 1 Statistics of transit trains at Manzhouli and Alataw passes from 2011 to 2015

Specifically, the revitalization of Northeast China will accelerate the transformation and upgrading of the agricultural products processing industry, characteristic textile industry, metallurgy, petrochemical, automobile and equipment manufacturing industry, and extend to the upstream and downstream industrial chain, as well as the rapid growth of container transportation of semi-finished products and finished products in related industries. According to the Construction Plan of China-Germany (Shenyang) Equipment Manufacturing Industrial Park (hereinafter referred to as “China-Germany Equipment Park”) issued by the National Development and Reform Commission in 2015, the high-end equipment manufacturing industrial park built in cooperation with Germany will become a new engine to promote Shenyang’s economic transformation and upgrading. The China-Germany Equipment Park will focus on the development of intelligent manufacturing, high-end equipment, automobile manufacturing, industrial services and strategic, emerging industries to gradually become a strategic cooperation pilot zone, a new system exploration zone of open economy, and a development demonstration zone of international advanced equipment manufacturing industry under the “Made in China 2025” and “German Industry 4.0” initiatives. The intelligent manufacturing mainly includes robot and intelligent equipment, additive manufacturing, intelligent hardware, intelligent information technology, intelligent factory technology, etc. The high-end equipment mainly includes CNC machine tools, rail transit equipment, new energy and energy saving & environmental protection equipment, special purpose machinery, key basic parts, basic electronic components and equipment, etc. The automobile industry mainly includes assembled, engine, and supporting parts and accessories, etc. The rapid development of the above will bring a large number of suitable containers. The steady

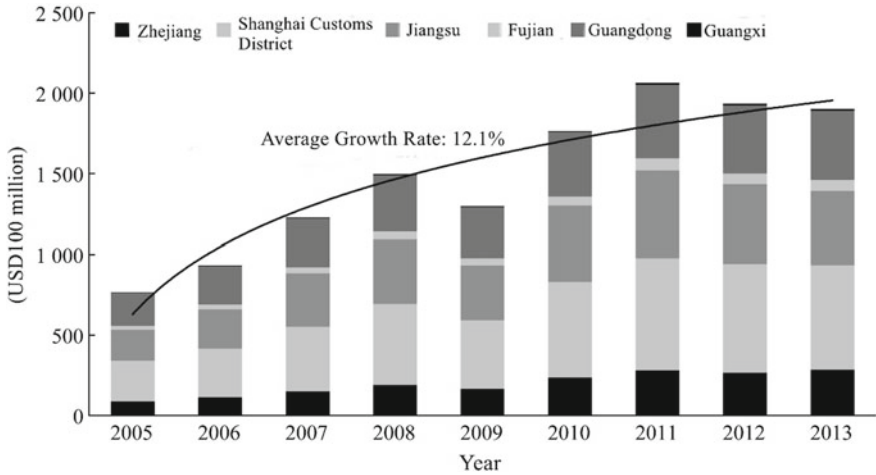


Fig. 2 Total import and export volume of the five provinces and Shanghai in Southeast Coastal Areas to Northern Europe from 2005 to 2013

growth of cross-border e-commerce and high-end consumer goods import demand will continue to accelerate the development of foreign trade import containers.

Chemical products and daily chemical products from five provinces and Shanghai in coastal areas of East China and South China also produce a large volume of containerized goods, which are transported to Northeast China, and transported to Mongolia, Russia and European countries through northeast logistics channels. The provinces (municipalities directly under the central government and autonomous regions) that export to Russia and Mongolia contribute more to the GDP growth of these places are mainly concentrated in Heilongjiang Province and the eastern coastal areas, among which Zhejiang Province accounts for 1.29% (Zou Jialing et al. 2015). The industries of electronics, light industry, electromechanical and textile in the five provinces and Shanghai in the coastal areas of East China and South China are closely complementary to those of northern Europe, and their net export trade with northern Europe has also shown a rapid growth trend in recent years (see Fig. 2). To sum up, the supply of goods from Northeast China to the five provinces and Shanghai in coastal areas of East China and South China is symmetrical, and the cost, time and service characteristics of multimodal transport effectively support its business development.

Under the Belt and Road Initiative, the size of trade between Northeast Asia and the Asian, African and Latin American regions will be showing a rapid growth trend. Northeast China is an important raw material and basic manufacturing base in China, while Asia, Africa and Latin America are still in the early-to-middle stage of industrialization. There is a large demand for trade between each other, laying a solid foundation for the development of multimodal transport.

(III) Path of promotion

First, relying on the channel construction, to build a comprehensive three-dimensional multimodal transport corridor. The development of road-rail, rail-water, road-water and land-air intermodal transport in Northeast China should align with the rapid construction of intermodal transport system, such as container intermodal transport system, semi-trailer intermodal transport system, and bulk material intermodal transport system. In order to improve the comprehensive transportation service capacity, the focus should be placed on improving the traffic capacity of Harbin-Changchun-Shenyang-Dalian (Yingkou) and other main axis logistics channels, expand the radiation scope of main axis channels, and strengthen the connection between main axis channels and coastal ports and border ports. It is suggested to speed up the construction of railways and highways in Northeast China, plan the railways to enter the ports directly, actively build the collection and drainage roads around the port area, improve the grade of roads in and out of the port area, improve the capacity of sea-rail and sea-land intermodal transportation, and realize the efficient linkage between the ports and the hinterland. It is suggested to strengthen the construction of the logistics base of the sea-land channel in Northeast China, promote the construction of the logistics center of the joint development of commerce, manufacturing and logistics industries, and build a modern logistics base facing Mongolia and Russia, Northeast Asia and Europe, and connecting the north and south. Northeast China should build a perfect hub node service system, improve the layout of hub nodes along corridors connecting Liaoning, Jilin, Heilongjiang and Inner Mongolia, promote the unified planning, integration, upgrading and connectivity of logistics parks, highway ports, railway trunk ports and airports, improve the service capacity of logistics parks, and enhance the overall function and facilitation level of logistics (see Fig. 3).

Second, to strengthen the cooperation between departments and innovate the coordinated development system and mechanism of intermodal transport. Relying on the logistics corridors to develop multimodal transport, Liaoning, Jilin, Heilongjiang and Inner Mongolia need to strengthen the top-level design, effectively align the industrial layout planning along the logistics channels, effectively align the industrial layout and development focus of the New Silk Road Economic Belt and the Trans Eurasian Economic Belt, and build a comprehensive transportation corridor to serve and drive the industrial development. Northeast China should promote the market, resources and industrial cooperation of cities along the Belt and Road, and carry out multi-channel as well as multi-field dialogues and discussions, so as to promote the coordinated development of cities in industrial division, comprehensive transportation development, transportation network layout, infrastructure construction, etc. To establish an efficient and convenient transportation system, it is necessary to gradually eliminate the gap between regional transportation service standards and charges, and establish an open and transparent charging standard. The development of direct transportation can reduce the number of reloading and transfer links, which is conducive to the standardization of charging standards and the reduction of logistics costs. It is suggested that the management department should regularly carry out

Port collection and distribution transportation system	Collection, distribution and transportation facilities	Landway construction: Railways, expressways, national roads, provincial roads, etc. Waterway construction: Waterways, anchorage, canals, routes, etc. Wharf construction: Berths, handling equipment, rear yards, wharves for logistics parks, yards/warehouses/parking lots outside of wharves
	Collection, distribution and transportation modes	Highway transportation Railway transportation Water transportation Pipeline transportation Belt transportation
	Collection, distribution and transportation management	Government management and services: planning, customs clearance (customs/inspection), maritime, public information platform, organization and coordination, etc. Management and service of non-governmental organizations: self-management of enterprises such as industry associations and enterprise alliances

Fig. 3 Port system of collection, distribution and transportation

the inspection of toll-related law enforcement to create a fair environment for the development of multimodal transport. Through the establishment and improvement of social credit system, credit guarantee system and credit guarantee system of transportation enterprises, the quality of credit evaluation system in Northeast China can be improved. The management department should improve the credit evaluation and assessment methods of all parties in the market and implement dynamic supervision.

Third, to improve the level of equipment and build the transportation equipment system applicable to standards. Northeast China should speed up the modernization of comprehensive transport hubs and cargo transport monitoring equipment, promote the standardization of road freight vehicle models, popularize standardized transport units, promote modern rapid transfer handling equipment, and improve the technical standards of professional transport equipment. In order to improve the popularization rate of standard pallets in Northeast China, it is necessary to popularize the standardized, containerized and van-type transport units should be popularized, and the standardized pallet recycling mode. In order to speed up the development of multimodal

transport with container and semi-trailer as the standard transport unit, it is necessary to promote the technical transformation of rapid-transit facilities and equipment. The improvement of the universality and modernization level of transportation equipment requires the active development of technical equipment such as cargo status monitoring and operation automation. It is necessary to support the research and development and use of large-scale, efficient, energy-saving and environmentally friendly loading and unloading equipment and rapid-transit equipment, and actively improve the backward equipment coordination of high-speed rail express. Northeast China should actively promote the application of loading and unloading equipment for containerized units such as logistics trolleys, container bags and logistics boxes, large-scale transfer and hoisting equipment, non-hoisting and reloading equipment, as well as transportation unit fastening equipment, and other facilities and equipment. It is suggested that Northeast China should support enterprises to develop and apply special transport equipment and machines for multimodal transport, such as railway piggyback transport flat cars, semi-trailer ro-ro special ships, road rail dual-purpose trailers, etc.

Fourth, to promote two-way opening-up, and adhere to the principle of “going global” and “bringing-in” for synchronous development. Northeast China should actively participate in the Belt and Road Initiative so as to get involved in international cooperation and competition in a wider range, at a deeper and higher level. In the northwest direction, it should strengthen the connection with Eurasian Continental Bridge Economic Corridor and China-Mongolia-Russia Economic Corridor. In the southeast direction, it should strengthen the connection with Northeast Asian countries and Maritime Silk Road. Northeast China should strengthen the logistics links with the Beijing-Tianjin-Hebei region, southeast coastal areas, the Pearl River Delta region and southwest coastal areas.

Fifth, to deepen the reform of the coastal customs clearance system. The state has approved the construction of six customs houses in Dalian, Shenyang, Changchun, Harbin, Hohhot and Manzhouli respectively in Liaoning, Jilin, Heilongjiang and Inner Mongolia as an effort on the reform of customs integration in Northeast China. This is conducive to the development of international multimodal transport based on the Belt and Road Initiative. In the aspect of international multimodal transport, Northeast China collaborates with the General Administration of Customs to integrate the multimodal transport supervision mode, and provides a good testing ground for the combination of free trade zone policy, cross-border e-commerce and other emerging formats with multimodal transport customs supervision centers, so as to form replicable industry or local experience.

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Trust Mechanism Design of China's Enterprise Strategic Alliance Under the Belt and Road Initiative



From the Perspective of Evolutionary Game Theory

Shuiyang Pan and Hao Huang

I. Introduction

The Belt and Road Initiative, as a national strategy, actively develops the economic partnership with the countries along the Belt and Road, and jointly build a community of shared interests, destiny and responsibility featuring mutual political trust, economic integration and cultural inclusiveness. Documental data from Xu (2016) showed that as of the end of 2015, Chinese enterprises had directly invested in 49 countries related to the Belt and Road Initiative, with 18.2% YoY growth of the investment value. In 2015, the value of outsourcing contracts from countries along the Belt and Road Initiative undertaken by China amounted to USD17.83 billion, with an enforcement value of USD12.15 billion, showing a YoY increase of 42.6% and 23.45% respectively. Guided by the Belt and Road Initiative, powerful enterprises in China are facing the challenge of going global. How to implement the transnational management strategy more effectively and safely is a problem that every project investing overseas has to tackle. With the development of science and technology, the social division of labor is becoming more and more detailed. A single domestic enterprise will face many challenges in the competitive international market. In order to cope with the complex international market, domestic enterprises set up strategic alliances to jointly explore the international market on the premise of complementary advantages and benefit sharing. This kind of strategic alliance has become a common mode of domestic enterprises' foreign investment strategy (Yang et al. 2016). For the definition of strategic alliance, Li (2004) pointed out that a strategic alliance is formed by two or more enterprises with the same strength or complementary advantages. Through the establishment of such strategic alliance, the enterprises within the alliance can form a community of shared interests, and achieve the purpose of

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jointly opening up the international market, sharing business risks, reducing the cost of enterprises, and improving the competitiveness. However, no matter what kind of agreements enterprises adopt to form a strategic alliance, the strategic alliance is still a loose, cooperative and competitive organization, and there is no centralized management organization to control the selfish and profit-making behaviors of alliance members. Once most enterprises in the alliance resort to short-term speculation to cheat each other, the strategic alliance will collapse. Therefore, mutual trust is the foundation of a strategic alliance.

When there is speculation in the alliance, which leads to mutual distrust, it will eventually lead to the collapse of the alliance. The distrust of enterprises within the alliance can lead to the short life of the alliance. According to the investigation by He and Liu (2002), the average life cycle of an alliance is about 7 years. How to design a reasonable incentive system to ensure a long-term trust relationship between the enterprises within the alliance and then improve the life cycle of the alliance has become the focus of research in the field of mechanism design of strategic alliances. Fan and Jin (2016), Wang (2003) proposed to rate the reputation, risk preference and behavior of the partners and select the enterprises with higher rating as the partners. Ma and Jiang (2014), Wu et al. (2004) pointed out that the alliance should establish a set of restraint mechanism to prevent cheating and opportunistic behaviors. Wei (2003), Jiang and Jiang (2014) proposed that by building an enterprise buffer pool, when the constraint mechanism cannot sanction the speculation, speculative enterprises can be forced out of the alliance, and new members can be selected from the buffer pool, so as to reduce the loss cost caused by enterprise withdrawal to the alliance. From the perspective of the Evolutionary Game Theory, this paper studies the dynamic evolution process of the internal structure of strategic alliance by modeling the behavior characteristics of each enterprise in the strategic alliance, and using Swarm, the agent simulation modeling software involved in the documents of Sun and Ye (2003), Yang and Xiong (2013). The results show that: With a reasonable penalty mechanism, the number of enterprises adopting speculative strategy will maintain a low proportion, and the main members of the strategic alliance will adopt cooperative strategy to achieve win-win results, which is conducive to maintaining the stability and sustainability of the strategic alliance. The research results provide a new perspective on how to maintain the long-term strategic alliance through reasonable penalty mechanism design.

II. Construction of the Evolutionary Game Model

The strategic alliance is an evolutionary system composed of multiple individual enterprises which interact with each other. In the strategic alliance, there is no centralized control, enterprise members only pay attention to their own interests. Individual behavior of enterprise members is featured with bounded rationality. There is a nonlinear relationship of interaction and impact between enterprise members, enterprise members and institutional environment of the alliance. In order to adapt to the environment, enterprise members can learn from practice and adjust their own behaviors in real time, so as to maximize their own interests. Therefore, the dynamic evolution of the internal structure of a strategic alliance is the result of interaction

Table 1 Game matrix

	Cooperative (C)	Non-cooperative (D)
Cooperative (C)	3, 3	0, 5
Non-cooperative (D)	5, 0	1, 1

between enterprise members. In this part, we use the Evolutionary Game Theory to model and analyze this process.

(I) Description of strategic behaviors of enterprises in the strategic alliance

Suppose that there are four types of member enterprises in an enterprise strategic alliance, and these four types of enterprises have the following behavior characteristics:

- (1) Enterprises adopting the TFT strategy. An enterprise adopting the TFT strategy has the following characteristics: If the enterprise observes that other enterprises in the alliance cooperated and abode by the alliance rules in the previous period, the enterprise will also cooperate and abide by the alliance rules in the current period. If the enterprise observes that other enterprises in the alliance did not cooperate in the previous period, the enterprise will also adopt a non-cooperative attitude in the current period and no longer abides by the alliance rules.
- (2) Enterprises adopting the ATFT strategy. An enterprise adopting the ATFT strategy has the following characteristics: If the enterprise observes that other enterprises in the alliance cooperated in the previous period, it will not cooperate in the current period. If other enterprises in the alliance did not cooperate in the previous period, it will cooperate in the current period.
- (3) Enterprises taking the ALL_C strategy. An enterprise taking the ALL_C strategy has the following characteristics: No matter whether other alliance members cooperate or not, the enterprise will adopt a fully cooperative strategy and always abides by the alliance rules.
- (4) Enterprises taking the ALL_D strategy. An enterprise taking the ALL_D strategy has the following characteristics: No matter whether other alliance members cooperate or not, it will adopt the strategy of complete noncooperation and never abide by the alliance rules.

The above four strategies preserve the memory of the game. Since there is no centralized management organization in the alliance, it is impossible for all participating enterprises to choose the ALL_C strategy. The implementation of any alliance standard depends on the conscious participation of the alliance members. Each enterprise in the alliance chooses one of the four strategies as the initial strategy based on its own interests with a certain probability.

The game profit matrix between two enterprises is shown in Table 1. If both enterprises adopt the cooperative strategy (use C to indicate cooperation), either enterprise can obtain 3 units of profit. If one enterprise adopts the cooperative strategy and the other adopts the non-cooperative strategy (use D to indicate non-cooperation),

the enterprise adopting the cooperative strategy can obtain 0 unit of profit and the enterprise adopting the non-cooperative strategy can obtain 5 units of profit. If both enterprises adopt the non-cooperative strategy, then either enterprise can get 1 unit of profit.

(II) Description of enterprise evolutionary learning behaviors

Table 1 shows only one game relationship between two enterprises. Obviously, the equilibrium indicated in Table 1 is (non-cooperative, non-cooperative) under the condition of complete information. If the game structure shown in Table 1 is repeated for many times, and after each game, the enterprise can dynamically update the strategy by comparing the profit between itself and the opponent, so as to maximize the profit. The dynamic updating process of enterprise strategy is as follows: in the initial stage, Enterprise i randomly chooses one of the four strategies, TFT, ATFT, ALL_C and ALL_D, to start the game. After the end of the game between Enterprise i and other enterprises, the enterprise will find out Enterprise j with the highest profit from all the opponents in the game. If the profit of Enterprise j is greater than that of Enterprise i , then Enterprise i will take the strategy of Enterprise j as its new strategy and realize strategy updating. This assumption is also reasonable, because the real enterprises are active entities, which can constantly learn and accumulate experience to maximize their own interests, which is consistent with the decision-making mechanism in real life.

(III) Penalty mechanism in the game process

In the model, the information of the alliance is complete enough that the alliance members can supervise another member smoothly. This assumption is reasonable. Once an enterprise adopts the strategy of non-cooperation, the opponent who adopts the strategy of cooperation will have losses when playing the game with the enterprise, and the opponent will immediately report the non-cooperative enterprise to the alliance. The alliance may punish the non-collaborator, or may not take punitive measures. In this model, the penalty adopts the “expulsion mechanism”, under which once the alliance decides to punish the non-cooperative enterprise, the non-cooperative enterprise will be expelled from the alliance, and the alliance will no longer accept the member enterprise for a long time.

III. Model Simulation

In order to study the dynamic evolution process of the internal structure of an enterprise strategic alliance, we use Swarm, an agent simulation modeling software program, to simulate the enterprise strategic alliance described in this paper. The modeling process is as follows:

Step 1: Define the environment, that is, set the location of the enterprise. This model generates 1,600 alliance members on a 40*40 grid.

Step 2: Before the game, each alliance member randomly selects one of the four strategies according to a certain probability. Then, the enterprise and the enterprises in its four adjacent positions in the south, north, east and west play three-stage repeated games respectively.

Step 3: After the game between each enterprise and all its neighboring enterprises is over, find out the neighbor who gets the highest profit. If the neighbor's profit is greater than the profit obtained by its original strategy, the enterprise will take the neighbor's strategy as its new strategy and achieve strategy updating.

Step 4: Repeat Step 3 until the number of enterprises adopting the four strategies in the alliance remains stable.

(I) Structure evolution of enterprise strategic alliance without penalty mechanism

Without the penalty mechanism, no matter whether the enterprise cooperates or not, it will not be punished by the alliance. Before the game starts, each alliance member randomly selects one of the four strategies according to the equal probability. With the increase of repeated games, enterprises adopting the ALL_C, ATFT and TFT strategies will find that their profits in the game are not as good as the profit of those adopting the ALL_D strategy, so they need to dynamically update their own strategies and select the ALL_D strategy to maximize their own profits. When the repeated game reaches the fourth round, the number of enterprises adopting the ALL_D strategy reaches the maximum, and then as the game continues, more and more enterprises adopt the TFT strategy. When the game goes on to the 15th round, equilibrium is generated, and all enterprises adopt the TFT strategy. At this time, the strategic alliance collapses because no enterprise adopts the ALL-C strategy and each enterprise will make decisions according to the opponent's strategy. If the opponent cooperates, the enterprise will adopt the strategy of cooperation; and if the opponent does not cooperate, the enterprise will also adopt the strategy of noncooperation. In such a case, the constraint of the strategic alliance agreement is invalid, and the alliance collapses. The above is the result when the proportion of enterprises adopting the four strategies is equal (with the same number of enterprises adopting each strategy) at the initial stage. The simulation results of the model are shown in Fig. 1. If we change the proportion of enterprises that adopt the four strategies in the initial stage, and the proportion of enterprises adopting ALL_C, TFT, ATFT and ALL_D is 30%, 10%, 30% and 30% respectively, the game will finally be balanced in the TFT strategy. However, it will take more time and repeated games to reach equilibrium. This shows that: even if the proportion of enterprises adopting the TFT strategy at the initial stage (10%) is much lower than that of enterprises adopting other strategies, the increase of repeated games can also turn TFT into the strategy for the final game equilibrium. The simulation results of the model are shown in Fig. 2.

The possible reasons why TFT becomes the strategy for the final equilibrium are as follows: When the opponent chooses to cooperate, those who take the TFT strategy will also choose to cooperate, so that the alliance members adopting the TFT strategy disguise as the collaborators; when the opponent does not cooperate, those who adopt the TFT strategy will also choose not to cooperate. Because they adopt the strategy of non-cooperation, they will hold a tacit understanding of not reporting the other party's non-compliance with the alliance contract. In this way, the alliance is controlled by the enterprises that adopt the TFT strategy and disguise as cooperators, and the alliance has actually collapsed.

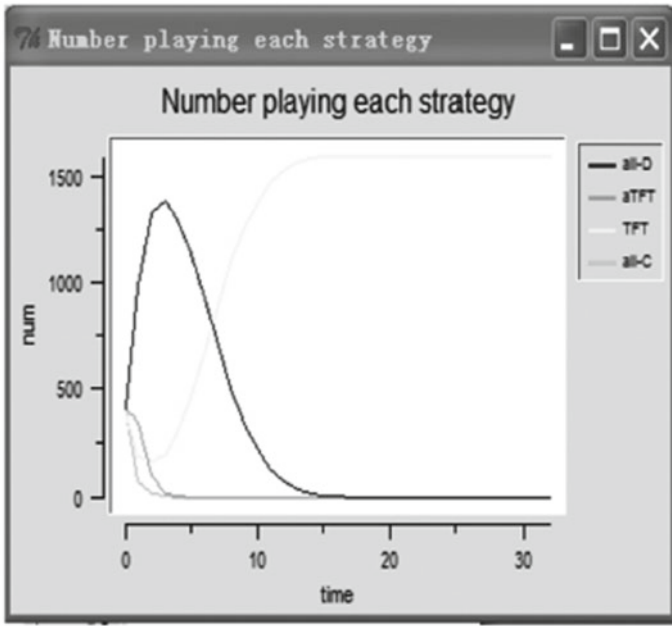


Fig. 1 The probability of initial selection is 0.25, and TFT becomes the strategy for the final game equilibrium when the game goes on to the 15th round

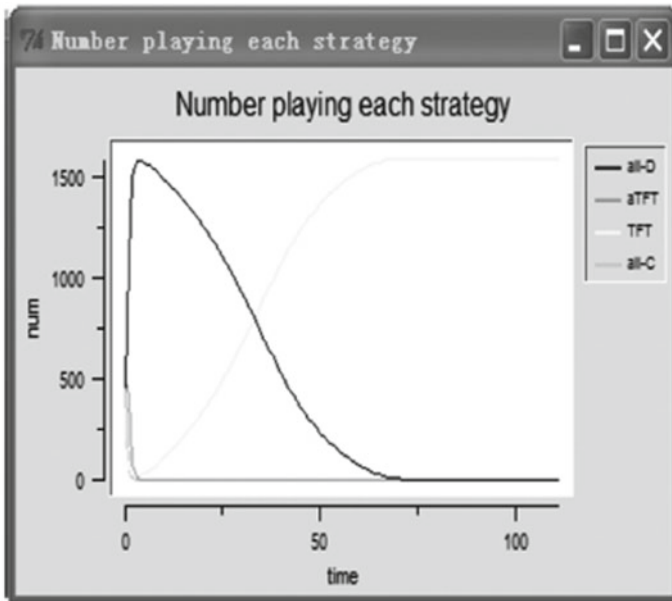


Fig. 2 When the probability of initially selecting TFT is reduced to 0.1, an TFT becomes the strategy for the final game equilibrium when the game goes on to the 70th round

(II) The structure evolution of strategic alliance of enterprises under the penalty mechanism

Similar to what's mentioned in the previous section, each alliance member randomly selects one of the four strategies according to the equal probability in the initial stage. The difference is that once an enterprise adopts the strategy of non-cooperation, the non-cooperative enterprise will be expelled from the alliance in the next round of game. The alliance adopts the life-long prohibition rule for the non-cooperative enterprise, and other members of the alliance will not trade with the enterprise. Such a heavy penalty may lead to the bankruptcy of the non-cooperative enterprise. After that, the alliance will introduce a new member, to maintain the same number of enterprises in the alliance. The deterrent of penalty will push the new enterprise to adopt the ALL_C strategy. The simulation results show that after 5 rounds of game, the equilibrium is achieved finally, which is that the number of enterprises adopting the ALL_C strategy is 1590, that of enterprises adopting the TFT strategy is 10, and that of enterprises adopting other strategies is 0. The ultimate equilibrium still involves speculators who adopt the TFT strategy. The possible reason is that due to the adoption of a heavy penalty mechanism, the members of the alliance adopting the TFT strategy realize that after receiving the supervision of other enterprises, there are a lot of members adopting the ALL_C strategy, and once they adopt the strategy of non-cooperation, the probability of their speculative behavior being discovered is greatly increased, so the speculators adopting the TFT strategy disguise as collaborators. The simulation results of the model are as shown in Fig. 3.

IV. Conclusions and Policy Suggestions

In this paper, the behavior of each enterprise in the strategic alliance is modeled, and the repeated game theory is used to study how the structure of enterprise strategic alliance dynamically evolves under different penalty mechanisms, providing a meaningful reference for the mechanism design of the strategic alliance of Chinese enterprises under the Belt and Road Initiative. (1) When the penalty mechanism is not taken, the enterprise strategic alliance will finally evolve into an alliance controlled by speculative enterprises adopting the TFT strategy, because the alliance members adopting the TFT strategy disguise as collaborators; when both the speculators of the TFT strategy and their opponents adopt the strategy of non-cooperation, they will maintain a tacit understanding and will not report the other party's non-compliance with the alliance contract to the alliance, so the alliance is controlled by the enterprises that adopt the TFT strategy and disguise themselves as collaborators. (2) When the alliance adopts the life-long prohibition criterion and severe penalty to the non-cooperative enterprises, which arouses the non-cooperative enterprises' expectation of bankruptcy, the strategic enterprise alliance will eventually suffer the result that most enterprises adopt the ALL_C strategy, and the rest of the enterprises adopt the TFT strategy, because there are no other strategies, a large number of the enterprises adopting the ALL_C strategy will force the small number of enterprises adopting the TFT speculation strategy to pretend to be collaborators forever, and the alliance will last for a long time. (3) Under the backdrop of the Belt and Road Initiative,

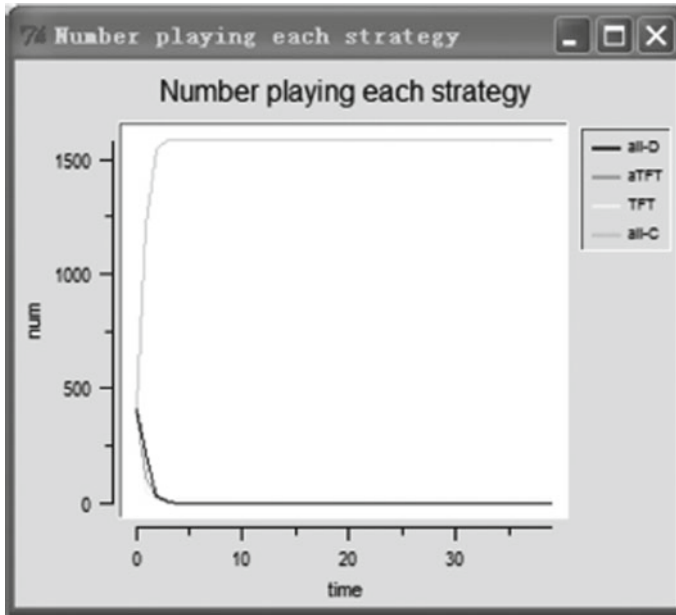


Fig. 3 Final equilibrium results after the alliance takes severe penalty on non-cooperative enterprises

when domestic enterprises form a strategic alliance to jointly develop the international market, they should design a reasonable penalty mechanism to restrain the short-term speculation of the enterprises in the alliance and prevent the alliance from being in name only. If the penalty is too severe, the short-term speculative enterprises will be eliminated from the alliance for lifetime, which will also lead to the loss of the alliance itself; if the penalty is too light, the probability of the alliance's collapse will be increased. One feasible way is to build a buffer pool for enterprises, force short-term speculative enterprises to quit the alliance, and select new enterprises from the buffer pool to join, which can reduce the cost of loss caused by the enterprise withdrawal.

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The Geo Development Path of Border City Commercial Banks Under the Belt and Road Initiative



Xia Shu

I. Differentiated Development Opportunities for Border City Commercial Banks under the Belt and Road Initiative

Currently, China's city commercial banks all face the problem of identical strategies. Border city commercial banks, which are located at the tail areas of China's economic development, have a disadvantage in competition. However, the implementation of the national Belt and Road Initiative provides significant opportunities for their transformation and development.

There are nine border provinces in China, including Heilongjiang, Jilin, Liaoning, Inner Mongolia, Xinjiang, Tibet, Gansu, Guangxi and Yunnan. China, with a border line measuring 22,000 km long, borders 15 countries and regions. For a long time, China's border opening has seriously lagged behind coastal opening. At the end of 2015, the proportion of nine border provinces in the four major development and opening indicators of national GDP, balance of domestic and foreign currency deposits, total import and export of goods and actual utilization of foreign direct investment is still very low at 18.06%, 13.72%, 6.40% and 17.09%, respectively, as shown in Fig. 1.

Under the background of the Belt and Road Initiative, the opening-up of border areas highlights the value of geopolitical strategy. Specifically, first, the three provinces in Northeast China and Inner Mongolia rely on the China-Mongolia-Russia Economic Corridor to strengthen cross-border connectivity with Mongolia and Russia, give full play to the hub role of Erenhot, Manzhouli and other ports, seize Russia's large-scale investment and development planning in the Far East, expand financial cooperation with Russia, carry out cross-border economic cooperation, and strengthen alignment of industries. Second, Xinjiang and Gansu in Northwest China

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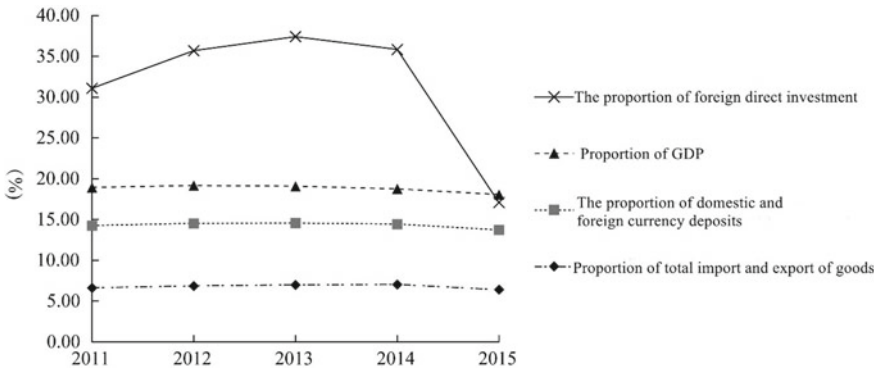


Fig. 1 Trend of the proportion of major economic and financial indicators of nine provinces along the border in the whole country. *Source* WindInfo and statistical bulletin of national economic and social development of all provinces and regions in 2015

are committed to the construction of the core area and the golden section of the Silk Road respectively, which, relying on the China-Pakistan Economic Corridor, the China-Central Asia-West Asia Economic Corridor and the New Eurasian Continental Bridge, will open up the trade and financing channels connecting Central Asia and West Asia, and give play to the trade and financial functions of Horgos Port in Xinjiang and Kashi Economic Development Zone. Third, Yunnan, Guangxi and Tibet in Southwest China, relying on the Bangladesh-China-India-Myanmar Economic Corridor and the GMS regional economic cooperation, the “Two Economic Corridors and One Economic Circle around the Beibu Gulf” and other cooperation mechanisms, strengthens the alignment of cooperation mechanisms with Southeast Asian and South Asian countries, and drives the collaborated development of these three economic plates. Among them, Yunnan, with an especially significant strategic value of geopolitics, occupies a role in all the four multilateral cooperation mechanisms of countries along the southwest route under the Belt and Road Initiative (China-ASEAN 10 + 1 Cooperation Mechanism, GMS Economic Cooperation, the Bangladesh-China-India-Myanmar Economic Corridor and “Two Economic Corridors and One Economic Circle around the Beibu Gulf”).

The Belt and Road Initiative takes policy coordination, facilities connectivity, unimpeded trade, financial integration and people-to-people bonds as the main contents, among which financial integration is an important support for the construction of the Belt and Road Initiative. To improve the status quo that “the links are rarely adequate or smooth” existing in the countries along the Belt and Road, it will inevitably lead to a large amount of investment and financing needs. In infrastructure construction, trade and investment, cross-border RMB settlement, regional financial cooperation and other aspects, the strong support of the financial industry is inseparable, which will also give birth to diversified and multi-level demand for financial services, and bring broad prospects for the development of financial institutions.

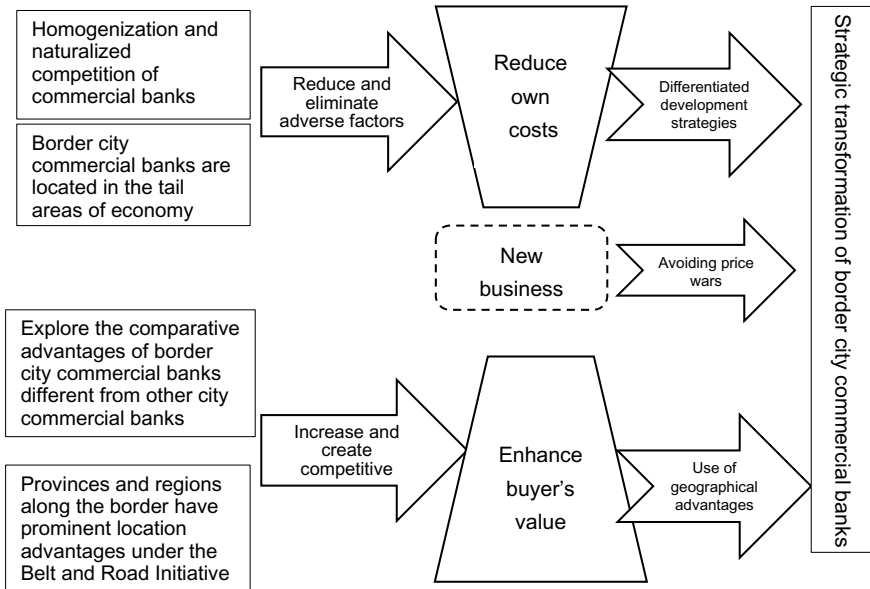


Fig. 2 Opportunities of differentiated development for border city commercial banks under the belt and road initiative

The Belt and Road Initiative is a historic strategic opportunity for the development and opening-up of border provinces, and is also a great strategic opportunity for the development of border city commercial banks. By the end of 2015, the total assets, deposits and loans of border city commercial banks had accounted for 21.93%, 22.16% and 21.39% respectively of those of city commercial banks nationwide. During the construction of the Belt and Road Initiative, border city commercial banks should give full play to their geopolitical advantages and strategic opportunities. Relying on the planning channels and corresponding cooperation mechanisms in the Initiative, they should develop border and cross-border finance according to local conditions, and seek differentiated development amid serious homogenization and cut-throat competition of the current Chinese commercial banks, and pursue their own path of strategic transformation. From the perspective of management theory, the differentiation strategy of commercial banks is essentially the choice of business model. On the one hand, this choice should eliminate its own unfavorable factors and reduce operating costs; on the other hand, it should increase competitive advantage, and create and enhance buyer's value, which is as shown in Fig. 2.

II. Unique Advantages of Border City Commercial Banks under the Belt and Road Initiative: the Case of Fudian Bank

The Belt and Road, a hit documentary on CCTV during the G20 Hangzhou Summit held in September 2016, reported the meaningful practice of Fudian Bank when implementing the Belt and Road Initiative. Finance in areas along the border and

cross-border finance is an important starting point of differentiated development for Fudian Bank, and the bank has made some innovative attempts so as to get integrated into the Belt and Road Initiative.

First, guided by the Belt and Road Initiative, to drive differentiated development through cross-border finance. As a provincial level local legal-person bank in Yunnan, as early as in 2008 when it was established, the bank clearly put forward the pan-regional development strategy of “based in Yunnan, radiating Southwest China, facing the whole country, and moving towards Pan Asia”. In the overall strategic planning, it specially formulated the international business sub-strategy, took the cross-border business as the core content of international business, and established the strategy of “constructing the geo financial network and building the cross-border business” financial platform, providing multi-currency and extensive financial support for cross-border pan-regional customers, and taking cross-border finance and border finance as the strategic measures of characteristic operation and differentiated development of Fudian Bank, which is different from other commercial banks.

Second, Fudian Bank has strategically arranged its business institutions in border ports and surrounding countries. Although it is a commercial bank, Fudian Bank is not entirely driven by commercial interests, but from the perspective of national strategy, based on the principle of national interests rather than commercial value. Within the territory of China, it promotes the RMB’s peripheral development in Southeast Asia and facilitates the development of cross-border RMB business, giving priority to the establishment of branches at border ports rather than in economically developed regions. At present, Fudian Bank has established business institutions at the border ports of Laos, Vietnam and Myanmar, and set up branches in Mengzi, Hekou, Jinghong, Mohan, Mengla, Ruili, Jiegao, Menglian, Tengchong and Pu’er. Overseas, Fudian Bank takes advantage of the economic and financial exchanges between China and neighboring countries to promote the economic and financial opening-up of Yunnan and realize the responsibility of ensuring “an amicable, secure and prosperous neighborhood”. It takes the lead in setting up business institutions in Laos, which is backward in economy and finance, but is politically stable and the main node of the China-Indochina Peninsula. On the basis of establishing the Laos Representative Office in 2010, Fudian Bank set up The Lao China Bank, a joint venture with Banque Pour Le Commerce Extérieur Lao Public (BCEL) in January 2014 and in which Fudian Bank holds the controlling share. The Lao China Bank, which has been operating well for more than one year, has been affirmed and praised by the Bank of the Lao P.D.R and the local community.

Third, to actively promote financial connectivity with neighboring countries. Fudian Bank takes the lead in carrying out direct pricing of RMB against the currencies of neighboring countries, realizing real-time cross-border settlement services in local currencies between China and Laos, China and Thailand, and China and Vietnam, and providing customers with cross-border settlement services in RMB, Laotian Kip, Thai Baht and Vietnamese Dong. In August 2013, with the approval of the State Administration of Foreign Exchange, Fudian Bank obtained the qualification for handling the import and export business of foreign currency notes, becoming

the first city commercial bank in China to obtain the qualification for cross-border transfer of foreign currency notes, and the only legal person bank with the qualification for cross-border transfer of foreign currency notes in Southwest China. Fudian Bank also established business linkage with multinational financial institutions and reached inter-bank credit. It has established business linkage with financial institutions in Laos, Cambodia, Vietnam, Thailand, Malaysia, Singapore and other South-east Asian countries, and has a wide network of correspondent banks and account banks, focusing on global coverage.

Fourth, to continuously launch cross-border RMB business varieties and models. It is mainly to build a multi-channel cross-border RMB settlement platform, which is the first in the province to provide RMB cross-border financing scheme, and the first in the province to be allowed to handle forward foreign exchange settlement and sales business and to launch innovation of domestic and foreign currency financial portfolio products, so as to expand cross-border RMB business and promote the use of RMB in Southeast Asian countries.

Fifth, to highlight the business characteristics and participate in and deepen the border financial reform with the border trade mode. Taking port branches as an important fulcrum, the Ruili Border Trade Settlement Mode, Hekou Border Trade Business Settlement Mode in Hekou County of Honghe Autonomous Prefecture and the Banna Border Trade Settlement Mode have been established. These border trade modes with the characteristics of Fudian Bank have greatly improved the RMB settlement and border settlement under trade, and expanded the growth of cross-border RMB L/C settlement business. At the same time, relying on the behavior of the six prefectures and cities along the border, Fudian Bank explores the policy of border trade and border cooperation zones, implements the “one bank, one policy”, guarantee the credit support for cross-border economic cooperation zones and cross-border business enterprises from the aspect of resource allocation, and drive the business breakthrough and development of border finance with business model innovation.

From a regional perspective, the Belt and Road Initiative has a strong geographical dependence path. The theory of financial geography emphasizes the influence of geographical environment on financial phenomena. Under the premise of giving geographical environment, financial institutions and financial products have special geographical and historical conditions. In addition, cross accounting of financial institutions across time and space, as well as trade and flow, have become important factors affecting financial flow. Based on this theory, regional and geopolitical financial development path not only has a significant impact on financial support, but also is an inevitable trend to build geopolitical financial network by giving play to geopolitical advantage. Due to their geographical characteristics, border city commercial banks have become an important force in the implementation of the Belt and Road financial initiative from the geopolitical perspective. Banks in the “national team”, such as policy banks and state-owned large banks, has also been short boards and disadvantages under the Belt and Road Initiative, while commercial banks in border cities and their subsidiaries going global have a unique advantage in the areas that the “national team” can hardly play a role or cover.

The connectivity of cultural environments. *The Vision and Proposed Actions of the Belt and Road* does not simply involve political and economic goals, but also puts forward the idea of “people-to-people bonds”. It clearly sets forth the vision of enhancing cultural and civilization exchanges with countries along the Belt and Road. Compared with other financial institutions, city commercial banks located along the border have a natural human affinity in “people-to-people bonds”. For example, Yunnan Plateau and Southeast Asian peninsulas and islands are closely related mountains, and Yunnan Province is adjacent to Myanmar, Laos and Vietnam. The border junction has the characteristics of mountains and rivers, numerous channels, the same nationality, the same language, and the close contact between border people. The promotion of cross-border finance by a local bank will be featured with a low cost of communication and a quick speed of integration.

The convenience of border finance. Border provinces are bound to produce prosperous border trade, active small trade and cross-border economic cooperation zones along the border, and the border trade is the main driving force to promote RMB regionalization and internationalization. City commercial banks located along the border have more convenience than other commercial banks in developing border finance because of their geographical advantages, the advantages of local small- and medium-sized enterprises and resident customers, and the blood relationship with local governments.

The concealment of national style. As small- and medium-sized local commercial banks, city commercial banks along the border are featured with light national style and attract low international attention, and it is thus not easy to arouse political suspicion of the host country when going global. In addition, the geographical relationship between the places where the city commercial banks are located and these neighboring countries won't arouse the suspicion of the host country nationalism, and play the role of influencing others imperceptibly in the implementation of the Belt and Road financial initiative.

Diversity of service levels. “Investment led” and “project contracting” projects under the Belt and Road Initiative all feature a large investment scale and a long investment cycle, and will thus mainly depend on financing services provided by the policy-oriented financial system and large state-owned banks. However, small- and medium-sized banks, such as border commercial banks, are required to participate in the financial cooperation in the “economic and trade cooperation” projects and meet the needs of the “small- and medium-sized” customers going global. The small- and medium-sized banks along the border cities will participate deeply and form a multi-level and diversified financial service system in the construction of the Belt and Road. And the existing multilateral financial institutions, such as the Asian Infrastructure Investment Bank and the Silk Road Fund, need the small- and medium-sized joint venture banks with both Chinese capital background and shares of the host country to better carry out multi-level services such as capital re-lending and project financing support, no matter because of the short establishment time or the limitation of the operation organization structure.

The symmetry of institutional cooperation. The Belt and Road Initiative is based on the concept of “extensive consultation, joint development, and shared benefits”.

The financial institutions and financial businesses going global will surely face the issue of cooperating with financial institutions in the countries along the Belt and Road. The scale, size and management level of border city commercial banks often match the financial institutions of the host country, and they are more symmetrical than large banks in terms of “extensive consultation, joint development, and shared benefits”. For example, Banque Pour Le Commerce Extérieur Lao Public (BCEL), the Lao partner of Lao China Bank, is the largest state-owned commercial bank in Laos, but its scale is still smaller than that of Fudian Bank. Apart from the proximity of Fudian region, an important reason for the Lao to choose Fudian Bank as its partner is that it cooperates with city commercial banks in China to avoid being put at a disadvantage.

III. Policy of Differentiated Supervision on City Commercial Banks under the Belt and Road Initiative

The regulatory authorities have been promoting China’s banking sector to fully support and serving the Belt and Road Initiative. As of March 2016, the China Banking Regulatory Commission had signed the MOU on bilateral supervision with the regulatory authorities of 28 countries and regions along the Belt and Road, and issued the *Proposal for China’s Banking Industry Serving the Belt and Road Initiative*, covering opinions for five aspects which include optimizing the layout of Chinese banks and speeding up the establishment of branches in the countries along the Belt and Road. These support policies have greatly promoted China’s banking institutions including the city commercial banks to integrate and serve the national Belt and Road Initiative. Specifically, the breakdown analysis of the current regulatory support policies is as follows: First, the focus of the institutions is mainly oriented toward large state-owned banks and national policy banks. Second, the focus of business is mainly on cross-border financing for long-term infrastructure projects. Third, the focus of supervision is to accelerate the signing of bilateral regulatory cooperation memorandum with countries along the Belt and Road that have not yet established a regulatory cooperation mechanism. The differentiated supervision policies for the border city commercial banks have not been issued yet.

If we divide the financial cooperation mechanism and operation framework of the Belt and Road Initiative into 11 key links, border city commercial banks can make great contributions in four aspects, play an indirect role in three aspects, while have a less participation in another four aspects, as shown in Fig. 3. Given the role played by border city commercial banks in the pan-area financial cooperation mechanism and their unique advantages in the implementation of the Belt and Road Initiative, it is necessary to timely introduce differentiated regulatory policies to support their local financial role in promoting “an amicable, secure and prosperous neighborhood”.

Qualified border city commercial banks are approved to invest in the financial institutions of the banking industries in the neighboring countries or to establish joint-venture commercial banks with local (financial) institutions. It is a key policy of differentiated supervision on the city commercial banks participating in the Belt and Road Initiative.

Basic framework of financial operation and policy in the regional cooperation mechanism under the Belt and Road Initiative		
Further strengthen the development finance	Promote the two-way entry of financial institutions	Strengthen the ability of financial risk resistance of enterprises
Vigorously develop cross-border insurance industry	Strengthen international regional financial cooperation	Establish regional financial security mechanism
Expand and strengthen multilateral financial institutions	Accelerate internationalization of RMB	Lay a solid foundation for national financial security
Strengthen cooperation in regional financial supervision	Improve diversified financing mechanism	
Less participation	Great space	Indirect role
Possibility for border city commercial banks to play financial functions in the regional cooperation mechanism under the Belt and Road Initiative		

Fig. 3 The role of border city commercial banks in the regional cooperation mechanism under the belt and road initiative

On the basis of establishing a regulatory coordination framework dominated by China, establishing regional financial risk early warning system, forming a cooperative exchange mechanism to deal with cross-border risks and crisis disposal, and fully assessing the country-specific risks of these neighboring countries, the regulatory authorities will support the provincial governments and provide qualified management capabilities to the local provincial governments to provide policy support for them to establish overseas joint-venture legal-person institutions in the form of subsidiary banks.

In fact, the neighboring countries generally have a small economic size. The “going global” of the border city commercial banks with the core of cross-border RMB business is totally different from the nature of cross-provincial operation in China in previous years. The former is to participate in national strategy and fulfill social responsibility; while the latter is driven by business behavior and interests. Taking Laos as an example, in 2015, its GDP was about USD12.8 billion, which is roughly equivalent to the total economic aggregate of a prefecture level city with medium economic development level in Yunnan Province, which is located on the southwest border. The institution invested by Fudian Bank in Laos has not yet achieved higher economic benefits than a provincial bank branch in Yunnan. At the same time, because of their own small financial aggregate and limited risk coverage of banking institutions, the risks of new comers are generally controllable.

For border city commercial banks to set up overseas institutions, the governments of the provinces where these banks are located should provide full policy support, make use of the established regional cooperation platform with neighboring countries and regions, establish a normalized bilateral meeting and multilateral consultation mechanism for the establishment and operation of joint venture banks, strengthen communication and exchange, and promote the deepening and diversification of regional financial and economic cooperation so as to promote the close cooperation between the province-based enterprises seeking overseas expansion with the established joint venture banks, promote the joint venture banks to do a good job in financial landing services around the province's investment projects in the host country, and promote the close combination of financial capital and industrial capital.

Border city commercial banks that want to go global must be strong. First, they should strengthen talent building. It is necessary for them to establish a sound cross-border financial personnel training system, and cultivate a group of talents with national strategic vision, experience of international financial institutions, and good at getting along with the local people. Second, they should strengthen the construction of risk control capacity. In this respect, they should skillfully use a variety of risk management tools and means, strengthen the compliance management and anti-money laundering work, maintain good communication and coordination with the regulatory authorities of the host country, establish an emergency response mechanism, and improve the ability to respond to the country-specific risk emergencies. Border city commercial banks should also design and establish a liquidity rescue mechanism for the joint venture banks that they hold a controlling share. Third, they should strengthen the construction of IT system. The management level of banking industry in neighboring countries is relatively backward, and the host countries usually expect foreign joint ventures to provide assistance and support for their construction of IT system. Therefore, having a strong scientific and technological management strength is not only the basic condition for the good operation of the joint venture banks, but also the bargaining chip for the border city commercial banks going global to negotiate with the host countries when setting up the joint venture banks.

In the meantime, they should on the one hand practice the concept of shared development and build a shared platform, and may consider moderate investment from the AIIB, the Silk Road Fund and other institutions in such joint venture banks, so as to not only introduce advanced management methods, technology, information, capital and customer resources to the joint venture banks, but also make the "high-level" institutions such as the AIIB and the Silk Road Fund have executors. On the other hand, they should take advantage of the concept of open development and take the initiative to introduce international financial institutions with cross border financial leading experience as strategic investors. They will invest in shares in border city commercial banks to learn management experience, realize knowledge complementarity and expand overseas networks, so as to enhance the border city commercial banks' capability of participating in the construction of the Belt and Road.

Part IV

On Theories and History

A Wide-Ranging Initiative Upholding Silk Road Spirit for Thousands of Years

The theoretical framework is the epistemological basis of policy formulation. The historical context is a practical case of policy implementation. This paper discusses the Belt and Road Initiative and its relevant background from theory and history respectively, so that readers can establish a higher level of perception of the basic theory framework and model base of the Belt and Road Initiative, and on the other hand, they can have a deeper understanding of the everlasting, profound and universal influence of the history and culture.

The Belt and Road Initiative- New Engine of Global structuring and World Economic Growth



Yuesheng Wang

Since the U.S. financial crisis in 2008 and the subsequent European debt crisis dragged the global economy into crisis and depression, the world economy has been sluggish and hovering at the bottom for many years. During this period, although the economic growth rate of individual countries was relatively high, and some countries had experienced intermittent growth and recovery, the overall situation of the world's major economies in the past eight years showed that the sustained downturn of world economic growth and the significant decline of international trade and investment were the main context of the world economy in the recent 8–9 years.¹ This is for sure. As general secretary Xi Jinping pointed out, although the world economy is gradually emerging from the shadow of the international financial crisis, “protectionism is serious in the international arena, and international economic and trade rules have become politicized and fragmented. Many emerging markets and developing countries have been in a downturn, and the world economy has yet found a new engine for full recovery.”² Now the questions are: why is there such a severe economic and financial crisis in the twenty-first century when economic globalization is highly developed and economic control means are increasingly developed? What is the future trend of the world economy? Where is the new engine for stepping out of the crisis and going into a new track of stability and prosperity? These questions are of great practical significance, will be discussed in the following sections.

¹ Ma (2015)

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² Xi (2016).

Table 1 Economic growth rate of global and major economies in recent years (Unit: %)

Year	Worldwide	USA	Euro zone	Japan	UK	China	Russia	India	Brazil	South Africa
2007	9.6	1.8	3.0	2.2	2.5	11.9	8.5	9.8	6.0	5.4
2008	5.6	-0.3	0.5	-1.0	-0.3	9.0	5.2	3.9	5.0	3.2
2009	-5.0	-2.8	-4.5	-5.5	-4.3	10.3	-7.8	8.5	-0.2	-1.5
2010	8.0	2.5	2.0	4.7	1.9	10.2	4.5	10.3	7.6	3.0
2011	7.4	1.6	1.6	-0.5	1.6	9.2	4.3	6.6	3.9	3.2
2012	0.1	2.3	-0.8	1.8	0.6	7.7	3.4	5.1	1.8	2.2
2013	1.4	2.2	-0.5	1.6	1.9	7.6	1.3	6.9	2.7	2.2
2014	0.9	2.4	0.9	-0.1	2.8	7.4	0.6	7.2	0.1	1.5
2015	2.4	2.0	1.8	0.8	2.2	6.9	-3.7	7.5	-3.8	1.3
2016*	-	0.8	1.5	0.5	2.1	6.5	-1.8	7.5	-3.8	1.4

Note Data for Q1. Source websites of China National Bureau of Statistics and World Bank

Table 2 Growth of global international trade and international direct investment in recent years (Unit: %)

Year	Growth rate of global trade	Growth rate of global FDI inflow
2007	12.1	30.6
2008	11.3	-23.3
2009	-22.4	-20.1
2010	19.7	10.1
2011	16.0	14.2
2012	-1.0	-12.2
2013	0.6	3.1
2014	-0.9	-17.3
2015	-12.8	35.0

Source United Nations Conference on Trade and Development database

I. The Deep Reason for the Long-term Downturn of the World Economy is the Failure of Traditional Structure

Since the 2008 financial crisis, the world economy has been in depression for a long time. This situation is not only unique in more than 70 years after the World War II, but also comparable to the Great Depression of 1929–1933 in the history of world economic development since modern times. Table 1 and Table 2 show the economic growth of the major developed economies (the USA, Japan, the Euro Zone and the United Kingdom) and the major developing economies (BRICs countries, namely China, India, Russia, Brazil and South Africa) from 2007 to 2015 and 2016Q1, as well as the global international trade and international direct investment. It can be seen from these data that the global economy has indeed fallen into a long-term

depression in the past decade, with low or even negative economic growth, trade and investment growth.

So, why did it only take the countries involved only two to three years or at the most three to four years to step out of the trough and regain the momentum of growth in so many economic and financial crises over the past 70 years after the World War II, but the current crisis has been lasting for nearly a decade, and seems still long-lasting? Why did most of the past economic and financial crises occur in the peripheral countries or individual countries of the world economy, while this crisis first occurred in the core countries, and none of the major economies survived?

Let's take a look at what factors supported the original world economic growth.

As we all know, the world economic structure gradually formed after the World War II is a typical "center-periphery structure", with the USA as the center and unfolding in a ripple pattern. Before the World War II, the world economic center was mainly in Western Europe, which was dominated by Britain. After the World War II, with the help of political, economic and military strength, the world economic center was transferred to the USA. Western European countries and Japan closely surrounded the USA, forming the world economic center circle. The developed economies like the USA, Europe and Japan, which are in the center, rely on their advantages in industry, technology, capital, system and rules, and by means of direct investment and industrial relocation, as well as the corresponding systems and rules, closely link the world's major economies into a whole, forming a global economic circle according to the extent of economic development, their positions in the global industrial value chain as well as their close relationship with the central countries. This is called the "center-periphery structure".³ The center of this structure is the USA, closely around which are Western Europe, Japan, Canada and other developed economies, followed by the circle is composed of the Four Asian Tigers, the emerging industrial countries in Latin America and other medium-sized developed countries and regions that undertake the direct investment and industrial relocation of developed countries and have close trade and investment relations with developed countries, then the circle composed of other Southeast Asian countries, the Chinese mainland and other developing economies, and finally the outermost circle composed of the less industrialized developing countries. In addition, some countries, such as most of the economically backward sub-Saharan African countries and some South Asian countries, fail to enter this cycle and thus become forgotten lands because their economic development is still before industrialization. In order to maintain the orderly operation of the "center-periphery structure", developed economies such as the USA and Europe have constructed the post-World War II international monetary and financial system, global trade and investment rules and global economic governance structure, including the international monetary system centered on the US dollar, namely the Bretton Woods system, the General Agreement on Tariffs and Trade and WTO, trade and investment liberalization and regional integration arrangements, and the international economic governance system centered on G7, IMF and World Bank.

³ Wang (2013).

It should be admitted that the “center-periphery structure” of the world economy formed after the World War II and its supporting institutional arrangements, to a great extent, have guaranteed global economic stability and created conditions for the world’s economic growth. The Bretton Woods system avoided the excessive fluctuation of the exchange rate, and the special status of the US dollar ensured that the US could maintain its import capacity through currency issuance and international borrowing, and drive the economic growth of exporting countries. GATT and WTO played an important role in eliminating trade barriers and promoting trade liberalization, which led to the great development of international trade after the World War II. As for international direct investment and industrial relocation, it also played an important role in driving the industrialization and economic development of underdeveloped countries. After the World War II, the world economy experienced a golden age of growth. To some extent, the economic take-off of some emerging economies, especially the Four Asian Tigers and some countries in Latin America in the 1970s and 1980s, and the rise of China’s economy after the 1980s, all benefited from the globalized dividend brought by this structure.

The “center-periphery structure” formed after the World War II was also the basic driving force of global economic growth. In the center-periphery division and cycle of world economy, different links have different status and value-added ability, which allows countries with different comparative advantages to make full use of their comparative advantages. Developed countries are mainly engaged in high value-added links such as R&D, design, sales, management and service, and transfer low value-added links to developing countries through international investment and industrial relocation. Developing countries rely on technology and funds transferred from developed countries to engage in low and medium-end processing, manufacturing and export, and produce products for the world, thus driving their employment and economic growth.⁴ The countries engaged in such processing and manufacturing are Japan, Germany, etc., then the Four Asian Tigers and some Latin American countries, followed by emerging economies such as China. The division of labor and trade between central and peripheral countries, including direct investment, industrial relocation, international technology diffusion, large-scale import and export, indirect capital flow, etc., are the main driving forces of the world’s economic growth after the World War II. The theoretical model of this mechanism can be expressed as the central country’s investment in the peripheral countries—the transfer of basic industries such as manufacturing—the industrialization and manufacturing development of peripheral countries - the export trade surplus of the central countries and the indirect investment to the central countries and the continuous investment of the central countries in the form of indirect investment.

However, there are inherent contradictions between the global division of labor and growth structure: on one hand, if a large number of emerging high-end manufacturing or service industries cannot be formed in developed countries, the phenomenon of industrial hollowing will appear and ultimately endanger economic stability and

⁴ Ma and Wu (2016).

growth. In reality, many developed countries have fallen into the situation of industrial hollowing, and become the basis of the final economic and financial crisis. On the other hand, if there is no corresponding export, the central countries that import a large number of basic manufactured goods will form trade and balance of payments imbalance. If the country relies on international and domestic debt to maintain this situation, sooner or later, financial and economic crisis caused by debt crisis will occur (such as Greece, Spain, Portugal and other countries in the European debt crisis a few years ago); If this country is just the issuing country of international reserve currency, it can maintain import capacity through issuing currency, it is only to raise the threshold of debt accumulation and crisis outbreak higher, and maintain the situation of debt construction for a long time, but it will eventually lead to serious economic imbalance and lead to crisis. This is the basis of the global economic imbalance represented by the USA and Japan, China and other countries since the 1990s, and the outbreak of the USA subprime crisis. After the debt crisis of the USA and Europe, the global international investment and international trade have declined greatly. The developed countries tried to make up the hollow structure with the re-industrialization and industrial return, which negatively affected the peripheral countries. As a result, the world economic growth supported by the center-periphery division of labor lost its momentum and the world economy has entered a long-term depression.

II. Stable Growth of Global Economy Needs a New World Economic Structure

More than eight years have passed since the global financial crisis began in the US subprime mortgage crisis. During this period, the governments of various countries took many measures to deal with the causes and basis of the crisis, and vigorously carried out structural adjustment, such as the deleveraging of the private sector, the backflow and reindustrialization of the manufacturing industry in the USA, the rescue of the debt crisis in Greece and other countries from the Euro Zone, and the vigorous development of new industries and Industry 4.0 Plan. Now, some of the specific problems that triggered the financial crisis have been greatly alleviated, such as the huge amount of debt of the private sector in the USA; or controlled, such as the public debt of the Euro Zone; the reindustrialization of European and American countries has also made some progress: the overall global economic imbalance has been eased, and the world economy has basically stabilized. However, the phenomenon of large-scale imports by the US and European countries relying on financial leverage no longer exists, and they also enhance their export capacity through reindustrialization to drive employment and growth. Therefore, the traditional mechanism of peripheral countries relying on exports to the central countries to achieve economic growth no longer exists. In addition, the direct international investment caused by deleveraging has decreased significantly, and the industrial return and reindustrialization of developed countries have led to capital outflow from emerging economies, which has completely broken the original "center-periphery structure" of the world economy and the operation mechanism of internal and external complementarity. The world economy has lost the basic driving force for growth, and the amount of both trade and

investment has declined, which has inevitably led to a chronic crisis and a long-term depression of the world economy.

So how can the world economy recover effectively and enter a new growth track? Will the future world economic structure return to the post World War II “center-periphery structure” and drive global economic growth? In our view, it is very difficult for the world economy to return to the old structure and use it as a support for the global economic recovery. The reason lies in the fact that the global economic environment has undergone fundamental changes compared with the early period after the World War II and even the 1980s and 1990s, and there is no foundation and conditions for maintaining the “center-periphery structure”.

As we all know, the formation of the “center-periphery structure” of the world economy after the World War II was based on the dominance of the US economy. In the early period after the World War II, the USA was in an absolute leading position in terms of economic scale, industrial foundation, capital, technology, institutional environment, governance capacity and so on. Relying on its strength, it naturally formed an economic system centered on the USA, which was evidenced by the substitution of British Pound by USD in the Bretton Woods system. Even in the 1980s and 1990s, although the economic strength of the USA was not as strong as before, and the legal status of the dollar system had disintegrated, there was still no single economy that could compete with the USA in the world, thus the central position of the USA was maintained. More importantly, at that time, the vitality of this structural system was still in existence. Before the collapse of the US currency and the bursting of the debt bubble, the USA could still maintain huge imports and become the market of the periphery exporting countries, thus contributing to world economic growth. At the turn of the new century, China’s accession to the WTO and opening up to the outside world in an all-round way have brought the efficiency of this system into full play, and also brought the global economic imbalance to the extreme, so the crisis became inevitable. With the outbreak of the subprime mortgage crisis in the USA, the debt bubble of the USA finally collapsed. After that, what the USA had to do was to deleverage and reindustrialize to enhance its competitiveness and export capacity. The USA could no longer sustain the growth of imports from the peripheral countries. As for the European Union, due to the hollowing of its industries, the decline of its competitiveness and the European debt crisis brought about by high welfare, the economy of the European Union has declined sharply, giving rise to protectionism, which made it more difficult to see a large-scale increase in import. At the same time, the large amount of direct investment and industrial relocation from the USA and Europe to the peripheral countries have also entered a stagnant period, and the basic framework of “center-periphery structure” no longer existed. The above trend is not a short-term phenomenon, but will exist or even further be strengthened for a long time. This is the basic reason why the mechanism of “center-periphery structure” driving global economic growth failed and was difficult to recover. Obviously, it is unrealistic to expect the crisis to pass as soon as possible and the global economy to return to the track of the past and resume strong growth. Before the establishment of new structures and mechanisms that can drive global economic growth, the world economy will maintain such a slow recession featured with a low growth.

Table 3 Comparison of main economic indicators between China and the USA

Year	GDP growth rate (%)		Global share of GDP (%)		Global share of foreign trade		Proportion of global FDI inflow		Proportion of global FDI outflow		Number of global top 500 enterprises	
	China	USA	China	USA	China	USA	China	USA	China	USA	China	USA
2007	11.9	1.8	6.1	25.2	7.7	11.2	4.5	11.5	1.3	18.5	22	162
2008	9.0	0.3	7.2	23.3	7.8	10.6	7.3	20.6	3.3	18.2	26	153
2009	10.3	2.8	8.5	24.1	8.7	10.5	8.0	12.1	5.1	26.1	37	140
2010	10.2	2.5	9.2	22.8	9.7	10.6	8.6	15.0	5.0	20.3	–	–
2011	9.2	1.6	10.3	21.4	9.9	10.2	7.9	14.7	4.7	24.9	69	132
2012	7.7	2.3	11.4	21.8	10.4	10.5	8.6	12.1	6.8	24.2	79	132
2013	7.6	2.2	12.4	21.9	11.0	10.3	8.5	15.7	7.7	25.1	95	132
2014	7.4	2.4	13.3	22.3	11.3	10.6	10.5	7.5	8.6	24.8	100	128

Source United Nations Conference on Trade and Development Database

Moreover, from a more basic comparison of global economic forces, the rise of China and other emerging economies in East Asia has greatly changed the territory of the world economy. the strength of the USA and Europe is relatively weak, and the strength of China and other emerging countries has increased significantly. Although the USA is still the largest economy in absolute amount and it still has advantages in technology, innovation and management, in terms of economic growth and trade scale, China has surpassed the USA to become the world’s No.1. According to the statistics of the World Bank, the proportion of China’s economic increment in the global increment has continued to rise over the past three decades: during 1980–1990 and 1990–2000, this index was 3.8% and 9.2% respectively; It rose rapidly to 20.9% from 2000 to 2010; During 2010–2012, it further increased to 25.2%.⁵ According to the data of China’s National Bureau of statistics, since the financial crisis, China’s contribution to world economic growth has been more than 30%, ranking first in the world. China is the world’s second largest economy and the largest trading body, and the largest trading partner of most countries. The scale of China’s foreign direct investment is also rising rapidly. China’s market and Chinese funds are the main dependence for the economic growth of many countries, which no longer rely on American investment and market, but turn to Chinese investment and Chinese market. At this time, it is obviously unrealistic to expect to return to a single central structure dominated by the USA, and the role of this structure in driving growth will no longer exist. Table 3 shows the comparison of the main economic indicators between China and the USA, from which we can see the narrowing gap in economic strength between China and the USA.

Many conditions are needed for the world economy to recover its overall growth and even enter a fast growth era. From the perspective of the history of world

⁵ Zhao (2014).

economic development since modern times, any economic growth climax was accompanied by a scientific and technological revolution, and the emergence of scientific and technological innovation and new industries on a large scale is the basis of a new wave of high economic growth in the world. The reason and mechanism are not complex. The new technology and new industry bring huge consumption demand and excess profits to enterprises, attract large-scale follow-up investment, and then drive the growth of related industries and the whole economy. The problem is that technological innovation has its own laws. The growth of R&D investment and the support of the government can accelerate the scientific and technological innovation, but it is impossible to exceed the laws of scientific and technological innovation and development. It is too optimistic to expect another climax of scientific and technological innovation and new industry to appear immediately.

However, in the situation that the pace of scientific and technological innovation is generally stable and the new climax of scientific and technological innovation and industrial innovation cannot be expected to come, it still plays a role in driving global economic growth. The global economic crisis and depression are not caused by the factors of technological progress, but the global economic structure. Therefore, only from the perspective of global economic structure, how to surpass the outdated “center-periphery structure” and build a new structure that can replace or supplement the original single center structure is the key to the world economy entering the growth track. This new structure should give full play to the enthusiasm and potential advantages of most countries in the world, especially the potential advantages of the developing countries, and promote the industrialization and economic development of the developing countries. It is necessary to promote more balanced, fair and democratic world economic governance, and to establish rules of global economy and trade investment that meet the needs of most countries. We should be able to better promote scientific and technological innovation, promote the promotion and popularization of new knowledge and technology, so as to promote global economic growth, especially the transformation and upgrading of developing countries’ economy and structural adjustment. In order to establish a new structure which can help to achieve the above objectives, and make the new structure work effectively, it is necessary to adjust and reform the existing international monetary and financial system and international trade system.

III. The Belt and Road Initiative is a New Engine for Recovering the World’s Economic Growth

However, the process of establishing the new world economic structure will inevitably involve the redistribution of global economic power and interests, and will inevitably affect the status and vested interests of some countries in the global economic system. The economic development stages of different countries in the world, especially between developed and developing countries, mature and emerging economies, are different in their position in the global economic structure, they have inconsistent demands for interests, and inconsistent understanding of world economic structure and international economic rules reform, showing wide-ranging contradictions and differences. Some countries such as the USA have put forward high-standard and

exclusive international economic and trade frameworks and rules such as TPP, TTIP and TiSA, which leads to the competition of leading powers in international economic and trade rules. At present, the world economy is in the process of such a game of restructuring and rule reconstruction. There is a long way to reach a general consensus around the world and to establish a new structure covering the world, promoting equality and mutual benefit and common development.

Of course, even if there are differences between different countries and groups of countries on the future world economic structure and global economic rules, making it difficult to establish a unified global general principle, the reform and reconstruction of the world economic structure can still play a role. From the perspective of the urgent need to promote the recovery of global economic growth, from the needs of Asian, African, and Latin American countries to improve the level of industrialization and economic development to get rid of poverty, and from the needs of the transformation and upgrading of economic structure and sustainable development of emerging economies, China, as the second largest economy in the world and the largest emerging economy in the world, as well as a great country which has a significant impact on the world economy and also faces the arduous task of transformation and upgrading, should also be able to put forward constructive ideas and play an important role. In fact, many Chinese researchers have been doing in-depth research on this, and “the world economic dual-circulation structure” proposed by some researchers, including me, is a useful exploration in this area.⁶ The idea of these researches was finally reflected in the Belt and Road Initiative, an initiative of global strategic significance proposed by China, and the establishment of a platform for cooperation will form a new economic cycle between developing countries, which is coexisting with the traditional “center-periphery” structure of the world economy, and constitutes a “dual-circulation” pattern of the world economy. This will be an important stage in the establishment of a new structure of the world economy and an important driving force for world economic growth.

The “dual-circulation” structure of the world economy is an inclusive structure that can accommodate the common development of different types of countries. In the first circulation of “dual-circulation” structure (also the main circulation of world economy), a global industrial value chain based on intra-industry and intra-product division will be formed. Emerging economies in major developed countries and developing countries (especially in East Asia and Southeast Asia) will participate in this circulation, gain their position in the global value chain division according to their own comparative advantages, and form a close economic circulation through vertical international direct investment, intra-industry trade and intra-product trade. In this circulation, international trade and investment rules of high level will be implemented, which reflects the development direction of global economic rules in the future. TPP, TTIP and other economic and trade rules put forward by the USA basically reflect the ideas of these rules, and will also become the institutional basis of this circulation. China’s enterprises and industries, especially those in China’s economically developed coastal areas (such as the pilot Free Trade Zone), should

⁶ Wang (2014, 2015).

actively participate in this global value chain division of labor, integrate into this circulation through two-way trade and two-way investment, take the lead in adapting to these high-level rules, keep up with the tide of global economic development, and promote China's economic upgrading and competitiveness.

While actively participating in the first circulation, China should actively play a leading role in the world economy and build a new economic circulation led by China and participated by neighboring developing countries and the majority of Asian, African and Latin American countries, namely the second circulation of the global economy. In the second circulation, China and other emerging economies with more developed manufacturing industries will become the main body of international investment and industrial relocation. Through foreign direct investment, the mature manufacturing production capacity will be transferred to Asian, African and Latin American countries with less developed manufacturing industries, in the initial stage of industrialization or even in the early stage of industrialization, so as to drive the economic development and realize the industrialization and economic take-off of these countries. After industrialization, these countries will have greater export capacity of manufactured goods, improve their terms of trade and balance of payments, and enter a virtuous circle. This road, in fact, is the one China took more than 30 years ago. The resulting international investment, industrial relocation, international trade and economic development will become a new and continuous driving force for world economic growth and inject new vitality into world economic growth.

Of course, it is not difficult to find that this is not a new idea, but the road that many developing countries such as Southeast Asia and China have taken, and it also conforms to the basic logic of classical development economics theory. The problem is that the current world economic structure and global economic and trade rules can no longer allow developing countries to take this road of development. Because of the increasingly hollow and non-manufacturing structure of the major developed countries, they have been unable to undertake the manufacturing investment and industrial relocation functions of the least developed countries, and their strict trade and investment rules are far beyond the actual conditions of the developing countries. China and other emerging manufacturing powers have the ability and need to cooperate with the developing countries.

Obviously, this also means that in the international economic cooperation and economic circulation led by China, the principles of fairness, democracy, openness, win-win, differential treatment, gradual progress, mutual respect and non-interference in internal affairs of international economic relations will be practiced to a greater extent. We should establish an open, inclusive and flexible platform for international economic cooperation in accordance with the complicated national conditions, numerous countries, huge differences in economic development levels, and various historical, cultural and socio-economic systems of developing countries, so that countries with different development levels and economic conditions can benefit from this cooperation.

The Belt and Road Initiative, one of China's major initiatives, and other international economic cooperation mechanisms, such as regional economic integration,

free trade area, close economic cooperation zone, bilateral and multilateral trade and investment agreements, are the concrete embodiment of the above ideas and thinking. The framework of the Belt and Road Initiative and the various international economic cooperation ideas and arrangements fully reflect the principles of openness, tolerance, differential treatment, gradual progress, mutual benefit and win-win situation. Moreover, China has also made great efforts to help developing countries build infrastructure through financial mechanisms such as the AIIB and the Silk Road Fund, so as to create basic conditions for future industrial development and industrial relocation. All these will lay a foundation for the economic circulation between China and the developing countries in Asia, Africa and Latin America in the future. As the concept of the Belt and Road Initiative is gradually implemented, with the continuous strengthening of trade and investment relations between emerging economies and the general developing countries, the new economic circulation will gradually take shape, and the world economy will gain new and endless growth momentum, ushering the era of new growth in the world economy.

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Liquidity in Economic Development

—Discussion Under the Background of the Belt and Road Initiative



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The Belt and Road Initiative involves the financial sectors and markets in all countries along the Belt and Road. How should they develop in the future? How should financial policy accurately play its role? The author attempts to discuss these major planning and policy issues from the perspective of liquidity theory in developing countries. The author believes that for economic development, it needs to deal with the relationship between overcoming the bottleneck of real economic development and money and credit, the latter involves the liquidity in economic development.

I. New Monetarism and the Theoretical Basis of Liquidity Policy

For a long time, there has been no revolutionary change in the traditional analysis paradigm of monetary theory and financial theory, which has changed with the emergence of new monetarism theory. Therefore new monetarism theory is a liquidity theory. Traditional financial theory focuses on asset pricing and regards financial assets as “a tree with fruit”, and the value of the tree is determined by the number of fruits. The new monetarism theory holds that the value of financial assets comes partly from the “fruit” and partly from its role in promoting exchanges. The role of the latter part is as important as that of the former part. The new monetarism theory unifies the monetary theory and the financial theory. From the perspective of money as a financial asset, it attributes the source of monetary value to its role in promoting transactions, that is, from its liquidity function. At the same time, it takes the value

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brought by the liquidity function of financial assets as an integral part of the value of financial assets.

The new monetarism theory defines liquidity as the role of financial assets in promoting transactions in the exchange of commodities. This paper abstracts the profitability and other attributes of financial assets, and independently and equally analyzes the role of financial assets and money in providing liquidity.

Inflation that monetary policy is concerned about is the cost of holding money, and monetary policy is a liquidity policy. Liquidity policy involves many aspects, such as total liquidity, liquidity structure, institutions providing liquidity, financial assets providing liquidity and the cost of providing liquidity services. The relationship between the goal of liquidity policy and inflation targeting needs to be analyzed. There are at least two factors that will affect the inflation cost of holding money: one is the degree to which the currency issuing institutions fulfill their commitments; second, the stronger the people's willingness to produce (the people's willingness to produce comes from their desire to obtain more wealth), the lower the possibility of inflation.

The objects of monetary policy management extend from cash in circulation and reserves of financial institutions to the credit scale of financial institutions, and then to financial products in the financial market (such as subordinated bonds). This expansion and change shows that the traditional concept of money supply (even from M0 to M3 or even M4) needs to be constantly adjusted to cover liquidity more comprehensively. The analysis of liquidity policy needs a systematic liquidity theory as the basis for discussion. The important development direction of new monetarism is to build a liquidity theory that provides a theoretical basis for liquidity policy.

Money and credit are two institutional arrangements to provide liquidity (the use of money does not involve subsequent repayment, but credit involves subsequent repayment). Endogenous analysis of money and credit is an important basic theoretical topic.

II. New Thoughts on the Essence of Inside Money

The emergence of currency transaction reduces the transaction cost. Currency transaction is a one-time (no follow-up) transaction. Both parties to the transaction are anonymous and do not need to know the transaction history of the other party; Even if both parties to the transaction do not know each other at all, the transaction can be completed as long as there is an acceptable currency, whether it is obtained in the form of inside money or credit. Inside money—payment methods such as checks and electronic checks (debit cards) based on bank deposits are discussed below. Before the central bank issues legal tender, the currency in circulation is issued by commercial banks. Inside money is the origin of outside money, which has the liquidity characteristics of outside money.

From the perspective of previous literature on money, the attributes of specific goods determine whether they are suitable as a trading medium. These attributes include portability, convenient storage, divisibility, anti-theft and easy distinction of authenticity. Different from previous literature, new monetarism emphasizes the

motivation of money issuers and the institutional characteristics related to their motivation (for example, the degree to which issuers are regulated).

The reason why the seller accepts the currency is that the seller knows that others are willing to accept the currency when he uses it. Behind this expectation is people's recognition of the degree to which the currency issuer has fulfilled its commitments. In the previous literature, there is no endogenous analysis of the concept of recognition.

For the first time, this paper uses the recognition of the degree of commitment of the currency issuer to explain the exogenous recognition concept in the literature. Lester et al. (2012) attributed the recognized core feature of financial assets to eliminating the information asymmetry between the issuer and the receiver of financial assets through investment, but they did not explain what kind of economic motivation determines the quality of financial assets. They believe that paying a certain cost to obtain information about the quality of financial assets is the key to the recognition of financial assets.

Another group of literature attributed the reason why a certain financial asset became a trading medium to the scale effect of reduced transaction cost. The more people use a specific financial asset, the more economies of scale, the lower the transaction cost. This paper just answers the question that this group of literature does not give an answer: why is the specific kind of financial assets used in trading?

According to the cash flow discount theory, the future cash flow of money is zero, which is completely predictable, and its value should be zero. The extra value that inside money brings by promoting exchanges is called liquidity premium—the part of its value higher than the present value of future cash flows. Financial assets with a high degree of commitment by the issuer play a greater role in promoting transactions. People prefer such financial assets. The higher the price of the financial asset, the higher the liquidity value.

Gu et al. (2013) and Shi (1995) provided a framework for the analysis of inside money. In previous studies, the assumption that the currency is accepted by the seller itself is exogenous; the new monetarism theory puts forward the recognition of financial assets as an independent concept of monetary economics. Gu et al. (2013) believed that inside money played a liquidity function because banks would fulfill their commitments; However, they did not discuss the internal relationship between the recognition of currency and the extent to which the issuer fulfilled its commitments; In fact, their discussion of banks and their liquidity can be extended to all liquidity arrangements. The so-called liquidity arrangements include inside money, banks and other specific forms. These liquidity arrangements are recognized. The essence of this phenomenon is that the liquidity providers fulfill their commitments to a high degree. The recognition of financial assets is of key significance for understanding outside money, inside money, international currency, financial market, financial institutions, open market operation, etc. Especially when different countries and financial institutions compete with each other in giving play to liquidity, recognition is the main content of the competition between currencies or financial assets, and behind the competition is the degree to which the financial asset issuers fulfill their commitments.

The following is illustrated by a model. There are two islands in the economy, Island 1 and Island 2. Island 1 is not fully regulated and Island 2 is fully regulated. There are a pair of trading subjects on Island 1, which are Category 1 and Category 2 respectively. Both parties can only consume the goods produced by the other party. People in Category 1 consume first, people in Category 2 consume after people in Category 1 produce, and people in Category 2 produce first, but they can only provide the produced goods to people in Category 1 for consumption after people in Category 1 consume. The time is discrete, and one period contains two sub-periods. In Sub-period 1, people in Category 1 first consume each other's goods and produce goods for people in Category 2, and people in Category 2 first produce goods for people in Category 1. The consumption of people in Category 2 cannot be realized until Sub-period 2. The utility functions of people in Category 1 and people in Category 2 meet all the conventional requirements for utility functions. Consumption brings positive utility and production brings negative utility.

On Island 1, people in Category 1 and people in Category 2 are anonymous to each other, do not know each other's transaction history, and neither party has fulfilled its promise. People in Category 1 can promise in advance before consumption, but after consumption, people in Category 1 have no motivation to fulfill their commitments to provide goods to people in Category 2, because people in Category 1 find it more beneficial for themselves not to provide goods to people in Category 2 in Sub-period 2—the present value of utility for people in Category 1 not to fulfill their commitments is greater than the present value of utility for them to fulfill their commitments.

Assuming that the information is symmetrical, the utility functions of both parties are public information as soon as they meet. People in Category 2 know that people in Category 1 do not intend to fulfill their commitments in Sub-period 2, Category 2 will not produce goods for Category 1 in Sub-period 1, Category 1 cannot consume in Sub-period 1, and Category 1 does not intend to produce for Category 2 in Sub-period 1. As a result, there is no transaction.

The above analysis assumes that people in Category 1 and people in Category 2 are on the same island (although there are two categories of people, there is only one person in each category and only two persons on the island). There is no other person on the island who can provide liquidity. If people in Category 1 fail to fulfill their commitments, the liquidity provided by people in Category 1 will not be recognized. Due to the lack of other liquidity arrangements, both parties cannot reach a transaction.

The inside money that plays the role of liquidity is an alternative to the commitment of people in Category 1 on Island 1. If people in Category 1 will fulfill their commitments under any conditions, there is no need for inside money to play a liquidity function.

It is precisely because people in Category 1 may not fulfill their commitments that the role of inside money in liquidity becomes not only important, but also essential (because other ways of providing liquidity, such as issuing credit in currency, usually also need money).

Assuming that only two different types of residents on Island 1 are simplified representatives of the decentralized market, there is friction in the decentralized

market (people in Category 1 may not fulfill their commitments), which makes inside money essential. The advantage of decentralized market is to clearly express the role of inside money in transactions in a model, which is conducive to analyzing the relationship between liquidity and asset prices.

People in Category 1 on Island 1 may not fulfill their commitments, resulting in failure to reach a transaction. This problem is unsolvable only on Island 1 with only two residents. The residents of Island 1 cannot spontaneously generate an accepted inside money to play a liquidity function, so as to solve the problem of trust. The island here is not the concept of geographical area, but the meaning of closed trading.

As long as the closed trading system (island) is opened a little, the problem that people in Category 1 on Island 1 may not fulfill their commitments can be solved. After introducing people in Category 3 who will fulfill their commitments (living on another island—Island 2) into the expanded trading system, the inside money issued by people in Category 3 is accepted by people in Category 1 and people in Category 2 on Island 1, and through the liquidity provided by this accepted financial asset, the transaction that could not be reached on Island 1 is reached.

It is assumed that the inside money issued by people in Category 3 does not carry any cash flow, and the future cash flow is zero. Although the financial assets issued by people in Category 3 do not directly enter the utility function of people in Category 1 and people in Category 2, they cannot bring utility through consumption. However, because the financial asset can promote transactions, it has value indirectly. The issuance of financial assets by the three categories of people will also bring benefits to themselves. In other words, by issuing financial assets, the three categories of people can obtain other people's goods for consumption without producing for people. The inside money issued by people in Category 1 will not be accepted by people in Category 2, but people in Category 2 will accept the inside money issued by people in Category 3.

In the expanded trading system, people in Category 1 on Island 1 travel to Island 2 to meet people in Category 3, deliver the goods produced by people in Category 1 to people in Category 3, and return the insider assets issued by people in Category 3—people in Category 3 promise to deliver the goods when they see anyone holding this inside money in Sub-period 2. The degree to which the three categories of people fulfill their commitments will affect the quantity of goods they deliver when they meet people in Category 1 and people in Category 2.

With such institutional arrangements, no matter what the residents of Island 1 have done in history, they can consume through trading as long as they abide by the trading rules of inside money.

People in Category 1 on Island 1 exchange goods produced by each other with people in Category 2 on Island 1 through people in Category 3 indirectly. In the decentralized market, the trade of goods for inside money between people in Category 1 and people in Category 3, and the trade of inside money for between people in Category 1 and people in Category 2 holding inside money constitute the general price level of inside money (the price level in Walras' market).

In the absence of outside money, the general price of inside money is the reciprocal of the total price level, and the research on the general value of inside money is the

research on the inflation rate. Using this analytical framework, we can analyze the relationship between inflation, asset prices and liquidity. When the motivation of the three categories of people to fulfill their commitments decreases, the value of the inside money issued by the three categories of people decreases and the price level increases. In other words, inflation means that the willingness of currency issuers to fulfill their commitments decreases. At the same time, inflation also means that the liquidity function played by inside money decreases.

Inflation is endogenous, and inflation is closely related to the tax policy for the three categories of people. Taxing the three categories of people reduces the motivation of the three categories of people to fulfill their commitments, resulting in the decline of the liquidity value of inside money, the rise of general price level and inflation. However, another aspect that affects inflation is the willingness to produce. When the willingness to produce is very strong, the general price level will decline and even lead to deflation. In the analytical framework of studying inflation or deflation, it is difficult to be persuasive without an endogenous trading mechanism. Taking an exogenous transaction mechanism as the core content of monetary theory, such as cash priority model or cashless transaction, this reduced form is very debatable, because the details of the transaction mechanism itself have important policy implications.

The new monetarism theory shows that the small opening of the trading system, the small changes in the motivation of the three categories of people to fulfill their commitments (such as taxation on the three categories of people), the small changes in the degree of information asymmetry between the three categories of people and others, and the small changes in willingness to produce may have a significant impact on the price of inside money, liquidity, asset price and inflation.

The value storage function of inside money is related to whether it is recognized or not. Commodity currency is not easy to corrode and has the function of value storage, which is different from inside money because of its issuer's commitment. The former is the value invariance brought by the physical attributes of a commodity in the commodity currency system, such as gold; The latter is the value invariance brought by the commitment of the inside money issuer in the paper currency system, such as the inside money issued by commercial banks.

The other two meanings recognized by the inside money are also all the traditional meanings of this concept, including that the authenticity of the inside money can be identified, and the people's natural acceptance of the inside money will affect the value storage function of the inside money, but in essence, the value storage function of inside money comes from the recognition of the degree to which the issuer of inside money fulfils its commitments.

Lester et al. (2012) pointed out: "In many Latin American economies, the peso is more easily recognized, but the dollar can better store value." This shows that in this author's view, being recognized is different from being able to store value. Different from these authors, the author of this paper believed that the recognition of the peso comes from its value invariance based on the commitment of the peso issuer. Being recognized and having storage value are the same thing for a currency.

The Latin American case can be explained by the author's theory. The lower the degree to which the inside money issuer fulfills its commitments, the higher the inflation. When the inflation of the peso was moderate, the people of Latin America recognized the commitment of the peso issuer and used the peso as a means of payment. When the inflation rate of the peso increased, the Latin American people did not recognize the promise of the peso issuer, but thought that the promise of the dollar issuer was more credible, and used the dollar as a means of payment in the transaction. This is dollarization. Even if the inflation rate of peso subsequently fell, the Latin American people continued to use the dollar as the trading medium because they no longer trusted the commitment of the peso issuer.

Wallace (1980) believed that inside money without income is a tax on asset holders. For example, people who hold savings in the form of money are taxed because money has no income. The author does not think that this kind of tax is a one-way payment from taxpayers to tax collectors, so it is not appropriate to use tax to describe this income difference; This income difference is the voluntary payment of inside money holders who use the convenience of inside money liquidity.

III. Mobility in Economic Development: Policy Proposal for the Belt and Road Initiative

The premise of liquidity theory analysis is that exchange is the premise of consumption—the premise of obtaining utility from consumption is to obtain goods through exchange, and consumers cannot produce the goods they consume by themselves.

In such a market with frictions, the two parties of the transaction can meet first, and then the two sides hope to hold or consume the financial assets or commodities in the other party's endowment. In a trading environment in which the history of both parties to the transaction is completely open and both parties make full commitments, each party to the transaction shall fulfill its commitments and believe that the other party will fulfill its commitments. Once the parties to the transaction meet, they will have a full understanding of whether they have fulfilled their commitments in each other's past transaction history, and know that if one party fails to fulfill its commitments at present, it will be found without omission in the future. After reaching an agreement on the number and price of transactions, the agreed delivery can be implemented without using liquidity tools (such as currency). Financial assets that play a liquidity function are not necessary under the condition of full commitment. The reality is that most people cannot fully fulfill their commitments, so liquidity tools (such as inside money) are necessary.

In exchange, the one-to-one transaction between the two parties is the basis of Walras' market and its price.

Generally speaking, currency, financial institutions, financial markets and financial products are the forms or mechanisms for the financial system to provide liquidity for the real economy. Through the liquidity provided by the financial system, the remaining resources are transferred to the sectors of economic activity that need these resources and can make better use of them, and the resource allocation is optimized. This liquidity function provided by the financial system is more important than the incidental income of assets brought by the financial system to customers.

If inside money is a tree, whether the tree produces fruit for consumption is not the fundamental reason why the tree becomes inside money; The reason why inside money becomes inside money is more essentially because it can promote transactions and provide liquidity by virtue of its issuer's credit to fulfill its commitments.

In the definition of various liquidity concepts, this paper adopts the definition consistent with monetarism theory. Liquidity is defined here as the nature or function of a financial arrangement to facilitate the transfer of resources and the completion of transactions. Such an arrangement may be the seller's acceptance of a currency. It can be an arrangement of financial institutions, such as commercial banks with deposit and loan functions; It can be the recognition of a mortgage asset, such as the central bank's purchase of subordinated bonds in the open market, making the bonds eligible collateral. The essence of liquidity arrangement is to provide some kind of mortgage. When one of the trading parties needs to pay a price first, he needs to obtain a mortgage to ensure that the counterparty will provide him with equal payment later.

Countries along the Belt and Road need to improve the efficiency of financial services in the real economy. The main way of financial services to the real economy is to provide liquidity for the real economy, so that the transactions that could not be reached due to lack of trust can be finally concluded. The way to improve the efficiency of the financial sector is to improve the degree of fulfilling commitments of financial institutions, financial products, financial markets and financial assets with low degree of fulfilling commitments through various ways. When the financial sector is the most efficient, people trust the financial sector unconditionally, and the financial sector is also unconditionally responsible to the people.

The financial sector is different from the production sector, and its productivity cannot be measured according to the cost. What the financial sector provides to the real economy is a guarantee, mortgage and credit, which is an alternative to the lack of commitment in the real economy. As long as the financial sector fulfils its commitments, it can obtain the right to consume without producing any specific goods. Therefore, technological improvements in the financial sector must be combined with the motivation to fulfil commitments in order to play a role.

The technology of western financial sectors cannot be said to be advanced, but if they lack the "soul" behind efficiency—fully fulfilling their commitments, advanced technology may become an accelerator to push them into the financial crisis faster. The goal of financial reform is to inject the "soul" behind efficiency—fulfilling commitments—into the financial sector, so as to make the financial sector full of vitality. This is an important part of the supply side reform of the financial sector.

It is suggested that countries along the Belt and Road should be established on the basis of liquidity theory. Liquidity statistics is not a new concept. In 2012, the central banks of the G20 had a long-term internal discussion on the design of the global liquidity statistical index system. However, due to the lack of theoretical basis, countries did not reach an agreement in the end, and the index could not be specifically implemented. Based on the existing monetary overview and the total amount of social financing, the final transition to a more comprehensive liquidity statistics is not only helpful for each country to carry out macro-control more effectively, but also has

a significant reference significance for the coordination of macro policies among countries and preventing the spillover effect of liquidity flooding in a few countries. The currency overview mainly focuses on outside money, and does not pay attention to inside money and other non-monetary liquidity instruments commensurate with their importance. The total amount of social financing mainly reflects the use of leverage by the whole society in the form of indirect financing or direct financing. It is the use of commercial financial institutions and financial markets to provide liquidity statistics, which is close to the concept of liquidity statistics in concept. However, the consistency and internal relationship between the total amount of social financing and the monetary overview, as well as the possibility of integrating these two indicators, need to be further discussed.

In order to effectively manage liquidity, on one hand, it is necessary to establish the role, path and mode of providing liquidity for various financial assets, that is, as a transaction medium, it plays a role in promoting real economic transactions; On the other hand, it is also necessary to establish that the financial asset structure (stock, flow, transaction volume and price) is not only a “barometer” of the real economy, but also a reflection of the liquidity provision of the whole financial system. Inappropriate Liquidity Expansion policies may affect the liquidity function of the financial system. These standard propositions are not lacking in the previous literature, but they are not analyzed in an endogenous liquidity model. The endogenous liquidity model is still in the primary stage of development. A more systematic and accurate analysis needs to be made on the subtle differences between financial institutions and financial markets, the interrelationship between various micro indicators in practice, the objectives of liquidity policy and the realization path. The new Keynesian model systematically discusses the objectives, tools and transmission mechanism of monetary policy. The development direction of liquidity theory is likely to replace the endogenous liquidity tools with the exogenous currency in the new Keynesian model, and re-examine all traditional monetary and financial policies on a new micro basic analysis framework.

In the financial development of countries along the Belt and Road, the key to liquidity policy is not to increase the burden of resources and taxpayers, but to design an advanced system that enables all transactions based on legitimate demand to be supported by liquidity.

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The Historical Experience of China's Currency Internationalization



Enlightenment of the Silk Road

Yaguang Zhang

I. Foreword

For thousands of years, China has been trading with the outside world through the Silk Road, and the inflow and outflow of money are inevitable. The problem of currency internationalization not only exists, but also is necessary to study. This paper aims to explore the degree of internationalization of ancient Chinese currency in the history of the Silk Road and the internal reasons behind it, so as to provide some historical experience and reference for the current internationalization of RMB.

In the past, few people specifically analyzed the internationalization of ancient currency. Most studies related to ancient currency are about the circulation of currency on the Silk Road, the shortage of money in the Song Dynasty and the circulation range of money in the Song Dynasty. The research on China's currency internationalization mainly focuses on the modern period. This paper systematically and completely combs the circulation of ancient currency abroad and judges its degree of internationalization. In addition, in the analysis of the factors of currency internationalization, most of the research is about credit currency, and this paper mainly focuses on copper coins, which has both the nature of metal currency and credit currency. In the factor analysis, these two points are taken into account, so as to draw the corresponding conclusions.

In terms of theoretical framework, Cohen (1971) and Hartmann (2002) defined "international currency" as that when a currency can play the same function abroad as at home, it becomes an international currency. At the same time, Cohen (2004) put forward the theory of currency pyramid, which is divided into seven levels from top currency to pseudo currency. As for the influencers of currency internationalization, Xiliang and Liya (2008) believed that it was mainly analyzed from

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three aspects: currency characteristics, economic conditions of national or supranational economies and international political factors. Economic conditions include two factors: economic strength and financial system. In addition, transaction costs, historical inertia and other factors will also affect currency competition. Xiaoling (2010) made a more systematic analysis when summarizing the determinants of international currency competition: from the perspective of comprehensive strength, trade scale, financial system and political status affect the international status of currency; From the perspective of the characteristics of currency, the convenience of transactions, the scope of use of money and transaction costs will have an impact. There are many overlaps in the research of the two as a comprehensive review. Among these factors, the more important are the characteristics of economic strength, financial system, political influence, monetary value and transaction cost. In terms of economic strength, Mandel (1962) believed that people preferred to accept the currencies of countries with high labor productivity in international trade; Kenen (1995) emphasized the importance of financial market liberalization and pointed out that this was an important reason why the dollar has become a reserve currency; etc.

Scholars have tried to introduce the general currency model into the study of currency internationalization, among which the currency search model is widely used. Matsuyama et al. (1993) discussed the equilibrium of various international currencies through the currency search model and gave the evolution path. Pittaluga and Seghezza (2012) introduced the government's participation on the basis of predecessors to analyze the government's tax behavior and the credit guarantee for the use of domestic currency in other countries. Based on the currency search model, this paper makes a theoretical analysis on the internationalization of currency in ancient China.

II. The Degree of Internationalization of Ancient Currency under the “Pyramid System”

From the perspective of historical changes, there are two characteristics of ancient Chinese currency: first, in the complex monetary system, copper coins ran through the whole history of ancient Chinese currency and occupied a pivotal position in the field of money circulation for a long time, which reflects the so-called “love copper complex” of Jie (2010); second, the status of silver in currency continued to rise, and finally its legal status was determined in the Ming and Qing dynasties. Therefore, copper and silver are the two currencies we are mainly concerned about.

According to Cohen's monetary pyramid system, this paper will make a corresponding division of the coins of each dynasty. It should be pointed out that: first, this division only lists the dynasties with unified political power, because there were great problems in their own currency in the territory during the period of separatist regime. For example, in the Wei, Jin, Southern and Northern Dynasties, due to social unrest, the monetary economy declined to the state of extensive use of physical currency; Secondly, due to the implementation of the mixed currency system in ancient times, there are some difficulties in currency classification. Table 1 lists a more general classification based on the existing data, which can basically reflect the degree and trend of internationalization of ancient Chinese currency.

Table 1 Classification of China's currency in the history

Dynasty	Currency grade
Qin	Common currency
Han	Outstanding currency
Tang	Patrician currency
Song	Top currency
Yuan	Outstanding currency
Ming	Infiltrated currency
Qing	Infiltrated currency

During the Qin Dynasty, China did have foreign trade, but these transactions were accidental and non-governmental, so trade mainly took the form of barter. Therefore, Banliang coins were mainly circulated at home and rarely abroad, so it is more in line with the characteristics of common currency.

The five-baht coins in the Han Dynasty was a very important currency in Chinese history, and even “they were still in circulation in the late Qing Dynasty” (Xinwei 1988). Along with the gradual development of the Silk Road, foreign trade began to prosper. Although there were activities on the maritime Silk Road, generally speaking, trade was mainly concentrated on the land Silk Road. Thus, the five-baht coins of the Han Dynasty flowed into the western regions and became an important exchange medium for Chinese and foreign trade. However, at that time, in addition to the five-baht coins, the western countries also minted coins themselves, mainly the Sino-Kharosthi coin with the characteristics of eastern and western currency culture, the Kusan coins of the Kusan Empire, a powerful Central Asian country established by the Rouzhi people, and the rectangular empty lead coins of Khotan. It can be seen that five-baht coins were only one of many circulating currencies. In addition, the volume of foreign trade did not reach a very high level, so it is classified as an outstanding currency, one level higher than the internationalization level of Banliang coins in the Qin Dynasty.

During the Tang Dynasty, due to the strong national strength and effective control over the western regions, the traffic of Chinese and foreign trade was smooth, bringing the land Silk Road to the historical peak. Kaiyuan Tongbao became a basic trading medium on the land Silk Road. “Whether in Xinjiang, Central Asia outside Xinjiang, southern Siberia and even Mongolia, Kaiyuan Tongbao and other copper coins of the Tang Dynasty were widely circulated international currencies at that time” (Zhongshu 1998). The influence of Kaiyuan Tongbao to the west along the land Silk Road led to the coinage of copper coins imitating Kaiyuan Tongbao in Central Asia. Li Tiesheng once commented: “This is the first time that the ‘eastern coin goes west’, and it is also an influential (Silk Road currency) Sinicization.” (Jun et al. 2015) Kaiyuan Tongbao was not only widely circulated in the western regions, but also “unimpeded in Koguryeo, Silla, Baekje, Japan and Southeast Asian countries. In fact, it has become an ‘international currency’ at that time” (Zhongshan 1999). For example, in Japan, which was greatly influenced by the Tang Dynasty at that time, the first

legal tender “Hetong Kaibao” it forged imitated the style of Kaiyuan Tongbao, and Kaiyuan Tongbao could still circulate in Japan due to the poor quality of Japanese self-cast coins. To sum up, the currency of the Tang Dynasty reached its peak on the land Silk Road and also played an important circulation role in East and Southeast Asia. Therefore, its internationalization level is obviously further than the five-baht coins of the Han Dynasty and is a patrician currency.

Song coin was recognized as the most internationalized currency in ancient China, mainly due to the prosperity of the maritime Silk Road in the Song Dynasty. “Zhao Rushi’s *Zhu Fan Zhi* recorded that the maritime traffic between the East and the West in the Song Dynasty started from Korea and Japan in the East and extended to the east coast of the Mediterranean and East Africa in the West. The Silk Road connecting the life experience of the East and the West involves more than 50 countries in the Far East, Southeast Asia, West Asia, Egypt, East Africa and the east coast of the Mediterranean.” (Zhongshan 1999) With the expansion of trade scope, the circulation scope of Song coin also expanded greatly. Song coin was unearthed in these places. In particular, Japan needed Song coin. At that time, Japan was in the era of transitional currency, and Song coin was the main foreign currency.¹ In addition, the most widely circulated Song coin was in Southeast Asia. The merchant ships of the Song Dynasty traded frequently here, and the local area lacked the ability to forge copper coins, so there was a great demand for Song coin. “Chinese coins were collected by the ancient Tibetan government, which regarded the coins as a treasure guarding its state. Therefore, those who entered Tibet with copper coins, and Tibetan goods were only sold for copper coins.” The outflow of Song coin even caused a “money shortage” to a certain extent, making the government order to prohibit the export of copper coins. However, in fact, the smuggling of Song coin due to strong demand was rampant. Therefore, the breadth and depth of circulation of Song coin were far beyond any dynasty in history. In terms of breadth, Song coin has been unearthed as far as the East China Sea of Africa; as far as the depth is concerned, the phenomenon of currency substitution has occurred in Japan and some countries in Southeast Asia, and Song coin has become the main currency in local circulation. Therefore, it is more appropriate to classify the Song coin as a top currency.

Paper money was the main currency in the Yuan Dynasty. Due to the vast territory at that time, the scope of currency circulation was also very wide. At this time, both the land and sea Silk Road were unblocked, and the currency of the Yuan Dynasty also circulated in the surrounding countries with foreign trade activities. The Khanate in the northwest, Korea and Japan in East Asia, and Annam and other countries in Southeast Asia all imported currency from the Yuan Dynasty, and some countries also formed a certain value proportion with the central bank notes, and even imitated their own paper notes. But generally speaking, the circulation scope of paper money in the

¹ In the second year of Shōtoku, Japan (1712), Song Money accounted for more than 83% of a batch of ancient money unearthed from the Zhengzong Temple in Mito. In the 35th year of Meiji (1902), Song coins accounted for more than 89.6% of the batch of ancient coins unearthed from Daishoji Temple, Okabe Village (Xinwei 1988).

Yuan Dynasty is far less than that of copper coins in the Song Dynasty. Therefore, it is classified as an outstanding currency.

In the Ming Dynasty, there were few copper coins, most of which were old coins of the previous dynasty, and some of them flowed abroad, such as Japan and some countries in Southeast Asia which used Chinese currency at that time. At that time, the closed-door policy was implemented for a long time. Even with the Maritime Expeditions of Zheng He, it was obvious that China's power on the maritime Silk Road could not be compared with that of the Song Dynasty. Due to the trade surplus in the middle and late Ming Dynasty, a large amount of foreign silver and silver coins flowed into China, such as Spanish silver dollar, American silver dollar, Japanese silver, etc. At that time, the currency was more complex. On one hand, the copper coins of the Ming Dynasty penetrated abroad, on the other hand, the forces of foreign silver dollars invaded, showing the trend of silver substituting copper coins. Therefore, this chaotic situation made it difficult for us to classify the currency of the Ming Dynasty. Based on the rising silver which has been "the main factor in China's currency system" (Xinwei 1988), this paper determines it as an infiltrated currency. It should be emphasized that the degree of penetration at that time was not too deep.

The monetary situation in the Qing Dynasty was similar to that in the Ming Dynasty, but the status of silver was greatly improved. At that time, there was a long-term trade surplus, resulting in a large injection of foreign silver dollars. "In the 153 years from the 20th year of the Kangxi Reign (1681 AD) to the 13th year of the Daoguang Reign (1833 AD), the net amount of silver dollars and silver pieces imported into China was more than 70 million *liang*, equivalent to about 100 million silver dollars" (Xinwei 1988). At the same time, during the Daoguang Reign, the power of foreign currency also went deep into the mainland from the southeast coast. In the late Qing Dynasty, China even minted its own silver coins. Therefore, the currency of the Qing Dynasty can also be classified as an infiltrated currency, and the degree of penetration was much deeper than that of the Ming Dynasty.

To sum up, the internationalization of China's currency was generally a process of rising to falling. It has been rising since the Qin Dynasty, peaked in the Song Dynasty, and then decreased. It even appeared to be internationalized after the middle of the Ming Dynasty and the Qing Dynasty. In this process, the most obvious was the competition between China's domestic copper coins and silver. The deepening degree of internationalization lied in the increased external influence of China's copper coins, and the internationalization lied in the penetration of foreign silver.

III. Theoretical Model of Currency Internationalization

This part introduces the currency search model for analysis, providing a micro basis for the analysis of currency internationalization.

The theoretical framework of this paper is based on the research of Matsuyama et al. (1993) and Pittaluga and Hezza (2012). Firstly, the assumptions and the connotation of the model are adjusted. In order to more conform to the circulation of ancient currency, this paper changes the economic world described by the model from a state of complete transaction to a state of partial self-sufficiency; Secondly,

in the factor analysis part, the self-sufficiency and national influence of the variable economy are added to enrich the connotation of the variable, so as to better analyze the model. Since the first mock exam has been applied and expanded in many studies, the emphasis of this paper is mainly on the analysis part of the model, so the description of the model part is relatively simple.

(I) Model description

There are only two countries in the economic world described in this model, namely Country 1 and Country 2. The population proportions of the two countries are $n \in (0,1)$ and $1 - n$ respectively. They issue legal tender,² namely Currency 1 and Currency 2. Individuals living in these two countries can be divided into two types, one is self-sufficient and the other is trading. The proportion of self-sufficient individuals in Country 1 and Country 2 is $d_1, d_2 \in (0,1)$ respectively. Self-sufficient individuals do not participate in market transactions, while transactional individuals cannot produce the goods they need and can only obtain them through exchange with others. They obtain utility u by consuming the goods corresponding to their own type, and produce 1 unit of goods without any cost. If there are $K \geq 3$ kinds of products in the world, then each country corresponds to K types of individuals, which exists homogeneously in self-sufficient and trading groups. $R > 0$ is the discount rate.

The inventory of an individual is always 1 unit, that is, there is only 1 unit of commodity, Currency 1 or Currency 2. Then, the inventory distribution of individuals in Country 1 and Country 2 are respectively:

$$X = (1 - m_1 - m_2, m_1, m_2), \quad X^* = (1 - m_1^* - m_2^*, m_1^*, m_2^*)$$

M and m^* are the per capita currency holdings of trading individuals in Country 1 and Country 2, m_1 and m_2 are the holdings of Currency 1 and Currency 2 of trading individuals in Country 1 respectively, and are the holdings of Currency 1 and Currency 2 of trading individuals in Country 2.

Further, we assume that the transactions between individuals are randomly assigned, and we can only realize the exchange through one-to-one random matching. We can only accept and reject these two choices, and let P_{ab} be the probability of converting a into b. Let V_g, V_1 and V_2 be the expected discounted utility of commodity, Currency 1 and Currency 2 held by individuals in Country 1 respectively.

According to the conclusion of Matsuyama et al. (1993), in case of the equilibrium, then:

$$\begin{aligned} V_1 &\geq V_g, \text{ iff } P_{1g}(r + P_{g2} + P_{2g} + P_{21}) + P_{12}P_{2g} \geq P_{g2}P_{2g} \\ V_2 &\geq V_g, \text{ iff } P_{2g}(r + P_{g1} + P_{1g} + P_{12}) + P_{21}P_{1g} \geq P_{g1}P_{1g} \end{aligned}$$

Vice versa. The above inequalities can be used for the following derivation.

² Existence of Currency by Kiyotaki et al. (1989) which has been proved and is not repeated here.

(II) Analysis of main equilibrium state

1. Equilibrium M

Situation: there is no international currency, and the currencies of various countries are only accepted in their own countries, then:

$$\begin{aligned}
 P_{g1} &= \frac{nm(1-d_1)}{k}, P_{1g} = \frac{n(1-m)(1-d_1)}{k} \\
 P_{2g} &= \frac{b(1-n)(1-m^*)(1-d_2)}{k}, P_{g2} = P_{12} = P_{21} = 0 \\
 P_{g2}^* &= \frac{m^*(1-n)(1-d_2)}{k}, P_{2g}^* = \frac{(1-n)(1-m^*)(1-d_2)}{k} \\
 P_{1g}^* &= \frac{bn(1-m)(1-d_1)}{k}, P_{g2}^* = P_{12}^* = P_{21}^* = 0
 \end{aligned}$$

Inequality holds:

$$u + V_g > V_1 > V_g \geq V_2, u + V_g^* > V_2^* > V_g^* \geq V_1^*$$

Then it can be deduced that the conditions for equilibrium are $V_g \geq V_2$ and $V_g^* \geq V_1^*$, and then:

$$\begin{aligned}
 b \leq M(n) &= \frac{n^2(1-d_1)^2 m(1-m)}{[rk + n(1-d_1)](1-m^*)(1-n)(1-d_2)} \\
 b \leq M^*(n) &= \frac{(1-n^2)(1-d_2)^2 m^*(1-m^*)}{[rk + (1-d_2)(1-n)](1-m)n(1-d_1)}
 \end{aligned}$$

- (1) When d_2 decreases, $M(n)$ decreases. At this time, the feasible region of Country 1 in the state of Equilibrium M decreases, and the power to break this equilibrium increases. This is because when the degree of self-sufficiency of Country 2 decreases and more people and commodities participate in commodity exchange, the probability of successful transactions between individuals of Country 1 and individuals of Country 2 increases, and individuals of Country 1 increase their willingness to hold Currency 2. Similarly, for Country 2, when d_1 decreases, $M^*(n)$ decreases. This shows that when a country's self-sufficiency decreases, people are more willing to hold the currency it issues.
- (2) Let $r \rightarrow 0$, then it is easy to get that $M(n)$ and $M^*(n)$ are the increasing and decreasing functions of n , respectively. For Country 1, the larger n is, the larger $M(n)$ is, the feasible region of Country 1 in Equilibrium M is expanded, and its tendency to use its own Currency 1 increases; Similarly, the larger $1-n$, the larger $M^*(n)$. This shows that the larger the economic scale of a country, the greater the viscosity of using its own currency and the lower the willingness to use other countries' currencies.

- (3) When other conditions remain unchanged, the greater b , the greater the driving force to break Equilibrium M. When b exceeds the critical value, international currency will be generated, and the critical value is $\max \{M(n), M^*(n)\}$. This shows that the higher the convenience of cross-border transactions, that is, the higher the degree of economic integration, the greater the driving force of international currency.

2. Equilibrium T

Situation: Currency 2 is an international currency and can be circulated at home and abroad, while Currency 1 can only be circulated at home.

$$P_1 = \frac{nm(1 - d_1)}{k} \quad P_{1g} = \frac{n(1 - m)(1 - m_2^*)(1 - d_1)}{k}$$

$$P_{g2} = \frac{c_2 m_2^*}{k} [n(1 - m)(1 - d_1) + b(1 - n)(1 - d_2)]$$

$$P_{2g} = \frac{c_2(1 - m_2^*)}{k} [n(1 - m)(1 - d_1) + b(1 - n)(1 - d_2)], \quad P_{12} = P_{21} = 0$$

$$P_{1g}^* = \frac{bn(1 - m)(1 - m_2^*)(1 - d_1)}{k}$$

$$P_{g2}^* = \frac{m_2^*}{k} [bnc_2(1 - m)(1 - d_1) + (1 - d_2)(1 - n)]$$

$$P_{2g}^* = \frac{(1 - m_2^*)}{k} [bnc_2(1 - m)(1 - d_1) + (1 - d_2)(1 - n)]$$

$$P_{g1}^* = P_{12}^* = P_{21}^* = 0$$

The equilibrium conditions are $V_g < V_1$ and $V_g^* \geq V_1^*$, then:

$$f(n, b) = n(1 - m)(1 - m_2^*)(1 - d_1) \left[\begin{aligned} &kr + c_2 n(1 - m)(1 - d_1) \\ &+ c_2 b(1 - n)(1 - d_2) \end{aligned} \right]$$

$$- c_2^2 m_2^* (1 - m_2^*) \cdot \left[\begin{aligned} &n(1 - m)(1 - d_1) \\ &+ b(1 - n)(1 - d_2) \end{aligned} \right]^2 > 0$$

$$f^*(n, b) = bn(1 - m)(1 - d_1)(1 - m_2^*) \left[\begin{aligned} &kr + c_2 bn(1 - d_1)(1 - m) \\ &+ (1 - d_2)(1 - n) \end{aligned} \right]$$

$$- m_2^* (1 - m_2^*) \cdot \left[\begin{aligned} &c_2 bn(1 - d_1)(1 - m) \\ &+ (1 - d_2)(1 - n) \end{aligned} \right]^2 \leq 0$$

If $r \rightarrow 0$, it can be deformed as:

$$\frac{1}{m_2^*} - \frac{(1 - d_2)(1 - n)}{bn(1 - m)(1 - d_1)} \leq c_2 < \frac{n(1 - m)(1 - d_1)}{m_2^* [n(1 - m)(1 - d_1) + b(1 - n)(1 - d_2)]}$$

- (1) When d_2 increases, c_2 also needs to increase to maintain Equilibrium T; In other words, when the degree of self-sufficiency of international currency issuance increases, it must have greater national influence in order to maintain its status as an international currency. Similarly, when d_1 , that is, the self-sufficiency of Country 1, increases, the national influence required by Country 2 decreases. This shows that when the relative self-sufficiency of Country 2 and Country 1 increases, the national influence required by Country 2 increases, and vice versa.
- (2) When n increases, c_2 also needs to increase in order to maintain Equilibrium T. This shows that when the economic scale of Country 1 increases, Country 2 needs to have greater influence to maintain the international monetary status of Currency 2. That's because, as stated in Conclusion 1 of Equilibrium M, when a country's economic scale increases, its domestic transactions have a large market, so individuals tend to hold their own currency.

Based on the above equilibrium analysis, we can conclude that the larger the economic scale of a country, the lower the degree of self-sufficiency and the greater the influence of the government, the stronger the competitiveness of the currency it issues and the more it can realize the internationalization of its own currency. The convenience of foreign trade reflects the degree of economic integration between the two countries. The higher the degree of integration, the easier it is to produce international currency.

IV. Analysis on Factors of the Internationalization of Ancient Chinese Currencies

(I) Model factors

1. Economic scale

The GDP and population data in Table 2 are estimated by Madison. Although there are some disputes about its accuracy, it can provide a general reference for the analysis in this section.

It can be seen from Table 2 that the proportion of China's ancient GDP in the world was basically the same as that of the population, because the number of people that could be supported in the ancient agricultural society largely reflects the economic production at that time, which is also in line with our practice of taking a country's population scale (n) as the economic scale in the model.

Horizontally, China's economic scale is very large in the world, especially compared with the surrounding small countries. Vertically, except 1870, the Song Dynasty with the highest degree of currency internationalization had the lowest share of GDP, but because there was only one year, its representativeness was not enough, and most mathematicians believed that the economic strength of the Song Dynasty was among the best in all dynasties; The GDP of the Qing Dynasty, whose currency was internationalized, increased in the early stage and decreased in the later stage.

Table 2 GDP and population in Ancient China

Year	Dynasty	GDP		Population	
		value (million dollars in 1990)	Proportion in the world (%)	number (thousand)	Proportion in the world (%)
1	Han	26,820	26.2	59,600	25.8
1000	Song	26,550	22.7	59,000	22
1500	Ming	61,800	25	103,000	23.5
1600		96,000	29.2	160,000	28.8
1700	Qing	82,800	22.3	138,000	22.9
1820		228,600	32.9	381,000	36.6
1870		189,740	17.2	358,000	28.2

Source [UK] Angus Madison. *The World Economy: A Millennial Perspective* [M]. Translated by Wu Xiaoying et al. Beijing: Peking University Press, 2003

Overall, except for 1820 and 1870 of the Qing Dynasty, China's GDP accounted for 20–30% of the world, which was in a relatively stable state.

Of course, ancient China was in the stage of self-sufficient small-scale peasant economy, and its economic scale largely reflected agricultural output. However, when studying the monetary economy, what is more important is the scale of commodity transactions, and the overall economic scale is only the basis.

2. Degree of development of commodity economy

According to the model, the lower the degree of self-sufficiency of an economy, the stronger the competitiveness of the currency it issues, and the easier it is to realize internationalization. From another perspective, the lower the degree of self-sufficiency, the higher the degree of development of commodity economy. Therefore, in this part, we mainly discuss the degree of development of commodity economy in ancient China.

In ancient China, which emphasized agriculture and restrained commerce, the commodity economy developed rapidly in the Tang and Song dynasties with a high degree of currency internationalization, especially the commercial revolution in the Song Dynasty.

Before the Tang Dynasty, commercial activities implemented the square market system, resulting in great restrictions on commodity trading in time and space. The emergence of night markets in the Tang Dynasty greatly improved the freedom of commercial time. Due to the excavation of the Beijing-Hangzhou Grand Canal in the Sui Dynasty, the national transportation network saw a significant development, which ensured the rapid development of commercial routes relying on water transportation at that time. In addition, the prosperity of commerce in the Tang Dynasty was also reflected in the emergence of “money order”, a kind of bills of exchange, and “Gui Fang”—credit institution.

The Song Dynasty was a rare era in ancient Chinese history that did not restrain commerce. It even attached great importance to commerce. The status of businessmen

was greatly improved and they could become officials, and the government took measures to encourage commerce. Compared with the previous dynasty, the most prominent place is that it broke the boundaries of the square market and formed the street market. At the same time, the night market and the village fair have also developed rapidly, and the types of commodities traded have greatly increased, forming a grand scene of commercial prosperity as shown on the picture roll *Riverside Scene at Qingming Festival*. At that time, a large part of the tax revenue of the Song government came from industry and commerce, far more than agriculture.

In the Ming and Qing dynasties, although the government paid less attention to and developed commerce than the Song Dynasty, it could not inhibit the development of Commerce. The commercialization of agricultural products and handicrafts has been greatly improved, especially the rise of cotton textile industry in the regions south of the Yangtze River has broken the mode of men farming and women weaving to a certain extent. At that time, due to the distribution of a large number of businesses, regional business centers were formed. Hankou, Zhuxian, Jingdezhen and Foshan, the four famous towns, were developed due to commerce, and there were also regional commercial organizations and guild halls, as well as the resulting development of exchange shops.

Vertically, China's commodity economy developed continuously from the Tang and Song dynasties to the Ming and Qing dynasties. Due to the development of commodity economy, capitalism sprouted in the Ming and Qing dynasties. However, since we study the issue of currency internationalization, we need to pay more attention to the relative changes in the development degree of domestic commodity economy. In short, the development mentioned above has direct significance only when the foreign business environment remains unchanged. Therefore, it is also necessary to compare the incremental changes of both sides. During the Tang and Song dynasties, Europe was in the dark middle ages, constraining the development of commerce. Although it developed in the later stage, there was no breakthrough. The so-called commercial revolution took place in the Song Dynasty. In the Ming and Qing dynasties, although the commodity economy was progressive compared with the Song Dynasty, at that time, with the opening of new routes, a commercial revolution took place in the west, and the capitalist market economy developed rapidly. Therefore, in the relative degree of commodity economic development, the Ming and Qing dynasties were not as good as the Tang and Song dynasties.

3. Convenience of foreign trade

The convenience of foreign trade mainly depends on both subjective and objective aspects. Subjectively, it is the government's policy on foreign trade, and objectively, it is mainly transportation and other conditions.

In terms of foreign trade policy, the Tang, Song and Yuan dynasties maintained a very open attitude and adopted a series of measures to promote the development of foreign trade. For example, the Tang Dynasty set up post houses on the land Silk Road, implemented the post system and gave preferential treatment to foreign businessmen, the Song Dynasty set up nine city shipping departments, and the Yuan Dynasty "lured merchants to trade grain, silk and daily goods with heavy profits". The

Ming and Qing governments not only did not encourage, but also implemented the sea ban policy. For example, the sea ban in the Qing Dynasty lasted nearly 200 years, which greatly limited the development of China's foreign trade.

In terms of transportation, the continuous development of shipbuilding and navigation industry in maritime trade has laid a foundation for the trade between Chinese and foreign businessmen, especially the application of compass in navigation in the Song Dynasty. As Joseph Needham said, it "pushed the primitive navigation era to the end and heralded the advent of the era of metrological navigation" (Xiurui et al. 2001). In land trade, the Tang and Yuan dynasties had strong control over the north-west, which made the trade smooth. Among them, the Yuan Dynasty was the most prosperous. With its strong military strength, it removed the obstacles in the Silk Road channel, while the land trade in the Song, Ming and Qing dynasties was weak. Especially in the Song Dynasty, the rule of Liao, Western Xia and Jin in the north hindered the foreign trade route in the north of the Song Dynasty.

From the perspective of subjective and objective factors, the convenience of foreign trade in the Tang, Song and Yuan dynasties was higher than that in the Ming and Qing dynasties, mainly because the government of the former had a much better positive attitude towards foreign trade than that of the latter. In this case, foreign trade was stable and guaranteed. Of course, the same is true from the actual situation of foreign trade. The land Silk Road reached its peak in the Tang Dynasty and the maritime Silk Road reached its peak in the Song Dynasty, which shows the foreign trade situation of the two dynasties at that time. It is generally believed that the Song Dynasty was the most active dynasty in foreign trade in ancient China.

4. National influence

In the process of currency internationalization, there are political factors as well as economic factors. National influence can be divided into active and non-active aspects.

Active national influence is the political influence that a country exerts on other countries to promote the internationalization of its own currency. In the era of credit currency, the country's active driving force plays a certain role in currency internationalization. However, from the situation of ancient China, the government did not have the will to promote currency internationalization, but often restricted the outflow of its own currency. This is mainly because in ancient China, except the Yuan Dynasty, metal currency was mainly used, and the money supply was limited by its own currency resources. For example, the money shortage in the Song Dynasty forced the government to restrict the outflow of copper coins. Therefore, we will mainly focus on non-active influence.

Non active national influence mainly refers to the country's control and penetration over the jurisdiction and surrounding areas. The Tang Dynasty was a strong country with advanced politics, economy and culture, and its open attitude made it have a great influence on the surrounding countries, forming a prosperous situation of all kingdoms sending their emissaries to the Tang Dynasty. More than 300 countries and regions had exchanges with the Tang Dynasty. The most affected by the Tang Dynasty were the Korean Peninsula (Silla) and Japan. At that time, the two countries

sent foreign students to China many times, which made the influence of the Tang Dynasty deeply penetrate into the local culture. In the Song Dynasty, although the economy was prosperous and overseas trade was extremely developed, its national influence was relatively weak, especially in the Southern Song Dynasty, there were Liao, Western Xia, Jin and other regimes in the north. At that time, Japan no longer sent missions, and Goryeo paid tribute to Liao and Jin. Due to its vast territory and strong military strength, and regardless of the depth of its influence, at least it can be said that the scope of its influence was extremely broad. Not to mention Asia, the horseshoe of the Yuan Dynasty also set foot in Europe. During the Ming and Qing dynasties, many areas affected by China became European colonies. Despite the launch of the Maritime Expeditions by Zheng He in the Ming Dynasty, it could not stop the decline of China's national influence and the tributary trade gradually declined.

It can be seen that China's national influence was the largest in the Tang and Yuan dynasties. The influence of the Tang Dynasty depended on its overall comprehensive strength, while the Yuan Dynasty relied more on its strong military strength.

5. Summary

As mentioned above, the degree of currency internationalization in ancient China first increased and then decreased, taking the Song Dynasty as the turning point. Firstly, in the process of currency internationalization from the Qin and Han dynasties to the Tang and Song dynasties, the most prominent was the development of commodity economy and foreign trade, in which the situation of foreign trade was a comprehensive reflection of the degree of economic integration and economic scale. As shown by Equilibrium M in the model, the reduction of self-sufficiency, that is, the improvement of commercialization and the expansion of economic scale, will enhance a country's monetary competitiveness, and the improvement of economic integration will promote the more competitive currency to become an international currency. Accordingly, from the Qin Dynasty to the Song Dynasty, the development of China's commodity economy promoted the development of monetary economy and continuously improved the status of money in economic life, while the development of foreign trade increased the opportunities for transactions with foreign countries, thus further expanding the scope of use of local currency and promoting the internationalization of local currency. Imagine that if the degree of commercialization in China is low, the use of domestic currency is bound to be very inactive, then the transaction cost of holding domestic currency will rise, and the huge volume of foreign trade will make locals more willing to hold foreign currency. On the contrary, if there was no foreign trade, it was impossible to realize the internationalization of currency only in domestic transactions. Therefore, it was the improvement of the trading situation in both domestic and foreign environments that improved the internationalization level of China's currency. Due to the great enhancement of the other three factors, the Song Dynasty was able to maintain the international currency status of the Song coin even without strong national influence, just as in Equilibrium T. During the Ming and Qing dynasties, China's commodity economy also developed, but this development was relatively backward compared with the development of

western capitalism, so the competitiveness of local currency decreased; At the same time, the maritime Silk Road became the sphere of influence of Europeans at that time. Although China maintained a huge trade surplus, its position in foreign trade was no longer what it used to be. Moreover, as analyzed above, China's national influence was also declining, which put China at a disadvantage in currency competition with foreign countries at that time.

(II) Non-model factors

From the understanding of the model, we can see that the factors in the model are the influencers of credit currency in international currency competition. If credit currency does not have intrinsic value, it must rely on the strength of the currency issuing country to support its acceptance. Ancient Chinese currency was not a complete credit currency, so this section will discuss the factors outside the model according to the characteristics of ancient currency different from credit currency.

China mainly used metal currency, while we mainly focus on copper and silver. The former realizes currency internationalization, while the latter is internationalized.

1. Unit value

From the perspective of value, the intrinsic value of copper coins and silver was very different. The unit value of copper coins was small, which was suitable for small exchange; Silver was valuable and suitable for large transactions. For international trade, the use of heavy copper coins would obviously result into great transportation costs, especially for the ancients with inconvenient transportation. Therefore, for a long time, silver has been an important trading medium in ancient international trade, bearing the function of international currency. Of course, the shift from land trade to sea trade can reduce this transportation gap to a certain extent, because sea transportation is superior to land in terms of transportation capacity and transportation cost. At the same time, the characteristics of copper coins suitable for small exchange were not entirely beneficial. For the agricultural society with underdeveloped industry, copper coins were obviously more suitable for daily exchange. For example, in Southeast Asia in the tenth-thirteenth century, international trade was developed, and the gold and silver standard was implemented due to the needs of large transactions. But at that time, the domestic industrial foundation of Southeast Asia was weak. As priority was given to agricultural development, the exchange of bulk commodities was extremely limited, while the coinage of these countries was rough with a large currency value, and China's copper coins (Song coins) perfectly met the needs of their domestic markets. To be exact, "Song coin made up for the deficiency of the monetary system in Southeast Asia and was used as a subsidiary currency in the domestic markets of various countries" (Chunyan et al. 1997).

2. Value stability

From the perspective of value stability, although copper coins were metal money, it had the nature of credit money compared with silver. The value of copper coins in ancient China was often inconsistent with the legal value, which made the rulers implement a certain monetary policy by adjusting the casting cost of copper coins.

Rulers could accumulate social wealth by reducing the weight of copper coins, which provided incentives for them to choose monetary policy, and it was also the reason why rulers insisted on using copper coins for a long time. Silver was mainly used as weighing metal currency in China. The silver currency had a value basically consistent with its own value, so it had the characteristics of guaranteed value of metal currency.

3. Comprehensive analysis

Combined with the analysis of the above two types of factors, we can use “demand” to summarize the influencers of ancient currency internationalization. The two main demands of domestic currency circulation abroad are nothing more than international trade and domestic circulation demand of other countries.

From the perspective of international trade demand, although China's copper coins and foreign silver money had disadvantages in monetary nature, as Marx said, “money is naturally gold and silver”, to a certain extent, the internationalization of copper coins relying on government credit could continue to rise and reach its peak in the Song Dynasty due to the strengthening role brought by non-monetary factors. The development of economy, the improvement of domestic business environment, the expansion of foreign trade scale and the expansion of government influence all promoted the internationalization of domestic currency. It was right because of these four factors that the Tang Dynasty surpassed the previous dynasties. Although the government influence of the Song Dynasty was not as strong as that of the Tang Dynasty, it was far better than the latter in the other three aspects, so it was a step closer to the degree of currency internationalization. At the same time, the Tang and Song dynasties were the turning stage of China's transition from the land Silk Road to the maritime Silk Road, and the improvement of the internationalization level of copper coins were precisely because this change reduced the disadvantage of copper coins relative to silver to a certain extent. In land trade, foreign businessmen usually changed heavy copper coins into gold, silver or silk and took it back to their own countries. Even if copper coins were taken back, the quantity was small.

From the perspective of domestic circulation demand, the currency needed by a country's domestic circulation is related to the characteristics of commodity transactions in the domestic market, which is essentially determined by the country's economic foundation. Therefore, the currency issued by a country must adapt to its own market demand. For example, the demand for Song coin in Southeast Asia was due to this deficiency of its own monetary system. The phenomenon of currency “being internationalized” in the Ming and Qing dynasties was also for this reason to a certain extent. Copper money were suitable for individual farmers. With the development of China's commodity and monetary economy, there was an impulse to deviate from this low-value currency standard and move towards precious metal currency. The money shortage in the Tang and Song dynasties objectively showed the demand for more money and higher value precious metals at that time. Although the huge coinage in the Northern Song Dynasty responded to this phenomenon, it could not solve this problem. After that, the paper money trying to save this situation also failed (the failure of Daming Baochao), and China could only seek strength from

the metal currency again. The problem of silver monetization gradually appeared in the Song Dynasty and developed rapidly in the Ming and Qing dynasties. In this process, the silver in the international market flowed into China through trade driven by such demand, thus making silver the dominant currency and internationalizing China's monetary system.

In a word, international trade is an external force, while domestic demand is an internal force. The interaction of the two led to the internationalization of a currency. The essence of these two forces is the economic foundation, because a country's economic foundation affects its competitive strength in international trade and the monetary characteristics corresponding to domestic demand, so the state of money reflects such an economic foundation.

V. Conclusion: Enlightenment from the Ancient Silk Road

With the development of the Silk Road trade in ancient China, its currency experienced a process from internationalization to being internationalized, which reflected the changes in China's strength in terms of economic scale, commodity economy development, economic integration and national influence. The conditions of international circulation of ancient money were different from today. Metal money itself had value, which has been the most basic difference from the credit currency system issued by countries all over the world since the twentieth century. The internationalization of Chinese currency in the history of the Silk Road was so high, partly because of the value attribute of silk and copper coins. However, the money demand based on the economic aggregate was the more essential factor. In other words, China's silk, porcelain and tea have monopolized the world trade market for a long time, providing a solid economic foundation for the international circulation of money. In contrast, the emergence of world currencies such as sterling and US dollar in western countries was also based on the developed industrial foundation after the Industrial Revolution. China is the second largest economy in the world and the rapid development of its market economy and the huge volume of trade have provided the RMB with strong support for the international currency. The Belt and Road Initiative can enhance the economic integration of China and the countries along the Belt and Road, thereby further stimulating the potential of trade, and also improving China's national influence in these areas. This influence can boost the proportion of overseas settlement using RMB. In addition to enhancing the settlement function of RMB through trade and other means, it is also very important to promote investment to improve the proportion of RMB in international valuation.

While discussing currency internationalization, we also need to consider the pressure and risks it may bring to our country. If the currency is internationalized, it will lose its monetary sovereignty and be controlled by others. For example, the reduction of silver imports in the late Ming Dynasty triggered a serious financial and economic crisis. In addition to enjoying the benefits brought by monetary internationalization, it will also have adverse effects such as a large number of Song coins outflow during the "money shortage" of the Song Dynasty. At present, the internationalization of RMB is bound to require the opening of capital account, otherwise the process of internationalization will be greatly limited. However, the opening of capital account

will bring risks, so it is necessary to gradually adjust and improve the domestic financial system, and gradually open the capital account at a more stable pace, so as to reduce the risks.

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Sleeping with Old Dreams



Brexit from the Perspective of Geography and History

Xing Xin

On June 24, 2016 Beijing time— Brexit from the Perspective of Geography and History, the result of the “Brexit” referendum was announced. Among the British citizens participating in the referendum, a total of 15.7 million agreed on Brexit, accounting for 51.9% of the voters, while only 14.58 million supported staying in the Europe Union, accounting for 48.1%. The announcement of result aroused a heated argument. For nearly half of the people who supported staying in the Europe Union, the result of Brexit was like a bolt from the blue. However, the Cameron government respected public opinion and adhered to its promise. Even if more than 4 million people jointly applied for a second referendum, it was rejected by the government, and the negotiations on Brexit will start soon. From its bumpy entry into the European Community in January 1973 to its departure from the European Union in June 2016, the marriage between Britain and the European integrated organization lasted 43 years and 5 months, and even failed to walk through the “Golden Marriage” together.

In fact, the voice of regret from the world for Brexit was much louder than that from Britain itself. After all, Britain’s decision to quit the EU came from most British people. Even after the end of Brexit, a number of economists, international relations experts and politicians have been singing down the future of Britain and deeply regretting the future of the British economy, it seems that there is no one-sided decline in Britain, and a considerable number of British political elites and citizens secretly cheered the hard-won freedom and glory of this empire. Indeed, if we hadn’t lived on such an isolated island in the northwest border of the Eurasian continent, if we hadn’t experienced the Magna Carta movement and the glorious revolution, if we hadn’t felt the rule of Elizabeth and Victoria, if we hadn’t driven Napoleon into the Atlantic, and if we hadn’t received the full glory of the coming of all nations, no

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matter how accurate economic models and political theories are, they cannot describe the mood of the British Empire at this moment without holding up their umbrellas gracefully in drizzly London.

There are thousands of labels on Britain, but the simplest and most essential one must be “island country”. The geographical characteristics of the island country and the temperate marine climate have a subtle portrayal of Britain’s national temperament. Referring to the British, the first thing in our mind is the polite “excuse me”, the straight tuxedo and exquisite bow tie, as well as the elegant umbrella, which is orthodox and noble. Indeed, as the first country to promote the steam engine, Britain is permeated with the seriousness and care brought by strong industrialization. Therefore, this adherence to and respect for orthodoxy has brought an important label of Britain: “conservatism”. This conservatism stems from the sense of order and superiority brought by industrialization. Even if the flag of industrialization can no longer guarantee the strength of “the empire on which the sun never sets”, this conservatism and superiority cast in the blood still surges in the hearts of the British nation.

I. Conqueror of the English Channel

Britain, as an island country in the northwest corner of Europe, is isolated overseas. The English Channel, a natural barrier, separates Britain from the European continent. However, after William conquered Britain, Britain established countless ties with the European continent, and successive monarchs took maintaining and expanding their territories on the continent as their central task. The important achievement of Henry I’s reign was the conquest of Normandy. In the following 116 years, Britain and France fought the “Hundred Years’ War between Britain and France” around the territory of the European continent for more than a century. For the isolated island Britain, the threat from the mainland has never been reduced. At the same time, the conquerors galloping in Britain have never given up their dream of crossing the Strait and galloping on the mainland. At this time, Britain regarded itself as an important part of the European continent. Like other monarchs, it was an important member competing on the European continent. The British Empire is not only an intervener in European affairs, but also a direct participant, and even a well-deserved protagonist in various major historical events.

In this case, the English Channel is a headache for Britain. In the eyes of generations of conquerors, the channel prevented them from expanding their territory and people to the European continent. If William, the British conqueror, was asked at this time whether to quit Europe, he would certainly say: “It doesn’t matter whether Britain quits Europe or not. Anyway, the whole Europe will be mine.”

II. Is Britain Part of Europe?

Britain and France fought for the territory of the European continent for a hundred years, and the cost of Britain in the hundred-year war was unprecedented. The war service caused serious damage to the lives and labor of countless British people, consuming a large amount of wealth in the war and hindering the trade of wool and wine. It was too expensive for Britain to govern an “enclave” across the English

Channel and the place was often invaded by France. Therefore, in the sixteenth century, Queen Elizabeth I no longer adhered to the diplomatic tradition of pursuing the territory of the European continent, gave up her last territory in the European continent, Calais, and followed the pragmatic foreign policy. It was during this period that Britain began to focus on the sea. Since then, Britain has rarely directly participated in disputes on the European continent, and often played the role of bystander or mediator.

In this case, Britain began to have a subtle change in its role in Europe. In the early eighteenth century, Lord Bolingbroke, prime minister of the ruling Tory Party, said: “Our nation lives on an island and is one of the major nationalities in Europe, but to maintain the status of a great power, we must take advantage of this geographical advantage, which we ignored for nearly half a century. We must remember that we are not part of the mainland, but we must not forget that we are their neighbors” (Gourvish and O’day 1988)”. This thought has extremely strong influence and vitality. Even in the twentieth century, former British Prime Minister Winston Churchill once said: “Britain is located in Europe, but it does not belong to Europe” (Churchill 1995). This idea of “Britain is not Europe” has gradually deepened since Britain abandoned Calais, and has been precipitated and brewing for more than four centuries. It can be seen that more than 400 years later, the British people’s indifferent sense of belonging to Europe has been planted as early as the Tudor dynasty. If you stop an old woman on the street of London today, you ask her, dear lady, is this Europe? Guess what she’ll say?

III. “Whomever I Support will Win”

All along, for Britain, the best way to ensure its inviolability is to let the European continent never have hegemonic powers. Britain is overseas and has little contact with the European continent. Britain can take advantage of the disputes among countries in the European continent and the chaos of the situation on the mainland, enjoy the benefits of fishing, take the opportunity to vigorously develop maritime undertakings, expand overseas interests and gradually establish maritime hegemony. Alfred Thayer Mahan, the founder of the sea power theory, mentioned in his book *The Influence of Sea Power upon History*: “If a country’s geographical location does not need to defend itself on land and does not seek to expand its territory through land, compared with countries with land borders, and it has its advantages, because its only goal is at sea.” (Kissinger 1998) And in order to ensure no worries when implementing the maritime strategy, “Splendid Isolation” and “Balance of Power strategy” appeared.

When there were disputes in the countries of the European continent, Britain tended to observe them with a detached attitude. When the results of the disputes began to take shape and the overlord of the European continent was about to emerge, Britain tended to lend a helping hand to the weak side and maintain the balance of power of the European continent to a certain extent. For a long time, Britain has been a model of European balancers. It is said that Henry VIII once asked someone to draw a portrait of him, holding a balance in his right hand, with France on one side and Austria on the other; With a weight in his left hand, he added it to one side of the balance at any time, and said such a motto: “whoever I support will win” (Cao and

Zhao 2010). This approach is very effective. It enables Britain to become a country with decisive influence on major affairs of the European continent at the least cost. Before the two world wars, Britain always adjusted the national relations on the European continent through the balance of power strategy. This feeling of decisive control over the current situation is deeply engraved in the pride of every British.

IV. A Rebel in God's Eyes

Before the sixteenth century, the Western Europe was dominated by Catholicism. The European continent and the British islands believed in the Pope. Henry VIII, the king of England, was obviously dissatisfied with the theocracy above the secular monarchy. In 1543, the religious reform promoted by Henry VIII completely cut off the relationship between the British church and the Roman Catholic Pope, and Henry VIII declared himself to be the religious leader of England. Since then, the Catholic Church in continental Europe has never been able to set foot on the British islands. It is worth mentioning that at this time, the Church of England with Henry VIII as its leader was no different from the Roman Catholic Church in terms of doctrine and ceremony. The only difference was that it had an English speaking "Pope".

However, it was not Henry who really kept Britain away from the religious world of continental Europe, but the Puritans. These believers, with the new bourgeoisie as the main force, could not bear the extravagance and corruption of Catholicism and state religion. They advocated diligence and thrift, sincerity, practicality and abstinence, believed in God rather than the leader, and advocated piety rather than ceremony. From the perspective of class, with their words and deeds, these people scrupulously abided by their ideal as a bourgeoisie: controlling costs and accumulating wealth. "The Puritans usually wore black robes and plain clothes, in sharp contrast to the feudal nobles and state religious monks in gorgeous robes. They didn't laugh and regarded dancing, music and playing as the temptation of demons and the roots of evil." (Liu et al. 2004) Before the "Glorious Revolution" in 1688, Puritans had become an important social force in Britain. This kind of hard-working and simple social atmosphere brought by Puritans has a profound impact on Britain. Many scholars often take the Puritan spirit as an important cultural cause when analyzing the causes of the British Industrial Revolution. Compared with the European continent in the same period, Britain broke away from the Holy See earlier and grew a vibrant Puritan on its own land, there are two direct effects. First, there are profound differences with the European continent in terms of cultural roots and religious beliefs. At the same time, a more British style of accumulation of diligence and thrift has been formed in the social atmosphere. This made Britain have a completely different and unique style compared with Continental Europe. If Britain must be evaluated on the map of Western Europe, Britain is indeed a "maverick gentleman" in terms of cultural beliefs and social customs.

V. Those Who Enjoy Fame without Real Strength

This self-positioning and balance of power thought detached from Europe made Britain comfortable in both European and international affairs. However, all this was based on Britain's strong economic and military leadership. The two world wars

re-integrated the global economic and political forces. Britain's international status was difficult to maintain, foreign colonies became independent one after another, the domestic economy was depressed, and the post-war reconstruction had a long way to go. However, Britain regards international influence as its important position to hold. Whether from when it did to exclude the USA from the international alliance after the World War I, or to control independent colonies through various invisible means (to include provisions that Britain hoped in the constitution, and to deliberately leave room for controversy when dividing territory, etc.), and to strengthen the unity of the Commonwealth, etc., we can see its efforts to maintain its international influence. However, Britain could no longer easily control France and Germany on the European continent. Britain has no preference for any policy that threatens its control over the continent, even for joining the EU.

The European Coal and Steel Community was established in 1951, and the process of European integration officially began under the promotion of France and Germany. Britain has always opposed this plan, because maintaining the balance of power in Europe and maintaining relative isolationism has always been the basic principle and guiding ideology of British foreign policy. The British government advocated the establishment of a large free trade area with the nature of intergovernmental cooperation, but it was not accepted by Germany and France. Since European integration eased the defense pressure of the USA at that time, the continental European integration program was supported by the USA. In order not to be abandoned by the USA in Europe and to protect the domestic and European trade markets, Britain turned around and quickly expressed its desire to join the European Community. However, France under Charles de Gaulle resolutely disagreed. Britain failed to join the European Community until Charles de Gaulle stepped down. It was already 1973.

However, after entering the European Community, Britain still had the dream of a great power, maintaining the largest overseas military expenditure in Western Europe (400 million pounds) every year, and implementing the Polaris Missile Project, etc. Moreover, Britain has not completely changed the traditional thought of international relations. On one hand, it was unwilling to submit to the rules of the European Community like other countries and unwilling to undertake regional obligations in many fields; On the other hand, the relationship between Britain and the USA was elevated to a very high position to show its distance from other European countries and its sense of superiority as an English-speaking country. As put by Lady Thatcher, the European Community was a cooperation between independent sovereign states, not a super sovereign organization. Therefore, she refused to join the Euro Zone, opposed European defense integration, and resolutely stood with the USA in international strategy. Later, Blair also mentioned: "As long as Britain and the United States work together in international affairs, there is nothing they can't do." (Chengdan 2002) The foreign policy of Britain is in the same strain.

Although Britain in this period did not have the strength of that year, it still maintained some pride of the era when its national strength was prosperous. Admittedly, it is a painful process to admit that it has been reduced from an empire to a second-rate country in a few decades. Britain is obviously tortured, but it has not been successfully transformed. For a long time, Britain has always been in a rebellious and

cynical state in the EU. As early as 1975, two years after Britain joined the European Community, it held a referendum on Brexit. The social elite may have adjusted their mentality and recognized the fact that Britain's international influence has declined, but unfortunately, in the referendum, no matter how excellent the elite was, there was only one vote. 41 years later, Britain's Brexit succeeded. Zeng Guofan, a powerful minister in the late Qing Dynasty, once said, "Those who enjoy great fame without real strength will have huge disasters." (Guofan 2012) This also well describes the present situation of Britain.

VI. Back to the Original Starting Point

The British Empire went from the British Isles to Europe, from Europe to the world, and then returned to the Commonwealth from the world, and then back to the EU. Finally, it was alone. No matter whether Britain was marching towards the world or retreating backward, every step of it was solid and stable. Therefore, it is inevitable to be hasty to analyze the economic impact of Brexit. There are many internal political logic, cultural logic, psychological logic and even national logic that need further analysis and speculation.

For the Chinese people, the British Empire first appeared in our painful national memory as a great power. Since then, the great power has never fallen. We are deeply impressed by its tradition, calm, gentle and gradual change. Nowadays, Brexit is ultimately the choice of most British people. No one can be more appropriate and sincere than them in understanding the core of the Empire, understanding the problems and looking forward to the future.

Napoleon once said that if you understand a country's geography, you will understand the country's foreign policy (Stewart and Pearce 1996). Since God placed Britain in the west of England, let the water of the Atlantic surround this lovely land, let the prevailing west wind blow the warm wind of the north temperate zone to the farms in the west, and let the Thames tirelessly irrigate the foggy ancient capital of London, we should believe in the wisdom bred in this land and the inherent character of this land, and believe in the call of the people on this land to the future.

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Response to Disasters in Poor Countries



Current Reflection and Future Outlook

Stefan Dercon and Hui Zhang

This paper mainly discusses some aspects of international cooperation with poor countries: humanitarian assistance, that is, our help in some extreme disasters such as earthquakes, floods, droughts and epidemics. In recent years, we have learned a lot from other countries around the world related to humanitarian assistance, which is also our common responsibility. Last year, we saw Chinese medical personnel help stop the Ebola virus in Sierra Leone. We also saw that China played a great role in the recent earthquake assistance in Nepal. My question is: what can we learn from the way we respond to disasters? How can countries better respond to disasters? What can international organizations do?

I. The World's Driving Force against Poverty

Before trying to answer the above three questions, I would like to put the discussion of the answers in the context of development and, more specifically, the progress in combating extreme poverty. When we talk about the extremely poor, we think they are people who lack the most basic food, have poor health and lack in educational opportunities. We all know that there are many people in extreme poverty all over the world, but on the whole, we have seen a decline in the number. Here we briefly share the relevant data and analysis in the World Bank database. The World Bank uses a simple but wide-ranging comparative method to analyze the level of global poverty. Specifically, we classify people living on less than \$1.9 a day as poor, and revise the poverty standard globally according to the purchasing power level of each country.

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Now, they estimate that 900 million people in the country are below the poverty line, which are still a lot. However, although the world's population is growing, the number of poor people has been declining since 1990. In 1990, about 2 billion people were below the same poverty line. Most people know that a large part of the decline in the number of poor people can be attributed to the progress of China and other East Asian countries in poverty elimination campaigns. In South Asia, the number of poor people is also decreasing, but at a relatively slow pace - although the number of poor people has also increased in recent years. In Africa, 40% of the population can still be classified as extremely poor, and the number of poor people has hardly decreased in recent years - more than 300 million people are below the poverty line.

Through many analyses of the causes of this phenomenon, we find the common characteristics of countries that reduce poverty: first, these countries try to start with the economic growth including the poor, create employment opportunities and increase national income. The key is that the state strongly intervenes in the private sector in economic activities and investment. Second, these countries have developed public relations departments, such as health care, education and basic welfare systems, which are not only beneficial to the people themselves, but also enable the poor to take advantage of economic growth and new opportunities to get out of poverty. Finally, when the disaster situation worsens, the social security system of these countries also known as the safety net, can prevent people from experiencing a vicious circle and survive the disaster with minimal protection measures. As will be discussed later, under the impact of huge disasters, these social security systems have been proved to be important measures to ensure that the society and the government can respond to disasters.

II. The Role of Politics and the State

It should be emphasized that the three common features of successful poverty reduction mentioned above (such as the private sector, public sector and social safety net featured with inclusive growth) do not explain how they have successfully achieved the goal of poverty reduction. Because there is no single factor that works, this will become the focus of debate between economists and historians in the future. It must be admitted that even though scholars have been trying to find a single factor that can promote and stop progress, the existing experience is very different. We clearly recognize that there are broad differences. For example, according to the existing successful political systems, countries with free and open electoral systems and countries without such systems can promote growth and reduce poverty.

Generally speaking, simple statements such as "elections" and "national leadership" or more generally "the state against the free market" or "free elections against dictatorship" do not fully explain economic growth and poverty reduction. This does not mean that politics and its institutional foundation have not played a role. Some scholars, such as Douglass C. North or recently Daron Acemoglu and James Robinson, have emphasized that economic growth and institutional development are important because norms and values are the driving forces of political and economic development. In the context of developing countries, I tend to think about whether mainstream norms, values and their potential commitments can lead a developing

society. In other words, the process of economic growth and poverty reduction is closely linked to the basic commitments made by the ruling political parties for development. We find that although some political parties have made strong commitments to development, not politicians all over the world have made such commitments. To be sure, the basic commitment made by political elites and the development of legitimacy are a common feature of East Asian countries in today's development.

A commitment developed only by the political class is different from their ability to provide it. It is easy to think that countries need to provide such commitments. But not every country has these capabilities. It would be naive for a country to expect rapid development. In China, the strength of national capacity has a long history, so the key progress and development promised by leaders in the past 35 years can be achieved. Other countries do not have such national capacity. This does not mean that these countries cannot make development progress. Bangladesh is an interesting example. In fact, the situation in Bangladesh is very bad, with political unrest and few effective transactions. However, they have made substantial progress in reducing poverty, including significant improvements in the education and health of girls in this country, whose people mostly believe in Muslim. In fact, despite its poor situation, Bangladesh has also achieved development through economic growth and effective reduction of rural poverty. In a sense, Bangladesh is a successful case of implementing the "laissez-faire" policy, that is, the state allows the private sector to succeed in at least one industry (clothing and textile), which is not only a key factor of economic growth, but also creates employment opportunities. At the same time, the state allows the local non-governmental sector (such as BRAC, the world's largest non-governmental organization) to provide services to rural areas, and some of the services are assisted by foreign countries, which proves to be successful.

III. Political Commitment and Response to Disaster

So what is the connection between political commitment and thinking about how to respond to disaster? First of all, when many countries are in great disasters, it is not too much to say that the lack of commitment of the political class to the preparation of great disasters and sometimes trying to use these disasters to obtain political benefits are the main factors for the great suffering of people during such disasters as drought and flood. Without such political commitment, we will not make progress. Secondly, if we can obtain such political commitment, we can learn from the broader experience of development and progress to ensure that we are better prepared at home and abroad. In particular, we can ensure that the response system is strengthened enough to protect their finances.

Earthquakes, floods, droughts and epidemics will undoubtedly continue to exert great pressure on many countries around the world. Especially in the poorest countries, disasters will have serious consequences for the poor and vulnerable populations. As climate change approaches, extreme weather phenomena will become more frequent and further cause stress.

In the twentieth century, most food and nutrition crises have spread to politics and conflicts, as many as extreme events. Even weather or other events may cause crises. Many examples show that large-scale disasters are largely caused by wars

and conflicts. For example, the Dutch famine in 1944 occurred in the late stage of World War II. Secondly, sometimes famine is even used as a weapon in war. The famine in Ethiopia from 1984 to 1985 was mainly caused by the Ethiopian government's confrontation with the rebels, who were blocked into areas with a densely distributed population in a local drought. This incident killed 400,000 to 1 million people. Moreover, the lack of political identity crisis has also caused a lot of pains. The behavior of the British colonial government directly led to the famine in the Bay of Bengal in India in 1943. At that time, millions of people died as a result of this extreme event, and this situation was manipulated and selectively ignored by the government. During the Henan famine in 1942, due to the absence of policy decisions, the dissemination of bad information led to a weak response, resulting in the death of millions of people. The same situation also happened during the most serious famine in modern history, that is, the "Great Leap Forward" period from 1958 to 1961. Weak government power and politics also led to the death of about 160,000 people in the Haiti earthquake.¹

IV. Politics, Information and Disaster

Politics is not the only factor that leads to adverse reactions, but it is indeed an important factor. To better deal with extreme events and disasters, a key factor is the free flow of information and rapid response. For example, to save lives in droughts and floods, it is very important to provide effective information and respond as soon as possible. A common feature of weak disaster response is that information is either not transmitted or emergency response is delayed. The first situation can be encountered in a politically closed society. From 1984 to 1985, the Ethiopian government tried to deny the existence of drought and crisis in the north. Observers sometimes suspected that North Korea suppressed information about the crisis to display a specific international image until it was too late. During the 1942 Henan famine, the information about the number of victims was not reported to the leaders. Until now, the government is unwilling to admit the problem. Therefore, we say that blocked and slow information flow affect the response results. Nobel laureate Amartya Sen has long advocated that free news reporting is the key way to avoid the wide spread of disasters and famines, because this helps to promote the rapid arrival of information in the public domain, thus exerting pressure on the early response of the government.

Information is important for decision-making, but information alone is not enough. In the face of disasters, we not only need early warning, but also need to take action in advance, which cannot be achieved based on government-controlled information. Surprisingly, even if people can obtain information, they will not take action in time. The Ebola epidemic is a typical example. In February 2014, many people

¹ This does not mean that there would not be a large number of deaths in a disaster without conflict or political factors. However, despite this factor, the mortality rate of the Ebola epidemic is still much lower than these figures - although most of the 13,300 deaths could have been avoided through early response. In the earthquake in Nepal, more than 8,000 people died - similarly, most deaths were avoidable, but not avoided. The most recent example was the large-scale death toll in the Indian Ocean Tsunami.

already knew that Ebola virus had been rampant in West Africa. If local governments or the World Health Organization had taken strong action at that time, the spread of the epidemic could have been restrained, so as to reduce the pain and death caused by Ebola virus. However, it was not until July 2014 that the international community issued a public health warning, followed by large-scale international assistance. Subsequent studies showed that if the response measures were implemented one month earlier, the number of deaths due to the epidemic would be halved. This means that a good response system can well motivate people to respond without delay when they master information.

V. Social Security System and Response to Disaster

How can we prevent extreme events from further turning into disasters? The implementation of political commitment and appropriate decision-making incentive mechanism are the key. At the same time, we also need a better response mechanism. It should be noted that a country that has invested in the daily social security system often does better in emergency response than other countries. The government of Maharashtra, India, has invested in a public works project that allows poor rural residents to resist extremely low wages. During the severe drought in 1971, this mechanism effectively protected people's lives and property, which was recorded by Amartya Sen. When drought strikes, the basic work welfare system operates effectively and can quickly expand the scale of relief. In recent years, the same principle has been applied to the social welfare system in Africa. In Kenya, for example, the government and some development partners have launched a famine security project to provide a small amount of relief to the poorest people. However, once the drought strikes, more people will register in advance for relief. In order to make the system operate clearly and transparently, the trigger mechanism is based on a precipitation-based index. Insurance policies provided by development partners, including DFID, ensure that funds are available when needed.

This kind of system makes the poverty alleviation policies that provide daily basic needs guarantee for the poorest vulnerable groups more clearly combined with the larger-scale response system in times of crisis. In Ethiopia, the productivity security system is the largest social security system in Africa, providing relief to about 8 million people, helping them purchase assets and maintain their livelihood, so as to lift them out of poverty. In times of crisis, such as the drought in 2015–2016, this system has successfully provided sufficient help to the poorest people. In contrast, similar systems had not been established in Sierra Leone, where the Ebola epidemic was raging, and Nepal, which was affected by the earthquake, so emergency response became more difficult and it was difficult to cover the poorest people. It is not easy to establish such a system, and international cooperation has great potential in this field. Evidence shows that such a system is not only of great significance to poverty reduction, but also lays a good foundation for effective pairs after extreme events.

VI. Fund for Disaster Response

In recent decades, multinational corporations began to widely use financial instruments to promote the development of poor countries. Funds, subsidized loans,

commercial loans, stocks and guarantees are used by many countries to support long-term economic and social development projects. Professional multilateral and bilateral development and financial products provided by policy banks reflect the increasing complexity of financial markets.

The forms of humanitarian assistance we are now taking in response to extreme disasters such as drought, flood and earthquake were really amazing at that time. Whenever there is an international humanitarian crisis, people tend to finance through “appeal everywhere”. The governments appealed for help through the United Nations, and non-governmental organizations petitioned the victims through the media. All this happened after the crisis.

Although the United Nations is relevant in this matter, there is no provision that stipulates that the United Nations is legally responsible for it: all help is a righteous act. Around the world, only half of the aid applications sent through the United Nations have been implemented, not only leaving a huge gap for crisis response charity, but also making fund-raising the priority in the process of crisis management.

In addition, there is sufficient evidence that this financing method not only affects international cooperation, but also tends to exaggerate the impact of the problem. In today’s twenty-first century, this financing method is more and more ancient and surprising: it is like begging for a job, passively relying on foreign assistance, and facing various uncertainties such as time and efficiency. This kind of “begging” financing is the main source of error. It is no different from the behavior of borrowing from banks or distant relatives when the crisis comes: first, there will be a high amount of interest, second, it will take more time on fund-raising, invest less in reasonable arrangement of expenses, and the final funds raised may not be sufficient. Also, if you don’t know what resources you have before the incident, how can you make a reasonable plan?

This competition for resources could have been avoided. Instead of raising money afterwards and being subject to the uncertainty brought about by the assistance of other countries, it is better to learn from the development of financial markets over the past century. Drought, flood and earthquake all happen. We just don’t know when. However, since the Middle Ages, financial markets have been developing: almost all disasters have corresponding insurance.

Insurance companies, the World Bank and public–private cooperative organizations, including the African Union, provide a variety of insurance products so that governments or other organizations can transfer risks to the market. There are more supplementary measures in the private placement market. For example, the simplest insurance measure promises that when an obvious and verifiable condition is met, the corresponding institutions will pay a sum of money to the state, local government, non-governmental organizations or directly to the family. For example, when a strong storm strikes a member state, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) will contribute to the government. Or when the rainfall is significantly lower than the local bottom limit, ARC Insurance Co., Ltd. will sell compensation policies.

Why is financial planning so important? Because governments and humanitarian organizations can realistically plan in advance: they know in advance the resources

they can have in different situations, and can quickly plan response measures accordingly. They can also clearly communicate with their citizens in advance what risks can be protected, so as to reduce risks, and encourage those who cannot avoid risks or need more protection to obtain alternative measures, including protection from private insurance companies.

Even in very poor places, some good countermeasures have sprung up. As we mentioned earlier in Kenya's Hunger Safety Net Programme, social transfer programs will be increased in case of drought, supplemented by a package of insurance measures. When the drought occurs, those areas that are slightly better will not enjoy this insurance measure, and those areas that need more security will also enjoy private insurance measures with compensation. All these mean that the great uncertainty of climate risk breeds the clarity and inevitability of insurance measures. Farmers can focus on improving efficiency without having to devote all their resources to dealing with disasters.

More developed countries and even international non-governmental organizations are also helpful in other aspects. In addition to providing assistance after the incident, they can invest in advance, and they can ensure that those countries are aware of the risks they face and their consequences. They can devote themselves to disaster response planning. They can sponsor pertinent financing proposals to ensure that insurance and other financial products are suitable for the environment and sell well. They can even consider reducing the cost of insurance - replacing post-disaster remedy with preventive investment. In fact, this means that when donations are likely to be used by political or other factors, they promise in advance in a clear and transparent manner rather than financing disasters afterwards. To say the least, it is worth exploring how the United Nations can help supportive countries formulate such advance commitments, rather than blindly helping organizations seek help.

VII. Conclusion—better International Cooperation is needed to Respond to Disaster

We can learn three important points from the recent experience of poor countries in coping with disasters. First of all, for inevitable major natural disasters such as drought, flood or earthquake, the key to avoiding the worst consequences is the political support of sovereign states in the international community. It is also necessary to ensure timely information feedback to make decisions. Secondly, effective disaster response requires investment in post disaster areas, which is also part of the disaster response system, including expanding the coverage of security when needed. Finally, in order to ensure the full and effective response to disasters, financing should be arranged in advance rather than an ad hoc appeal for assistance from the international community. Although more and more complex financial instruments are used in international cooperation and better financial products are available, humanitarian assistance is still relatively backward in response to disasters. Helping disaster-hit countries to make financial planning will become a good measure for the international community to help deal with disasters, just as insurance companies do: clearly judge risks and how to deal with them. Disaster-hit countries should receive assistance to build appropriate financial products, so that when drought or earthquake

occurs, they do not have to ask for international assistance, and they have sufficient financial resources to deal with natural disasters.

The Belt and Road Initiative: Opening up a New Era of Inclusive Globalization



Weidong Liu

2016 may be destined to be a turning point in history. The Brexit of the UK, the election victory of Donald Trump of the US, the failure of the referendum in Italy and a series of other populist and protectionist events all indicate that neoliberal globalization is coming to an end. These “black swan” events seem accidental and beyond people’s imagination, but they are actually the result of long-term changes and have their inevitability. We need to recognize that the severe social contradictions caused by neoliberal globalization over the past three decades, especially the damage to the interests of grass-roots people in developed countries, the widening gap between the rich and the poor and the rising unemployment rate of young people, are the fundamental driving force of the above changes. To some extent, this change also reflects the long-term change of market government relationship. From Keynesianism to neoliberalism, the world has gone through more than two “40 years”. Is this the beginning of a new 40 years? A sudden turn for the worse is the Belt and Road Initiative proposed by China three years ago. At that time, the Chinese government designed the Belt and Road Initiative to build up global economic governance. Now, the Initiative will be pushed to a new height if some countries are really going to reverse the trend of globalization. The Belt and Road Initiative will become a platform for the world to promote economic globalization and mechanism reform, and will open a new era of “inclusive” globalization.

The Belt and Road Initiative originated from the two initiatives proposed by General Secretary Xi Jinping on his visits to Central Asian and Southeast Asian countries in September and October 2013. In his speech at Nazarbayev University in Kazakhstan on September 7, 2013, General Secretary Xi proposed to jointly build

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the “Silk Road Economic Belt” with Central Asian countries; In his speech at the Indonesian parliament on October 3 of the same year, he also proposed to jointly build the “21st Century Maritime Silk Road” with ASEAN countries. In November 2013, *The Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening Reform* adopted at the Third Plenary Session of the 18th CPC Central Committee put forward: “Promote the construction of the Silk Road Economic Belt and the maritime Silk Road, and form a new pattern of all-round opening up.” The Belt and Road Initiative became a proper noun at the Central Economic Work Conference held in December that year, especially the Silk Road Economic Belt and the maritime Silk Road in the 21st Century. Since then, the Belt and Road Initiative has become a long-term and important national strategy for China’s overall opening up to the outside world, and is the banner and main carrier of China’s opening up and development. In March 2015, authorized by the State Council, the National Development and Reform Commission, the Ministry of Foreign Affairs and the Ministry of Commerce jointly issued *The Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road*. This is the only official document that elaborates the concept, principles, vision and priorities of the Belt and Road Initiative. On August 17, 2016, the CPC Central Committee held the workshop on the work concerning the Belt and Road Initiative, at which General Secretary Xi Jinping delivered an important speech and put forward “eight advances”.¹ He also stressed that the Belt and Road Initiative related construction work should be pushed forward step by step resolutely.

Up to now, more than 100 countries and international organizations have expressed their support to the Belt and Road Initiative, and more than 40 of them have signed the memorandum of cooperation on the Belt and Road Initiative with China. Meanwhile, China has established 46 overseas industrial parks in 17 countries along the Belt and Road, with a cumulative investment of more than USD14 billion. In addition, the construction of key economic corridors is gradually advancing. In April 2015, China and Pakistan signed a project cooperation agreement or memorandum with a total price of more than USD45 billion, marking the start of full implementation for the China-Pakistan Economic Corridor. In June 2016, state heads of China, Mongolia and Russia signed *The Outline of the China-Mongolia-Russia Economic Corridor*, which was the first multilateral cooperation framework under the Belt and Road Initiative. The construction of China-Laos railway in mid-December 2016 was fully started, and the construction of China-Thailand railway is about to start, marking the start of the construction of China-Indochina Peninsula Economic Corridor. In addition, it has also implemented a number of major overseas cooperative construction projects, including Jakarta-Bandung High-speed Railway in Indonesia, Moscow-Kazan High-speed Railway in Russia, Hungary-Serbia Railway in Central and Eastern Europe, etc. China specially set up the Silk Road Fund to support the construction of the Belt and Road, and also initiated the establishment of the AIIB to collaborate with the Belt and Road Initiative. It is safe to say that the Belt and Road Initiative has achieved a good start.

¹ For details, see People’s Daily, August 18, 2016.

However, we must see that the Belt and Road Initiative is a long-term and systematic project. It is a long-term plan and cannot be accomplished overnight. At present, although outstanding achievements have been made, there are also many problems: First, theoretical research lags behind, the formal academic discourse system has not been established, and various interpretations emerge one after another, including misunderstandings. Second, it shows the phenomenon of generalization and a lot of insignificant work is labeled with the Belt and Road Initiative, while there is not enough attention to be paid to some cross-sectoral cooperation. Third, they do not know enough about the countries along the Belt and Road and lack in relevant talents. Fourth, the governments show great enthusiasm but civilians don't, and people in many countries along the Belt and Road have little knowledge of the Belt and Road Initiative. Many of them believe that it is a governmental project from China, but actually it is a public service platform provided by China for worldwide capital flow. Fifth, there is a lack of the points of interest. Individual projects are eager for quick success and instant benefit. Sixth, there is a lack of awareness of risk prevention. Seventh, there is insufficient experience in "going global". Chinese enterprises began "going global" around 2000, and have not accumulated sufficient experience yet, such as the lack of experience in dealing with local society and non-governmental organizations. These are all problems that need to solve while promoting the Belt and Road Initiative. It is gratifying that the central government has recognized these problems. If we can really implement the "eight promotions" put forward by General Secretary Xi Jinping in his speech on August 17, these problems will be solved step by step.

The proposal of the Belt and Road Initiative has a profound and complicated macro background. First, the global economic structure has undergone major changes in the past three decades. Its fundamental driving force has been the mechanism of economic globalization, and the social contradictions caused by economic globalization have led to the world's reflection on this mechanism. Second, it meets the needs of China's economic transformation and development. After entering the new normal, China's further economic development needs transformation and upgrading. In order to complete the transformation and upgrading, it is necessary to carry out the cooperation and allocate resources in a broader space. Third, the realization of the "Chinese Dream" requires a peaceful international environment and a good handling of "neighborhood relations" with the concept of "harmony without sameness". Fourth, it meets the need to deepen reform and fully open to the outside world.

The concept of "Silk Road" was first put forward by German geographer Richthofen. He studied in China for four years and envisaged a railway from Xi'an, China to Germany. In order to select the route of this railway, he studied the trade route between ancient China and the West, and put forward the concept of "Silk Road". In fact, in ancient times, Chinese goods came to ancient Rome, and Emperor Caesar once showed his subjects clothes made of Chinese silk. But the Romans only knew that there was a "Serica state" in the East, and they didn't know where it was. At that time, the trade was not directly sold to Rome from Chang'an, China, as we imagine today, but traded section by section. For example, starting from Xi'an, they

might sell their goods in Dunhuang, and the merchants in Dunhuang sold them to the next stop, and finally to ancient Rome. Therefore, at that time, the Romans did not know where the “Serica state” was. When Matteo Ricci came to China in the Ming Dynasty, he said, “I have no doubt that this is the country known as the silk country.”

Although Richthofen first put forward the concept of “Silk Road” in the first volume of *China: The Results of My Travels and the Studies Based Thereon*, it was until the book *The Silk Road* published by his student Sven Hedin that made this term popular with the translation of his documents into English, French, Japanese and other languages. Although Richthofen fully recognized the importance of maritime trade, in order to put forward the idea of the railway, his “Silk Road” specifically refers to the land trade route. Later, the French Sinologist Edouard Chavanne extended the term to include the maritime Silk Road in *Documents sur les Tou-Kiue (Turcs) occidentaux*. Therefore, the Silk Road has been formed successively in history. It is the general name of long-distance commercial trade and cultural exchange routes throughout Eurasia, even including North Africa and East Africa, and is not limited to silk trading. Historically, the list of products exported from China to the west is very long, but the iconic trade products are silk, ceramics and tea. In the Middle Ages, a large number of Chinese porcelain came to Europe, which is why China was translated as “China” in English.

Historians still argue about when the “Silk Road” originated. However, from the perspective of official participation in transnational trade, the “Silk Road” should begin with Zhang Qian’s envoy to the Western Regions in the Western Han Dynasty (206 BC–AD 24). Zhang Qian found Shu Brocade and other products from China in the Great Roushi Kingdom, which made Emperor Wu of the Han Dynasty decide to recruit low-level businessmen to carry out trade activities in the Western Regions. The “Silk Road” trade developed in the Wei, Jin, Southern and Northern dynasties, reached its peak in the Tang Dynasty, and declined after the Yuan Dynasty. Since the Yuan Dynasty, maritime trade had developed greatly until the Ming Dynasty. Therefore, the specific route of the Silk Road was constantly changing, and the influencing factors included society, economy, politics and technology. When we use the concept of “Silk Road” today, we do not refer to some specific ancient trade routes, but use it as a historical symbol or historical and cultural heritage. In other words, the “Silk Road” is both a historical phenomenon and a metaphor. In addition, the “Silk Road” seems to be a story about China, but it is not only about China itself, nor about China’s expansion, but a historical record of economic, social, cultural and religious exchanges between countries along the routes. It is the common cultural heritage of countries along the routes and represents peace, friendship, exchanges and prosperity. The Belt and Road Initiative, which uses the historical and cultural heritage of the Silk Road, provides historical origins for the contemporary economic and trade cooperation of the countries along the routes, and the spirit and mode of cooperation that can be learned from. In recent years, General Secretary Xi Jinping has been advocating the “spirit of the Silk Road” to promote economic and trade cooperation between China and the countries along the Belt and Road. This represents a new concept of cooperation, a new mode of cooperation and a new spirit of cooperation.

The construction of the Belt and Road Initiative needs to be examined and understood in the process of economic globalization. To some extent, the proposition of the Belt and Road Initiative is the result of economic globalization over the past thirty years. Economic globalization has not only its objective driving force, but also a set of institutional mechanisms. Marx pointed out that capital accumulation would lead to excessive accumulation, and excessive accumulation would bring economic crisis, but technological progress and spatial transfer could help alleviate the pressure of excessive capital accumulation. In the 1970s, David Harvey, a famous American geographer, summarized the geographical mechanism of capital accumulation according to Marx's thought and put forward the theoretical concept of spatial fix. He believed that capital accumulation could not be sustained without endless spatial expansion and spatial restructuring. At the same time, the rapid progress of information and transportation technology in the past 30 or 40 years has greatly promoted the spatial expansion of capital. Since the late 1970s, major western developed countries have adopted Neoliberal policies to solve the problem of "stagflation", which has opened the door for the "spatial outlet" of capital across countries. From this perspective, the economic globalization in the past thirty or forty years is the product of the perfect combination of the "spatial outlet" of capital accumulation and the trend of Neoliberalism.

With the development of economic globalization, great changes have taken place in the mode of global economic organization and economic pattern. First, the growth rate of world trade is faster than that of production, mainly due to the significant growth of supply chain trade caused by the increasing concentration of production activities and the popularity of "outsourcing". In the past 40 years, the global production mode has undergone important changes, from Fordism to post Fordism, which is featured with the increasing popularity of "outsourcing" of parts production and the resulting global production network. At present, 70% of the intra-regional trade in East Asia is trade of intermediate products, that is, supply chain trade. Taking the production of Apple mobile phone as an example, Foxconn needs to import a large number of high-end parts from Japan, South Korea and Taiwan for assembly. Second, global foreign direct investment is growing rapidly, and the overall trend is faster than the trade growth, which is reflected in the significant growth of investment among developed countries and between developed and developing countries. Third, with the growth of transnational investment, the number of transnational corporations has increased explosively. With the support of Internet technology, many companies have been global companies from its foundation. At present, there are about 70,000–80,000 multinational corporations in the world, which directly and indirectly control more than 3/4 of the total global economy, including the control of the supply chain. Therefore, it is difficult to understand how today's world economy operates without the understanding of multinational corporations. Fourth, integration and fragmentation coexist. "Integration" refers to the framework of the world trade organization, and "fragmentation" refers to various global small multilateral and bilateral trade agreements. At present, more than 1,000 "fragmented" trade agreements are being or have been negotiated around the world.

Neo-liberal globalization has played a positive role in promoting world economic growth, but it has also brought serious social polarization. This is inseparable from its internal contradiction, that is, the capital can flow freely across national borders, but labor cannot. Therefore, the globalization will inevitably lead to mixed results. According to the research of Oxfam, a poverty alleviation charity, in 2016, the wealth of the rich group that accounts for 1% of the world's total population will exceed the total wealth of the remaining 99% of the world's population. In recent years, the income gap in major western countries has been widening. For example, the proportion of poor people in the USA, Germany and Japan has reached about 15%. In the USA, the proportion of the middle class in the population has dropped to less than 1/2, and the unemployment rate of young people in most states is more than 30%. It can be said that in the process of neoliberal globalization, capital is the biggest winner, and society has paid a huge price. How to avoid the widening gap between the rich and the poor while promoting the in-depth development of globalization is a prominent problem for worldwide sustainable development. Therefore, economic globalization has come to a crossroad, and all kinds of protectionism and populism are rising. To promote the continuous development of economic globalization, the world needs a new development thinking and a new concept of cooperation.

The Belt and Road Initiative proposed by China is precisely the solution to such a problem. We need to realize that China's economic take-off is not only the result of its own efforts, but also benefits from economic globalization. As the world's second largest economy, the largest manufacturing country, the largest commodity importer and exporter and the second largest foreign investor, China needs to make efforts to safeguard the achievements of economic globalization and promote the reform of globalization mechanism, so as to make globalization benefit more regions and people. In this regard, the "spirit of the Silk Road" just provides a new concept and mode of cooperation.

The Belt and Road Initiative is also the result of the transformation of China's own development mode. Over the past three decades, China's economy has grown rapidly, with an average annual growth rate of 9.6%, but at the cost of high factor investment, export orientation and high cost of resources and environment. In the "new normal", we should advocate a diversified development model and find new drivers of economic growth, which requires China to plan the allocation of resources around the world. According to the analysis of three indicators of attracting foreign investment, export and foreign investment, China's economic globalization process is divided into three stages. Before 2000, it was the stage of dependent globalization, focusing on attracting foreign investment, with an annual growth rate of more than 30%. By the end of the twentieth century, China had become the world's largest developing country attracting foreign investment. After 2000, the rate of attracting foreign investment has slowed down, but exports have increased by 25–30%, making China the largest commodity exporter in the world in more than a decade. This stage can be called the stage of trade globalization. After 2008, it can be regarded as the stage of capital globalization. If the sharp growth of foreign direct investment in developed economies gave birth to the phenomenon called "global industrial relocation" by Peter Dicken, then the growth trend of China's foreign investment may

mean the arrival of the second round of global industrial relocation. This round of global industrial relocation no longer occurs in the world of “dual” structure, but in the “ternary” structure.

Then, how to understand the Belt and Road Initiative from an academic perspective in the context of global development? We believe that the one dimension of the Belt and Road Initiative is the inclusive globalization, that is, the integration of the “spirit of the Silk Road” and globalization. The Belt and Road Initiative construction with the aim of “peace, development, cooperation and prosperity for all” will bring new philosophical thinking to the further development of globalization and push globalization into a new era of inclusiveness. First, the Belt and Road Initiative emphasizes the alignment of the development strategies of countries, and seeks for the points of combining interests of countries along the Belt and Road, rather than meeting free spatial expansion needs of capital, so as to benefit more regions. Second, through the alignment of national strategies, countries along the Belt and Road can learn from China’s experience in promoting economic development and eradicating poverty, so as to better help them get rid of poverty and realize modernization. Third, the Belt and Road Initiative adheres to the concept of “openness and inclusiveness” and “equality and win–win cooperation”, and we, with an open attitude, welcome the equal participation of countries or regions that are willing to participate. Fourth, the Belt and Road Initiative has emphasized the principle of “wide consultation, joint contribution and shared benefits”, maximally promoting common development and common prosperity. Fifth, the Belt and Road Initiative follows harmony without sameness, and seek common development, seek prosperity and share peace together on the basis of maintaining cultural diversity. Sixth, the Belt and Road Initiative will bring more underdeveloped areas into the modern infrastructure network and bring more opportunities for economic development of them.

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