Research Series on the Chinese Dream and China's Development Path

Yitao Tao Yiming Yuan *Editors*

Annual Report on the Development of China's Special Economic Zones (2018)

Blue Book of China's Special Economic Zones





Research Series on the Chinese Dream and China's Development Path

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Series Preface

Since China's reform and opening began in 1978, the country has come a long way on the path of Socialism with Chinese Characteristics, under the leadership of the Communist Party of China. Over 30 years of reform efforts and sustained spectacular economic growth have turned China into the world's second largest economy, and wrought many profound changes in the Chinese society. These historically significant developments have been garnering increasing attention from scholars, governments, and the general public alike around the world since the 1990s, when the newest wave of China studies began to gather steam. Some of the hottest topics have included the so-called "China miracle", "Chinese phenomenon", "Chinese experience", "Chinese path", and the "Chinese model". Homegrown researchers have soon followed suit. Already hugely productive, this vibrant field is putting out a large number of books each year, with Social Sciences Academic Press alone having published hundreds of titles on a wide range of subjects.

Because most of these books have been written and published in Chinese, however, readership has been limited outside China—even among many who study China—for whom English is still the lingua franca. This language barrier has been an impediment to efforts by academia, business communities, and policy-makers in other countries to form a thorough understanding of contemporary China, of what is distinct about China's past and present may mean not only for her future but also for the future of the world. The need to remove such an impediment is both real and urgent, and the *Research Series on the Chinese Dream and China's Development Path* is my answer to the call.

This series features some of the most notable achievements from the last 20 years by scholars in China in a variety of research topics related to reform and opening. They include both theoretical explorations and empirical studies, and cover economy, society, politics, law, culture, and ecology, the six areas in which reform and opening policies have had the deepest impact and farthest-reaching consequences for the country. Authors for the series have also tried to articulate their visions of the "Chinese Dream" and how the country can realize it in these fields and beyond.

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All of the editors and authors for the *Research Series on the Chinese Dream and China's Development Path* are both longtime students of reform and opening and recognized authorities in their respective academic fields. Their credentials and expertise lend credibility to these books, each of which having been subject to a rigorous peer review process for inclusion in the series. As part of the Reform and Development Program under the State Administration of Press, Publication, Radio, Film and Television of the People's Republic of China, the series is published by Springer, a Germany-based academic publisher of international repute, and distributed overseas. I am confident that it will help fill a lacuna in studies of China in the era of reform and opening.

Xie Shouguang

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Chapter 1 Comparison of Three Bay Area Economic Belts and the Position and Role of Shenzhen in the Guangdong-Hong Kong-Macao Greater Bay Area



1

Yitao Tao

After nearly 40 years of reform and opening-up, the institutional environment and economic and social bases of China's opening-up have undergone fundamental changes. China is entering the wider global economic arena at a solid pace and playing an increasingly significant role in the world economy. Against the macroscopic background of an intensifying reform and undertaking the Belt and Road Initiative, the bay area economy is not only a new model of a concept of opening-up and development, a regional engine for China's new round of opening-up after special economic zones and free trade zones, but also a viable model to explore international interregional cooperation; an effective approach to common property and shared development; and an exploration of the mission of an innovative path to institutional changes, which means that the reform is driven by opening-up.

1 Origin of the Guangdong-Hong Kong-Macao Greater Bay Area Economic Belt

The Guangdong-Hong Kong-Macao Greater Bay Area refers to the city cluster consisting of two special administrative regions of Hong Kong and Macao, and nine cities in Guangdong Province, namely Guangzhou, Shenzhen, Zhuhai, Foshan, Huizhou, Dongguan, Zhongshan, Jiangmen and Zhaoqing. During the Fifth Session of the 12th National People's Congress on March 5, 2017, Premier Li Keqiang emphasized in the government work report that, "We will promote closer cooperation between the Mainland and Hong Kong and Macao, draw up a plan for the development of a city cluster in the Guangdong-Hong Kong-Macao Greater Bay Area, give full play to the distinctive strengths of Hong Kong and Macao, and elevate their positions and roles in China's economic development and opening-up."

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In fact, the idea of the Guangdong-Hong Kong-Macao Greater Bay Area (the "Greater Bay Area") was already included in the overall plans for intensifying the reform and opening-up of China nine years ago. Since the planning and construction of the Greater Bay Area were proposed in 2008, it was highly valued and continuously promoted by the central and local governments. The Research on the Coordinated Development Plan of Urban Agglomeration in the Greater Pearl River Delta completed in 2009 already listed the "Bay Area Development Plan" as part of the overall plan for the coordination of the spacial layout and proposed four pieces of followup work, inclusive of cross-border transportation cooperation, cross-border regional cooperation, cooperation on ecological environmental protection and construction of a mechanism of coordination. In 2014, the government work report of Shenzhen mentioned the concept of the "Bay Area Economy" for the first time²; in 2015, the top-level design of the Belt and Road proposed to deepen Hong Kong and Macao cooperation and build the Guangdong-Hong Kong-Macao Greater Bay Area³; in March 2017, the construction of the Greater Bay Area was incorporated into the government work report for the first time and elevated to a national strategy⁴; in June 2017, the first Guangdong-Hong Kong-Macao Greater Bay Area Forum was held in Hong Kong; and in July 2017, the Framework Agreement on Deepening Guangdong-Hong Kong-Macao Cooperation in the Development of the Greater Bay Area was formally signed.

The central government has "four major goals" and "seven major ideas" on the construction of the Guangdong-Hong Kong-Macao Greater Bay Area Economic Belt.⁵ The so-called "four major goals" can also be called "four realizations", that is, the realization of the free movement of people, that of the free movement of goods, that of the free movement of capital, and that of the free and secure movement of information. The so-called "seven major ideas" include: (1) to promote infrastructure connectivity. To leverage the strengths of Hong Kong as an international transportation center, lead other cities in the Greater Bay Area to jointly build world-class port and airport clusters. To jointly take forward the development of key projects in the region including the Hong Kong-Zhuhai-Macao Bridge, the Guangzhou-Shenzhen-Hong Kong Express Rail Link and the New Guangdong-Macao Link, etc. (2) To enhance the level of market integration. We should implement the Closer Economic Partnership Arrangement (CEPA) between the Mainland and Hong Kong and Macao and their Supplements, encourage an increase in investment between Mainland China and Hong Kong and Macao enterprises, and encourage Hong Kong and Macao people to invest, set up businesses and take up employment in Guangdong. (3) To build a

¹Release of the Report on the Coordinated Development of Urban Agglomeration in the Greater Pearl River Delta (2009).

²Qin (2014).

³Vision and actions on jointly building the silk road economic belt and the 21st-century maritime silk road (2015).

⁴Keqiang (2017).

⁵Framework Agreement on Deepening Guangdong-Hong Kong-Macao Cooperation in the Development of the Greater Bay Area (2017).

global technology and innovation hub: to optimize the mode of cross-regional cooperation on innovation development and establish an international and open regional system of innovation. (4) To build a modern system of industries through coordinated development. To fully leverage the respective advantages of industries in different Greater Bay Area cities, promote the coordinated development of industries, improve the layout of the development of industries, and accelerate the move towards the high end of the global value chain. (5) To jointly build a quality living circle to provide an ideal place for living, working and traveling. To promote the development of tourism in the region, support Macao's development as a training base for education in tourism, jointly build a healthy Bay Area, improve the mechanism for ecological conservation and environmental protection, and build a green and low-carbon Bay Area. (6) To cultivate new strengths in international cooperation. To fully leverage the unique advantages of Hong Kong and Macao, deepen cooperation with countries along the Belt and Road in infrastructure connectivity, commerce and trade, financial services, ecological environmental protection and people-to-people exchanges. (7) To support the establishment of major cooperation platforms. To promote the development and construction of major Guangdong-Hong Kong-Macao cooperation platforms in Qianhai of Shenzhen, Nansha of Guangzhou and Hengqin of Zhuhai, etc. To support the establishment of cooperation platforms including the Hong Kong-Shenzhen Innovation and Technology Park, the Daguang Bay Economic Zone in Jiangmen and the Guangdong-Macao Comprehensive Cooperation Demonstration Zone in Zhongshan.

The official establishment of the layout of the Guangdong-Hong Kong-Macao Greater Bay Area means that the more mature regional layout of China's new round of its developmental strategy has taken shape. At the same time, due to the unique geographical position determined jointly by natural and political factors and the high-quality factor endowments and optimal industrial structure as a result of first-mover advantages, the Greater Bay Area not only carries out the historical missions of close cooperation, coordinated development and common prosperity with Hong Kong and Macao, but it also continues to play a unique role and exercise functions in the intensification of the reform and the implementation of the Belt and Road Initiative with the vigor of continuous innovation, the motive force of overall coordinated social development and the vitality of opening-up.

2 Basic Data Comparison of the Three Bay Areas in China

As an important coastal economic form, the Bay Area Economy is the prominent highlight of today's international economic landscape and a salient symbol of the world's leading coastal cities. The most important features of top global bay areas, such as the New York Bay Area, the San Francisco Bay Area, and the Tokyo Bay Area, are open, innovative, livable and international, with an open economic structure, capabilities for efficient resource allocation, powerful clustering and spillover functions and a well-developed international communication network. With the core

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functions of leading innovation, clustering and radiation, they are important growth poles that drive the development of the global economy and the engines that take the lead in technological changes.

China's three major bay areas include the Pearl River Bay Area, the Yangtze River Bay Area and the Bohai Bay Area. The Pearl River Bay Area, also known as the Pearl River Delta Economic Zone, is one of the most developed economic regions in China. Geographically, it includes two special administrative regions of Hong Kong and Macao, and nine cities in Guangdong Province, namely Guangzhou, Shenzhen, Zhuhai, Foshan, Huizhou, Zhaoqing, Jiangmen, Zhongshan and Dongguan, which are referred to as "9+2". As the pioneering and pilot area of the reform and openingup, it has become not only one of China's important economic centers, a world-famous processing and manufacturing base and export base and one of the preferred regions for global industrial transfer, but it also carries the precious political capital, spiritual wealth and cultural power that have been deposited in the four decades of China's reform and opening-up.

The Yangtze River Bay Area, also known as the Yangtze River Delta Economic Circle, is reputed as China's "Golden Triangle". Its core cities include Shanghai, Nanjing, Hangzhou, Ningbo, Zhoushan, Shaoxing and Jiaxing. It is the economic region with the fastest economic development, the largest economic aggregate, and the greatest potential for development. Meanwhile, it is a city cluster with profound modern commercial civilization and extensive international awareness and recognition. Its prosperity and development have been a symbol of modern Chinese history for a long period of time.

The Bohai Bay Area is also known as the Beijing-Tianjin-Tangshan Economic Circle on the Bohai Economic Rim, including Tianjin, Beijing and cities in Hebei Province such as the Xiong'an New Area. The Bohai Sea is an inland sea surrounded by the "C" shape of the Liaodong Peninsula, the Shandong Peninsula and the North China Plain. Thirteen cities along the coast have an economic radiation over virtually half of China and are the main outlets for Northeastern China, Northern China, Northwestern China and parts of Eastern China. Equipment, capital and goods imported abroad enter the northern Chinese market from here. The hinterland, involving more than a dozen provinces and autonomous regions, accounts for about 40% of the country's gross national product.

From the perspectives of population and land area of the three bay areas: in 2015, the population of the Shanghai-Hangzhou Greater Bay Area was 52.0010 million and its land area was 46,386 km²; the population of the Guangdong-Hong Kong-Macao Greater Bay Area was 67.9842 million and its land area was 56,506 km²; and the population of the Bohai Bay Area was 112.0507 million and the land area was 2,171,574,200 km². By comparison of the total and average GDP of the three major bay areas: in 2016, the total GDP of the Shanghai-Hangzhou Greater Bay Area was 5675.658 billion yuan, the per capita GDP was 109,800 yuan, and the average GDP

⁶Data source: Wind Database. The population of Hong Kong and Macao in the Guangdong-Hong Kong-Macao Greater Bay Area was extracted from 2016, and the population statistics of other cities are extracted from 2015.

per square kilometer was 122 million yuan; the total GDP of the Guangzhou-Hong Kong-Macao Greater Bay Area was 9259.076 billion yuan, the per capita GDP was 138,800 yuan, and the average GDP per square kilometer was 164 million yuan; and the total GDP of the Bohai Bay Area was 7461.259 billion yuan, the per capita GDP was 66,600 yuan, and the average GDP per square kilometer was 34 million yuan.⁷ From the comparison of the data regarding the innovation capability of the three major bay areas: in 2016, the average number of patent grants per 10,000 people in the Shanghai-Hangzhou Greater Bay Area was 37.73; the average number of patent grants per 10,000 people in the Guangdong-Hong Kong-Macao Greater Bay Area was 38.47; and the average number of patent grants per 10,000 people in the Bohai Bay Area was 15.36.8 Comparing the industrial structure of the three major bay areas: in 2016, in the Shanghai-Hangzhou Greater Bay Area, the tertiary industries accounted for 61.18% and the secondary industries accounted for 36.67%; in the Guangzhou-Hong Kong-Macao Greater Bay Area, the tertiary industries accounted for 65.06% and the secondary industries accounted for 33.58%; and in the Bohai Bay Area, the tertiary industries accounted for 57.53% and the secondary industries accounted for 37.32%. 9 By comparison of the opening-up data of the three major bay areas: until December 2016, the total volume of imports and exports of the Shanghai-Hangzhou Greater Bay Area was 4399.741 billion yuan, which was 77.52% of the GDP; the total volume of imports and exports of the Guangzhou-Hong Kong-Macao Greater Bay Area was 6490.188 billion yuan, which was 70.1% of the GDP; and the total volume of imports and exports of the Bohai Bay Area was 2851.593 billion yuan, which was 38% of the GDP.¹⁰

From the above comparison of basic data, we can say that the formation of the Guangdong-Hong Kong-Macao Economic Belt is the result of nearly 40 years of reform and opening-up, an opportunity to further intensify the reform, a natural choice for China to move from policy opening to institutional opening and an inevitable path from an export-oriented economy to an open economy. It is an important practice of constructing the new political and economic landscape and an important part of the Chinese developmental path.

3 The Unique Role of Shenzhen in the Construction of the Guangdong-Hong Kong-Macao Greater Bay Area

The unique factor endowments of a city determine the prominence and play of its unique role in the regional economy. The so-called "factor endowments" here refer not only to the advantages of economic factors already possessed, but also the

⁷Data source: Wind Database. The per capita GDP of the Shanghai-Hangzhou Greater Bay Area was calculated by the population in 2015 and converted as 1 US dollar to 6.75 RMB.

⁸Data source: Official websites of the statistics bureaus of these cities.

⁹Data source: Wind Database.

¹⁰Official websites of the statistics bureaus of these cities.

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advantages of its political resources and the institutional capital that are owned due to historical opportunities. As the most successful special economic zone in China, Shenzhen is the owner of such scarce factor endowments. As the most dynamic city in the Guangdong-Hong Kong-Macao Economic Belt, Shenzhen shows the irreplaceable "demonstration effect" of institutional changes, the "engine function" of regional economy, and the "siphon effect" of high-quality factors, the "diffusion effect" that drives the development of surrounding areas and the "leading role" in the innovation-driven trend.

From my own perspective, in the construction of the Guangdong-Hong Kong-Macao Greater Bay Area, Shenzhen can play a unique role regarding four aspects: First, to continue the pilot and first try and provide more profound experience and institutional arrangements that can be promoted and reproduced for intensifying the reform.

The Bay Area Economy is by no means a simple concept of the regional economics for China, but the inevitable result of the rapid development of the Chinese economy for 40 years and the inevitable outcome of China's intensification of reform. Similar to the special economic zones and free trade zones, it undertakes the reform goals and missions with different connotations given by the different periods of development. With its own exploration and development, the Bay Area Economy promotes the transformation of China from policy opening to institutional opening and from an export-oriented economy to an open economy.

The establishment of the Guangdong-Hong Kong-Macao Greater Bay Area first puts the reform of the administrative management system and mechanism on the agenda. For example, the realistic contrast between administrative divisions and regional economic integration appears on the operational level. Will each independent administrative region obey the overall regional development goals without localism? Who pays for the regional public goods and public infrastructure? Are your political achievements my achievements? Is the regional performance my political achievement? Such a regional community needs to be bound by rules that each member can agree with. Only in this way is it possible to reduce transaction costs, improve cooperation efficiency, and achieve common goals. Therefore, while the central government designs the top level, the local governments must have the courage and wisdom to implement institutional innovation and creatively provide the design and arrangements of institutional rules that serve as quasi-public goods and are followed by the regional community. Since the day she was born, Shenzhen has the social and cultural genes and political character that have made it possible for her to take the lead in reform and to be bold to take responsibility. Without the courage and spirit of reform, it will never be Shenzhen again.

Second, to give full play to the advantages of its own economic structure, and while driving and promoting the improvement of the regional market economic system, to continue to play the role of economic growth pole with the "siphon effect" and the "diffusion effect".

In 1992, Shenzhen was already a city dominated by private enterprises. At present, private enterprises in Shenzhen account for 96% of the total number of enterprises and

pay nearly 50% of the taxes in the city. In 2015, the added value of the private economy in Shenzhen accounted for 42.8% of the GDP. Among the private enterprises in Shenzhen, there are 4 Global-500 enterprises, 20 enterprises of China's top-500 and more than 60 with a total income of over 10 billion yuan. They are veritable new forces and pillars in the economy of Shenzhen. The social pattern of "big market and small government" in Shenzhen is not only the historical harvest of taking the lead in reform, but also the institutional environment and capital of its sustainable high-speed growth. The development of Shenzhen not only demonstrates the power of the market, but also highlights the power of the small government. It is itself the best interpretation of the government's functions in a market economy. That is, the government provides public goods and public services, including systems and laws. The loose, free and legal social system and cultural environment created by the government are the best institutional capital and strength.

Third, to make full use of the advantages of its own industrial structure and become the engine of innovation and development in the region.

According to the most recent release of the Chinese City Creativity Index (CCCI), Shenzhen still tops the list, followed by Beijing, Shanghai, and Guangzhou and Zhuhai rank seventh and eighth. The 2017 Global Innovation Index published by the World Intellectual Property Organization (WIPO) shows that Shenzhen-Hong Kong ranks second in the world with over 41,000 international patents, the Tokyo-Yokohama City Cluster ranks first with more than 94,000 patents, and the San Jose-San Francisco City Cluster (where Silicon Valley is located) in the United States of America ranks third (Wang 2017). Innovation can not only enable a society to have more wealth and capital, but it can also improve the trade structure of a country by increasing the added value of its products. It can not only create value in a way that reduces resource consumption, but it can create an incredibly better life and magical future for human beings. More importantly, it will change people's ideas and change society with the power of ideas. In the long run, the culture and ideas that innovation brings to human beings are even more rewarding than the wealth or value created by innovation. This may be the vitality and charm of the city of Shenzhen.

Fourth, at the height of the national strategy, to make good use of the geographical advantages adjacent to Hong Kong, further eliminate the institutional and cultural barriers for the common prosperity of Hong Kong and the Mainland, build up consensus channels, establish a mutual trust mechanism and provide equal opportunities so that the shared development and common prosperity can become the common harvest of the reform and opening-up of China.

The total area of Shenzhen and Hong Kong is only over 3000 km², but the sum of their GDP reaches 4.08 trillion yuan, equivalent to 1.48 times that of Shanghai. It is equal to the sum of the overall regions around the Pearl River Bay and the Hangzhou Bay, and the total GDP of the former is 1.51 times that of the latter. The per capita GDP of Hong Kong and Shenzhen is 290,000 yuan and 167,400 yuan respectively, which is significantly higher than that of Shanghai and they also take the lead among cities in the bay area economic belt. They can be said to be satellite cities playing an irreplaceable role of high-quality engine in the Guangdong-Hong Kong-Macao Greater Bay Area Economic Belt and jointly constitute a unique growth pole.

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In my opinion, the following three points must be achieved to give full play to the active role of Hong Kong in the Guangdong-Hong Kong-Macao Greater Bay Area: 1. to learn from the institutional advantages of Hong Kong, a topic that we never complete; 2. to rethink our previous policy mistakes of "benefiting Hong Kong instead of the people" so that the residents of Hong Kong can fairly enjoy the benefits of China's reform and opening-up; 3. on the premise of "one country, two systems", to truly realize respect for values, inclusive development and harmonious sharing.

It is completely possible for Shenzhen, which is positioned as "China's Silicon Valley", to become the most influential engine with a "diffusion effect" in the Greater Bay Area and provide full-scale support for fundamentally enhancing China's international competitiveness.

The Guangdong-Hong Kong-Macao Greater Bay Area is another economic growth pole of the holistically planned regional integration over a large region and another internationally competitive power engine for social development with cooperation across administrative regions. We must further institutionally solve the problem of the opening-up of the market being greater than the social opening-up; we must further solve the problem of talent internationalization in terms of mechanism; we must further conceptually understand that not all changes are reform and that we cannot return to the past memory of a planned economy in the name of reform. "Never forget why you started". We must keep in mind why we chose today's road to reform and opening-up.

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Chapter 2 Report on the Development of Pilot Free Trade Zones in China



Xiaowen Fan and Jiayi Xu

Abstract As of September 2017, the implementation area of the Pilot Free Trade Zone in China has increased by 1,314.26 km² from the original 474.96 km², and has formed a "1+3+7" pilot reform layout. The negative list has been further slimmed down, the areas for opening-up have been further expanded, the economic reform has achieved remarkable results, and the pilot free trade zone enters a new phase of integration of the institutional system. Meanwhile, the initial reform goals have been preliminarily realized, and the current concern of the reform is where the efforts should be devoted in the next phase. The differentiated reform of 11 pilot free trade zones may lead to confusion in policy understanding in the absence of institutional coordination. The difficulty faced by the pilot free zone in the next phase is still how to resolve the "Mundell-Krugman trilemma", to promote the reform with opening-up and advance the development by the reform. To replace the orientation of the performance with that of the problem is still a focus of the institutional reform of pilot free trade zones.

Keywords Pilot free trade zones \cdot Institutional integration \cdot Restrictions on Opening-Up

In 2017, with the establishment of new pilot free trade zones (FTZs) in Liaoning Province, Zhejiang Province, Henan Province, Hubei Province, Chongqing City, Sichuan Province and Shaanxi Province, China has formed a "1+3+7" reform pilot layout. By now, the important national strategies for development, such as the development of the Yangtze River Economic Belt, Guangdong-Hong Kong-Macao Cooperation, Beijing-Tianjin-Hebei Integration, Cross-Straits Economic Cooperation, Western China Development, Revitalization of the Northeast, Rise of Central China, and the Belt and Road Construction, have formed a differentiated and three-

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dimensional "test field" for the reform of the open economic system from coastal to inland, from eastern to central and western regions of China.

In 2016, the pilot FTZs, as the "test field" for the all-around reform and opening-up and the risk testing grounds for the reform and opening-up, further slimmed down the negative list of market access and expanded the areas for opening-up; the financial opening for capital account convertibility has gone ahead in an orderly manner. The transformation of government functions was continuously expanded, the degree of trade facilitation was further improved, the ongoing and ex-post oversight was continuously enhanced and the legal guarantee was continually strengthened. The pilot FTZs have entered a new phase of reform for the integration of the institutional system.

1 Developmental Status and Progress of China's Pilot FTZs

On March 31, 2017, the State Council of China officially issued the Overall Plan for the Launch of Pilot Free Trade Zones in Liaoning, Zhejiang, Henan, Hubei, Chongging, Sichuan and Shaanxi ("the Plan") and the China (Shanghai) Pilot Free Trade Zone 3.0 was also released. On April 1, 2017, the third batch of seven new pilot FTZs were simultaneously established. By reference to the existing FTZs, each new FTZ covers a land area of about 120 km² and includes 3 Areas, which are mainly based on the existing bonded areas and high-tech zones. After establishing the third batch of FTZs, the area of pilot FTZs in China increased by 839.4 km², from 474.96 km² of "1+3" to 1,314.26 km² of "1+3+7". This not only means that the area of pilot FTZs in China has increased by about 1.77 times, but more importantly, they expand from the eastern coast to the central and western inland regions, with consideration to northeastern China, and they form a new open economic reform pilot layout of "1+3+7" together with the China (Shanghai) Pilot Free Trade Zone in the first batch and pilot FTZs of Guangdong, Tianjin and Fujian in the second batch. According to the GDP data of 2016 released by these provinces, the provinces and municipalities where the 11 pilot FTZs are located account for about 47% of the GDP of China. The institutional innovation and reform of the pilot FTZs will carry more content and the opening "test field" layout has taken shape (Table 1).

¹For basic information of "1+3" pilot free trade zone, see: Fan Xiaowen, Zhu Weizhi, China Pilot Free Trade Zone Development Report, in: Tao Yitao, *Annual Report on the Development of China's Special Economic Zones 2015*, Social Sciences Academic Press (China), 2015.

Batch no.	Name of pilot FTZs	Establishment date
First	First China (Shanghai) Pilot Free Trade Zone	
Second	China (Guangdong) Pilot Free Trade Zone, China (Tianjin) Pilot Free Trade Zone, China (Fujian) Pilot Free Trade Zone	April 21, 2015
Third	China (Liaoning) Pilot Free Trade Zone, China (Zhejiang) Pilot Free Trade Zone, China (Henan) Pilot Free Trade Zone, China (Hubei) Pilot Free Trade Zone, China (Chongqing) Pilot Free Trade Zone, China (Sichuan) Pilot Free Trade Zone, China (Shaanxi) Pilot Free Trade Zone	April 1, 2017

Table 1 Timeline for the establishment of Free Trade Zones in China

2 Overview of the Third Batch of New FTZs²

The seven new pilot free trade zones, with focus on different aspects, mainly aim at the differentiated exploration of institutional reform and highlight the important national strategies of the reform of state-owned capitals and enterprises, the rise of central and western China and the revitalization of the Northeast (Table 2).

1. The China (Liaoning) Pilot Free Trade Zone

The strategic orientation of the China (Liaoning) Pilot Free Trade Zone is stipulated as: "With institutional innovation as the core and the possibility of replication and promotion as basic requirements, for accelerating the market-oriented reform

Table 2 Areas and subzones of seven new pilot FTZs

Pilot FTZs	Area (70 km ²)	Subzones
Liaoning	119.89	Dalian Area 59.96 km ² , Shenyang Area 29.97 km ² , Yingkou Area 29.96 km ²
Zhejiang	119.95	Zhoushan Outlying Islands Area 78.98 km², Northern Zhoushan Island Area 15.62 km², Southern Zhoushan Island Area 25.35 km²
Henan	119.77	Zhengzhou Area 73.17 km², Kaifeng Area 19.94 km², Luoyang Area 26.66 km²
Hubei	119.96	Wuhan Area 70 km ² , Xiangyang Area 21.99 km ² , Yichang Area 27.97 km ²
Chongqing	119.98	Liangjiang Area 66.29 km ² , Guoyuangang Area 30.88 km ² , Xiyong Area 22.81 km ²
Sichuan	119.99	Chengdu Tianfu New Area 90.32 km ² , Chengdu Qingbaijiang Railway Port Area 9.68 km ² , Chuannan Lingang Area 19.99 km ²
Shaanxi	119.95	Central Area 87.76 km ² , Xi'an International Port Area 26.43 km ² , Yangling Demonstration Area 5.76 km ²

²The scope, area, strategic positioning and developmental focus of the third batch of pilot FTZs are cited from the overall plan for pilot FTZs released by the State Council of China.

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of systems and mechanisms and actively boosting restructuring, the FTZ shall be developed into a new engine to enhance the overall competitiveness and level of opening-up for the development of the old industrial bases in northeastern China".

In the Liaoning Plan, the Dalian Area has been instituted to "focus on the development of port and shipping logistics, finance and trade, advanced equipment manufacturing, high and new technology, circular economy, shipping services and other industries"; the Shenyang Area will "focus on the development of advanced manufacturing sectors such as equipment manufacturing, vehicle and auto parts, aviation equipment, as well as modern service sectors such as finance, technology and logistics"; and the Yingkou Area will "focus on the development of modern service industries such as trade and logistics, cross-border e-commerce and finance as well as strategic emerging industries such as next-generation information technology and high-end equipment manufacturing".

2. The China (Zhejiang) Pilot Free Trade Zone

The strategic orientation of the China (Zhejiang) Pilot Free Trade Zone is stipulated as: "With institutional innovation as the core and the possibility of replication and promotion as basic requirements, the FTZ shall be developed to an important maritime opening-up portal demonstration area, international commodity trade liberalization pioneering area and internationally influential resource allocation base in eastern China".

In the Zhejiang Plan, the Zhoushan Outlying Islands Area has been instituted to "focus on the development of storage, transit shipment, processing and trade of bulk commodities as well as a bonded fuel supply"; the Northern Zhoushan Island Area will "focus on the development of bulk trade of oils, bonded fuel supply, as well as bonded logistics, warehousing and manufacturing of related equipment for petroleum and petrochemical products"; and the Southern Zhoushan Island Area will "focus on the development of bulk commodity trading, aeronautical manufacturing, parts logistics, R&D and design and related industries, and the construction of the Zhoushan Aviation Industry Park, with efforts on facilitating the development of aquatic products trade, marine tourism, seawater utilization, modern commerce and trade, financial services, shipping, information consulting and high and new technology industries".

3. The China (Henan) Pilot Free Trade Zone

The strategic orientation of the China (Henan) Pilot Free Trade Zone is stipulated as: "With institutional innovation as the core and the possibility of replication and promotion as the basic requirements, the Henan FTZ shall accelerate the formation of a modern three-dimensional transportation system and a modern logistics system connecting northern and southern China and eastern and western China, and develop as a modern comprehensive transportation hub serving the Belt and Road Construction, a test field for all-around reform and opening-up, and a demonstration zone of an inland open economy".

In the Henan Plan, the Zhengzhou Area has been instituted to "focus on the development of intelligent terminals, high-end equipment and vehicle manufacturing, biomedicine and other advanced manufacturing, as well as modern logistics, international commerce and trade, cross-border e-commerce, modern financial services, service outsourcing, creative design, commerce exhibition, animation and video games and other modern service industries"; the Kaifeng Area will "focus on the development of service outsourcing, medical tourism, creative design, culture and media, cultural finance, artwork trading, modern logistics and other service industries"; and the Luoyang Area will "focus on the development of equipment manufacturing, robots, new materials and other high-end manufacturing industries as well as R&D and design, e-commerce, service outsourcing, international cultural tourism, cultural creativity, cultural trade, cultural exhibition, and other modern service industries".

4. The China (Hubei) Pilot Free Trade Zone

The strategic orientation of the China (Hubei) Pilot Free Trade Zone is stipulated as: "The FTZ shall implement the requirements of the CPC Central Committee for the orderly takeover of relocated industries and the construction of the agglomeration of strategic emerging industries and high-technology industry bases, and play a demonstrating role in the implementation of the rise of the central China strategy and advancement of the development of the Yangtze River Economic Belt".

In the Hubei Plan, the Wuhan Area will "focus on the development of new-generation information technology, life and health, intelligent manufacturing and other strategic and emerging industries as well as international commerce and trade, financial services, modern logistics, inspection and testing, R&D and design, information services, specialized services and other modern service industries"; the Yichang Area will "focus on the development of advanced manufacturing, biomedicine, electronic information, new materials and other high and new industries as well as R&D and design, headquarters economy, e-commerce and other modern service industries"; and the Xiangyang Area will "focus on the development of high-end equipment manufacturing, new-energy vehicles, big data, cloud computing, commerce and trade logistics, inspection and testing, and other industries".

5. The China (Chongqing) Pilot Free Trade Zone

The strategic orientation of the China (Chongqing) Pilot Free Trade Zone is stipulated as: "The FTZ shall primarily implement the requirements of the CPC Central Committee regarding using the role of Chongqing as a strategic fulcrum and juncture, enhance the opening-up of gateway cities in western China and advance deeply the Western China Development Strategy".

In the Chongqing Plan, the Liangjiang Area has been instituted to "focus on the development of high-end equipment, essential electronic parts, cloud computing, biomedicine and other emerging industries as well as headquarters trade, trade in services, e-commerce, exhibition trade, warehousing and distribution, specialized services, financial leases, R&D and design, and other modern service industries"; the Guoyuangang Area will "focus on the development of international transit shipment,

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less than container load (LCL) distribution and other service industries"; and the Xiyong Area will "focus on the development of electronic information, intelligent equipment and other manufacturing industries and bonded logistics transit shipment and distribution and other productive service industries".

6. The China (Sichuan) Pilot Free Trade Zone

The strategic orientation of the China (Sichuan) Pilot Free Trade Zone is stipulated as: "With institutional innovation as the core and the possibility of replication and promotion as basic requirements, based on the landlocked regions and bridging eastern and western China, with a view to serving the whole country, orienting to the world, the FTZ shall be developed into a development, opening-up and leading zone of gateway cities in western China, a pioneering zone of inland strategic opening-up support belt, an international open passage hub area, a new inland height of open economy, and a demonstration zone of the coordinated opening-up of inland and coastal, frontier and riverside regions".

In the Sichuan Plan, the Chengdu Tianfu New Area is instituted to "focus on the development of modern services, high-end manufacturing, high and new technology, airport economy, port services and other industries"; the Chengdu Qingbaijiang Railway Port Area will "focus on the development of distribution and transshipment of international goods, dispatch and exhibition, bonded logistics and warehousing, international freight forwarding, vehicle importation, characteristic finance and other port service industries as well as information services, science and technology services, expo services and other modern service industries"; and the Chuannan Lingang Area will "focus on the development of shipping logistics, port trade, education, medical care and other modern service industries, as well as equipment manufacturing, modern medicine, food, beverages and other advanced manufacturing and advantageous industries".

7. The China (Shaanxi) Pilot Free Trade Zone

The strategic orientation of the China (Shaanxi) Pilot Free Trade Zone is stipulated as: "With institutional innovation as the core and the possibility of replication and promotion as basic requirements, the requirements of the CPC Central Committee and the State Council as to better using the role of the Belt and Road Construction in catalyzing the Development of Western China and providing more support for the opening-up of gateway cities in western China shall be comprehensively implemented, and the FTZ shall be developed with efforts for a testing field of the all-around reform and opening-up, a new inland height of reform and opening-up, and an important fulcrum for the Belt and Road economic cooperation and people-to-people exchanges".

In the Shaanxi Plan, the Central Area is instituted to "focus on the development of strategic emerging industries and high-tech industries, and to highlight the development of high-end manufacturing, aviation logistics, trade finance and other industries"; the Xi'an International Port Area will "focus on the development of international trade, modern logistics, financial services, tourism exhibitions, e-commerce

and other industries"; and the Yangling Demonstration Area will "focus on agricultural science and technology innovation, demonstration and promotion, and will build the OBOR center for international cooperation on modern agriculture through comprehensively expanding international cooperation and exchanges in the agricultural field".

3 New Progress in the Institutional Reform of Pilot Free Trade Zones

In 2016, the four pilot FTZs in Shanghai, Guangdong, Tianjin and Fujian closely centered on their respective strategic orientations, seized key links and further docked with high-standard international trade rules. Each FTZ strengthened linkage with the national strategies of development and achieved institutional innovations with their own characteristics and different focal points.

1. The Shortening of the Negative List, Further Relaxation of Market Access

In terms of reform of the system of investment management, the four pilot FTZs have made further progress in the model for national treatment plus negative list management before the access of foreign investments. The *Notice of the General Office of the State Council on Issuing the Special Administrative Measures for Foreign Investment Access to Pilot Free Trade Zones (Negative List) (2017 Version)* released by the General Office of the State Council of China was officially implemented on July 10, 2017. The negative list of 2017 covered the existing 11 pilot FTZs, divided into 15 categories, 40 entries and 95 special management measures, and reduced half of the restrictions. The negative list continues to "slim down" and improve the system for access to the market. From the positive list to the negative list, the reform of the system for access to the market of pilot FTZs has continually impelled the government to transform functions so that it can decentralize the power to the market and gradually shift from government-dominated to market-dominated allocation of resources (Table 3).

2. Preliminary Creation of an Efficient Business Environment

Pilot FTZs have built a "single window" service model for foreign investment filing management and enterprise access. As long as enterprises in the zones log into a network "window" and submit relevant data online, they can complete the relevant procedures and improve their efficiency by more than 50%. In the commercial registration system, the "separation of operating permit and business license" is fully implemented and the "one-door" approval and "one-network" handling have been realized, so that most enterprises can be registered within one day, and the service efficiency is close to the level of Singapore. Beijing-Tianjin-Hebei promotes the integration of customs clearance in the "one-stop" customs area and the integrated model of "notification, inspection and release" and "direct release of imports and exports" and the customs clearance time and freight charges have been greatly

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Negative list		Implemented FTZs	Number of Special Administrative Measures
2013 edition	The 1st list	Shanghai	199
2014 edition	The 2nd list	Shanghai	139
2015 edition	The 3rd list	Shanghai, Guangdong, Tianjin and Fujian	122
2017 edition	The 4th list	Shanghai, Guangdong, Tianjin, Fujian, Liaoning, Zhejiang, Henan, Hubei, Chongqing, Sichuan and Shaanxi	95

Table 3 The history of the shortening of the negative list of pilot FTZs in China

reduced. Enterprises do not need to distinguish between state taxation and local taxation because a "one integrated taxation window" model has been adopted. The pilot for the free trade account has expanded from RMB business to foreign currency, and the reform mechanism has been established in core financial fields such as capital account convertibility, interest rate marketization, financial market opening and RMB internationalization; and the macro prudential and risk controllable financial regulatory systems and the systematic integration of innovative measures have begun to take shape. These innovative measures greatly reduce the transaction costs of enterprises and improve the business environment of enterprises in pilot FTZs.

3. Continuous Enhancement of Legal Guarantees

On September 3, 2016, the Standing Committee of the National People's Congress passed the *Decision on Amending Four Laws including the Law of the People's Republic of China on Wholly Foreign-Owned Enterprises*. On October 8, 2016, the Ministry of Commerce of China issued the *Interim Measures for the Administration of the Recordation of the Formation and Modification of Foreign-Funded Enterprises*. Since then, China's long-term comprehensive examination and approval model for foreign investment access has officially ended. The Supreme People's Court issued the *Opinions on Providing a Judicial Guarantee for the Building of Pilot Free Trade Zones* on December 30, 2016, thus providing an effective legal guarantee for the development of pilot FTZs.

The pilot FTZs have their own characteristics and take relevant legal guarantee measures. The Shanghai People's Procuratorate issued the Several Opinions on Further Strengthening Services and Guaranteeing Construction of a Pilot Free Trade Zone, which clarified the requirements for the procuratorate to create a legal environment in the pilot FTZ. The Guangdong Provincial People's Procuratorate issued the Several Opinions on Guaranteeing Construction of the China (Guangdong) Pilot Free Trade Zone with Services, which clearly set out the standards, basic concepts, requirements and measures for measuring the supporting services. The Tianjin People's Procuratorate proposed 20 service initiatives around the construction requirements and functional orientation of the pilot FTZ. The Procuratorate of the Binhai New Area also issued 18 pieces of opinions to provide an institutional guarantee for

the construction of the pilot FTZ. The Fujian Provincial People's Procuratorate issued 13 pieces of opinions to clearly put forward work priorities and service measures for fulfilling procuratorial functions and building a service platform.

4 Significant Economic Performance of the Reform of the Pilot Free Trade Zone

The Shanghai Pilot Free Trade Zone, as China's first pilot FTZ, creates three quarters of the GDP of the Pudong New Area by one-tenth of the area; and one-fourth of the GDP of Shanghai by one-fiftieth of the area. According to the statistics released by the State Administration of Taxation of China,³ the four pilot FTZs in Shanghai, Guangdong, Tianjin and Fujian achieved a total tax revenue of 409.055 billion yuan in 2016. The tax revenue growth rate was much higher than the regional growth over the previous year, thus becoming China's new economic growth pole (Tables 4 and 5).

Table 4 The main economic indicators and the speed of growth of the China (Shanghai) Pilot FTZ in 2016

Indicators	Unit	Absolute value	YoY growth (%)
Local general public budget revenue	Billion yuan	559.38	23.7
Actual paid amount of foreign direct investment	Billion US dollars	61.79	28.2
Total investment in fixed assets	Billion yuan	607.93	9.4
Gross output value of industry	Billion yuan	4312.84	14.2
Total retail sales of consumer goods	Billion yuan	1396.76	6.9
Gross sales of commodities	Billion yuan	33609.23	6.9
Operating income of service industries	Billion yuan	4167.59	7.0
Total volume of foreign trade	Billion yuan	7836.80	5.9
#Amount of exports	Billion yuan	2315.85	14.5
Number of end-term regulatory financial institutions		815	7.5
Number of emerging financial institutions		4651	11.9

Reference 2016 Statistical Communiqué on the National Economic and Social Development of Shanghai. http://www.stats-sh.gov.cn/html/sjfb/201703/293816.html

³Data source: Official website of the China (Fujian) Pilot Free Trade Zone: Taxation of 400 Billion Yuan from Four Large Pilot Free Trade Zones, http://www.china-fjftz.gov.cn/article/index/aid/5706. html.

Indicators	Unit	Absolute value
Gross sales of commodities (above designated size)	Billion yuan	7720.5
Total retail sales of consumer goods	Billion yuan	408.1
Total amount of foreign capital actually utilized	Billion US dollars	25.16
Amount of domestic capital actually utilized	Billion yuan	453.9
General public budget revenue	Billion yuan	212.7
Total investment in fixed assets	Billion yuan	1000.7

Table 5 Main economic indicators of the China (Tianjin) Pilot FTZ in 2016

Data source Summarized according to the statistical data released on the official website of the China (Tianjin) Pilot FTZ. http://www.china-tjftz.gov.cn/html/cntjzymyqn/TJSJ25012/2017-04-21/Detail 582414.htm

The efficient business environment attracted a large number of enterprises to settle in the pilot FTZs. By the end of 2016, 42,000 new enterprises were accumulatively established in the Shanghai FTZ and exceeded the total number of registered enterprises in 20 years before the FTZ was launched; the cumulative number of newly established enterprises in the Guangdong FTZ was more than 158,000, which surpassed the total number of registered enterprises in the years before the establishment of the FTZ. As of the end of March 2017, there were a total of 53,528 market entities in the FTZ with registered capitals (funds) of 2,053.872 billion yuan. Among them, there were 43,644 domestic-funded enterprises with registered capitals (funds) of 1,566.114 billion yuan, and 3,375 foreign-invested enterprises with registered capitals (funds) of 487.285 billion yuan. Since its establishment on April 21, 2015, until June 30, 2017, the Fujian FTZ increased a total of 61,125 domestic and foreign-funded enterprises with registered capitals of 1,204.749 billion yuan, including 58,194 domestic-funded enterprises with registered capitals of 1,040.765 billion yuan and 2,931 foreign-invested enterprises with registered capitals of 163.984 billion yuan.

5 Core Problems of the Reform of China's Pilot FTZ

As the pivots for initiating China's new round of reform, pilot FTZs will face different stages of difficulties that need to be solved with the continuous intensification of the reform process. Then, under the "1+3+7" layout, what are the core problems for the reform of pilot FTZs at the current stage? After the RMB joined the SDR, what is the crux of the opening-up? This is a problem that needs to be clarified first at the next stage of development of pilot FTZs.

6 Holdbacks on Opening-up of Trade and Investment

The liberalization of trade and investment means that a country needs to reduce or lift foreign exchange controls and realize the liberalization of capital inflow and outflow as well as currency exchange. The RMB was officially included in the SDR basket on October 1, 2016, which further facilitated China's opening-up process. The benefits of opening-up to China are obvious to all. The determination of China to open up is also beyond doubt. Therefore, from the logic of the reform, the institutional innovation should carry out the corresponding institutional reform from the perspective of allaround opening-up.

As we all know, the liberalization of capital inflow and outflow can influence the exchange rate, which in turn affects international trade and investment. In theory, the RMB exchange rate should be determined by the relationship of supply and demand on the foreign exchange market. Only in this way can the internal balance mechanism of the international balance of payments play its role. However, as an exchange medium, the stable exchange rates can reduce uncertainties and decrease transaction costs and risks of foreign trade enterprises. Therefore, in terms of the preconditions for the free flow of capital, how to reform the mechanism for the formation of the existing exchange rate is the core problem in the reform of the pilot FTZ at the current stage.

In 1996, China began to realize the convertibility of current accounts. The *Regulations on the Foreign Exchange System* as revised in 2008 ended the mandatory foreign exchange settlement system. At present, the sytem of willingness to settle exchanges is implemented for exporting enterprises. The exchange rate adopts a floating exchange rate regime "regulated and managed based on market supply and demand with reference to a basket of currencies". After the RMB was included in the SDR, the laws and regulations were revised accordingly, international investors can invest in the domestic financial market with RMBs, the capital account convertibility continues to make progress and increasingly more international organizations and financial markets have begun to use the RMB, but capital accounts cannot be freely convertible, thus restricting the free inflow and outflow of currencies to some extent and still affecting the degree of opening-up.

The fundamental cause restricting the opening-up is that the relationship between free flow of capital, fixed exchange rate and monetary policy cannot be properly addressed. According to the Mundell-Krugman impossible trinity (also known as "the trilemma"), any government can only simultaneously pursue two out of the three goals: free flow of capital, sovereignty monetary policy and fixed exchange rate. How to make the choice? It is difficult to build an all-around open market if the interrelationship between the three goals cannot be clarified.

For an open economy, the necessary and sufficient condition for the all-around opening of currency convertibility and free flow of capital, especially after the RMB is formally incorporated into the SDR currency basket, is that the mechanism for the formation of the exchange rate and monetary policy are reformed under this premise.

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Therefore, the key to the institutional reform is to clarify the role of monetary policy and exchange rate mechanism in the economy.

In theory, money is by nature a tool to reduce transaction costs. Monetary policy should lay stress on the stability of the currency value, rather than regulating the economy. Only based on the stability of the value of local currency can the exchange rate reflect the relative price of the goods and the comparative advantages can play their role in resource allocation. Therefore, in the financial reform of the pilot FTZs, only the establishment of a monetary system that stabilizes currency value can fundamentally eliminate restrictions on the all-around opening-up.

7 Systematic Integration and Promotion of the Institutional Results of the Reform and Opening-up

Opening-up, which means "bringing in" and "going out", involves market access, national treatment, a commercial system, a system of taxation, a regulatory system and interface with internationally accepted business rules. International interface means that the market should dominate resource allocation and the government has to decentralize its powers. What kind of powers and how to decentralize them need to be tested.

Through nearly four years of reform practice, pilot FTZs have fully implemented national treatment before market access, a permit for access without prohibitions and the negative list management model by which "market entities can do anything which is not prohibited by the law"; in the form of free trade accounts, a financial regulation model was built according to the principle of "opening up the first tier and safely and efficiently controlling the second tier"; the oversight system both during and after the handling of matters has been established by the principle that "anything the law does not authorize is not done, while all duties and functions assigned by law are performed", and the management philosophy of government has undergone fundamental changes. The system for the facilitation of trading of "opening up the first tier, safely and efficiently controlling the second tier and the free circulation in the zone" has come into effect. However, most of these reforms are achieved through single-point breakthroughs to different focal points in pilot FTZs. The important mission of these pilot FTZs is to provide China with the experience that can be promoted and replicated for strengthening the reform and opening-up. Therefore, how to solve the issue of fragmentation of reform is the core problem to be solved by pilot FTZs at the current stage.

In the current pilot FTZ reform, in a certain sense, the institutional reform that can achieve single-point breakthroughs has already come to an end. At present, the biggest challenge faced by comprehensive intensification of the institutional reform is the barriers among departments. How to break those barriers is the key. If previously the pilot FTZ reform was single-handed advancement and a bottom-up direction, then it is the right time for integration, system and a top-down direction. First, to coor-

dinate the integration of existing institutional achievements from the top, enhance the integrity and coordination of institutional innovation, rationalize the coordinating mechanism of various departments, accelerate the replication and promotion of reform achievements in existing pilot FTZs, and reduce the cost of reform; and second, to break barriers among departments, proceed from the overall situations of the key national strategy for development, strengthen the top-level coordination mechanism of reform, throw off the shackles of rules and regulations, and constantly innovate and improve the system in joint development.

8 Focuses of the Development of Pilot FTZs in China

8.1 Confusion Over Differentiation

The strategy of differentiation of pilot FTZs of China can easily confuse investors. Not only does each pilot FTZ have its own reform priorities, but also different areas within 11 FTZs have their respective focuses, developmental orientations, specific policies and business environments. Moreover, FTZs are set up as a test field for the comprehensive open economic system of China, so their historical missions and orientation differ from the free trade zones of other countries and they also carry different functions. They are not just free trade zones, but also special economic zones with a focus on systematic and institutional innovations, especially the reform of government and market relations. These are quite different from most free trade zones around the world. Therefore, it is difficult for investors, especially foreign investors, to acquire a clear understanding.

For different pilot FTZs, the geographical advantages and functional orientations vary and the industry clusters and target investment groups covered in the zones are also different. Although pilot FTZs are mostly established on the basis of bonded areas and high and new tech zones, their development is unbalanced due to different times of establishment and geographical locations. The China (Shanghai) Pilot Free Trade Zone has ushered in the 3.0 era, but seven new pilot FTZs have just been set up. A number of reform achievements of FTZs in Shanghai, Guangdong, Tianjin and Fujian have been replicated and promoted, but the third batch of pilot FTZs places more emphasis on the regional and local characteristics, and the new reform priorities are inevitably different. If the differentiated reform has no systematic integration in an overall framework, the reform may be disorderly or confusing in execution, thus affecting the process of reform.

The most important goal of pilot FTZs in China is to resolve the relationship between the government and the market through opening-up. With the expansion of the reform experiment, "anything the law does not authorize is not done, while all duties and functions assigned by law are performed", and the list of government's functions and responsibilities needs to be constantly improved during the differentiation. However, the differentiated reform can lead to institutional conflicts

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among different administrative departments. How to alter or abolish unreasonable administrative rules and regulations that hinder cross-departmental coordination and improve government administrative efficiency are the problems that urgently need to be solved in the reform of pilot FTZs at the current stage.

8.2 The Direction of the Reform

If newly established pilot FTZs have just set sail, the original four zones seem to have entered a "period of lassitude" of reform after nearly four years of institutional innovations. The pilot FTZs in Shanghai, Guangdong, Tianjin and Fujian center on the liberalization of trade and investment. With their geographical advantages and strategic positioning, through single-point breakthroughs, it can be said that the initial reform goals have basically come to an end. The direction of reform is the problem to be solved currently.

The direction of reform comes not only from the "period of confusion" after decentralization of the government, but also from the limitations on the scope and depth of the reform of pilot FTZs. It is relatively easy to solve a single problem, but if the problems to be solved involve other or higher-level authorities, it is difficult for FTZs to solve them or devote efforts. Currently, the reform of pilot FTZs has gone through the stage of single-handedness and is moving into the stage in need of coordination and overall arrangement. Therefore, the direction of reform is a problem that cannot be solved by FTZs themselves. In addition, the achievements of the existing reform are mostly concentrated on "bringing in", but the opening-up means not just "bringing in", but also "going out". How to embark on further expanding the opening degree of "going out" is also a problem worth considering.

For the seven newly-established pilot FTZs, will they replicate all experiences and systems of the existing ones, or follow suit selectively? Under the premise that the existing experiences and systems have not yet been systematically integrated, the form of replication is a problem that needs to be clarified. The replication of systems can obviously alter the cost of reform, but the replication of experiences and systems requires the top-level design and promotion. The exchange and learning of pilot FTZs on their own are obviously costlier than the top-level promotion.

In addition to how to replicate and what experience and system to be replicated, these new pilot FTZs also shoulder the heavy responsibility of institutional innovation and reform. Although there are late-mover advantages, these FTZs are mostly located in the inland areas of China with a relatively low degree of opening-up. It is obviously more difficult for them to promote the reform with opening-up than coastal areas. How to embark on the institutional reform is also the focus of reform at this stage.

The real economy is the foundation for a big country to rest on. Without the development of the real economy, there can be no trade development. The purpose of the reform is to improve the efficiency of resource allocation and stimulate the vitality of enterprises. The reform of state-owned capitals and enterprises is an issue that cannot be avoided. The state has the right to use state-owned enterprises, which

are often regarded as economic organizations with "owners absent". Is the mixed ownership the only effective governance model of state-owned enterprises? Judging from the status of existing joint-stock listed companies, the mixed ownership solves the problem of owner absence to a certain extent, but it is not that the enterprises of mixed ownership can achieve high efficiency, and the key is to solve the problems of state-owned assets oversight and corporate governance.

9 Measures and Suggestions for Developing Pilot FTZs in China

9.1 Replacement of an Orientation Towards Political Achievements by an Orientation Towards Problems

Opening-up means removing restrictions, while the reform means changing the old systems, old things, and legalizing and institutionalizing solutions. Reform and opening-up means changing old systems and old things and removing various factors that restrict the development of things. As a test field for reform and opening-up, these pilot FTZs must strengthen opening-up, identify problems that restrict economic opening in the process of "going-out" and "bringing-in" economic activities and find workarounds under the principle of "market entities can do anything which are not prohibited by the law".

As a national strategy, the pilot FTZs have the core tasks of reform and openingup, building the market-oriented system and mechanism of resource allocation and establishing the test field and risk testing ground with an efficient business environment that is in line with common international practices. Being a test field, it must be problem-oriented, boldly explore and actively practice. Especially in the current situation when the reform and opening-up has entered a deep-water zone, we must tolerate failure and evaluate not by political achievements, so as to arouse the enthusiasm for the reform and mobilize the positivity of people from all walks of life for institutional innovation. This goal can be attained only by starting from the important developmental strategy of the country and carrying out a problem-oriented type of reform and opening-up.

To carry out a problem-oriented type of reform, we must identify problems existing in these pilot FTZs at this stage. First, the market-oriented allocation of resources requires that enterprises must be provided with the freedom of choice and the opportunities for fair competition. Although we grant the national treatment and eliminate the market access restrictions on foreign investors that are not on the negative list, which gives enterprises greater freedom of market access, so far there are still 95 special management measures that are still more restrictive than international rules. Restrictions mean government regulations. Therefore, shortening the negative list is not only a reform path to lift restrictions on enterprises, but also a shortcut with the lowest cost so as to urge the government to decentralize its power to the mar-

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ket. Second, the core problem for creating a business environment of international facilitation is reducing the transaction costs of enterprises. In an open economy, reduction of transaction costs involves the free cash conversion and flow, as well as commercial and regulatory policies. The main problem at this stage is still the free convertibility of capital accounts. In this regard, the primary task is clarifying the relationship between the monetary system and the mechanism of formation of the exchange rate. It is necessary to carry out risk testing and institutional innovation under the control of the central bank. Third, how the state capitals and SOEs can get rid of their special identities and participate in fair competition with other market players. Bringing about innovations to the enterprise system is the key to solving the problem.

9.2 Pressing Ahead with Reform by Opening up and Development by Reform

Pressing ahead with reform by opening up and development by reform seems to be a cliché, but it implies the logic of reform in pilot FTZs: the existing irrational system can be changed by removing restrictions and only in this way can we boost development. It is this simple truth that enables the achievements of the Chinese economy to capture the attention of the entire world.

What we should do first in the institutional reform is to remove restrictions, that is, "to open up". The central government has decentralized the power of opening-up—"to make audacious experiments and adventures, independently make changes". Then, how can these pilot FTZs be "opened up"? What can they open up? To "open up", we must first clarify misunderstandings in opening-up.

All along, there is a view that importations will reduce domestic production and affect domestic employment, so we should have more exports and fewer imports in the opening-up. It is actually a typical mercantilist view that deludes the public. In fact, the practice of economic development of various countries shows that this view is wrong and dangerous. According to the theories of international trade, there is an inherent mechanism of balance between importation and exportation, and the employment structure can be adjusted pursuant to comparative advantages. The essence of importation lies in the introduction of a mechanism of competition, which can promote the country's optimization of its industrial structure. If a country exports only without importing, it is similar to us who only make money without spending money. China, as the world's factory, should enjoy cheap and good products of other countries while supplying cheap and good products to the world. This is the original intention of our opening-up. Therefore, in today's economic globalization, to "open up", it is necessary to "go out", but also to "come in". Only in this way can we truly optimize resource allocation and promote the optimization of industrial structure.

The positive role of foreign investments in China's economic development is well known, but the controversy about outbound investments exists. Although currently

the outbound investments of China have exceeded inbound foreign investments in 2016, there is still a view that outbound investments will lead to capital outflows and affect the domestic economy. In fact, foreign trade and investments are always bidirectional and the trade can be sustained only when it can benefit the two sides. While investing abroad, we also expand our domestic market. Only by emancipating the mind can it be possible to remove the restrictions.

To "open up", removing restrictions is far from enough. Without rules, nothing can be done. In order to break the existing irrational systems and mechanisms that restrict opening-up, we must bring about innovations to the systems and mechanisms to provide the long-term institutional guarantees for the reform. With reduction of transaction costs and further improvement of the business environment as main aspects, and market-oriented allocation of resources as the core, we will further intensify the reform of pilot FTZs and carry out the historical mission of building an economic system for comprehensive opening-up.

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Chapter 3 Report on the Development of Foreign Investments in the Tumen River Region of China



Wangen Shen and Baoxing Zhao

Abstract New opportunities are created for cooperation on foreign investments in the Tumen River Region as the United States of America has withdrawn from the TPP, the RMB has been included in the SDR basket and the Belt and Road strategy has been deepened, but the region faces the challenges of geopolitical instability, the weakness of its own economic strength and inability to occupy a favorable position in the competition for foreign investment. Moreover, the region has weak economic strength, an unreasonable structure of the distribution of foreign capital, concentrated sources of foreign investment, and relative singleness of investment modes and investment fields. Accordingly, building strong economic strength and hard power such as infrastructures becomes a key step in attracting foreign investment, and creating a good environment of laws and regulations, policies, and finance is the basic premise for promoting foreign investment in the region. By continuously optimizing the investment structure and establishing the Tumen River Free Trade Zone, new ways are being opened up for China's Tumen River Region to attract foreign investment, and ultimately provide new impetus for the economic development of the Tumen River Region of China.

Keywords Tumen River Region of China · Foreign investment · Opportunities and challenges · Problems and countermeasures

With the continuous expansion of the Belt and Road Initiative and the good developmental trend of China, the world is eager to hear the voice of China in economic development and even global governance, and more urgently obtains the Chinese plan derived from Chinese wisdom. As China's international status is continuously improving, General Secretary Xi Jinping has spread the concept of cooperation and win-win results to the world in many diplomatic speeches, "Be inclusive and think

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¹Jinping (2016).

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beyond your narrow self-interest", ¹ and proposed to build an Asia-Pacific value chain for interest sharing and develop the big Asia Pacific market benefiting all parties. ² This undoubtedly provides a basis for the development of the Tumen River Region with geographical advantages in the Asia-Pacific region, and it also provides a solid premise for the Tumen River Region to absorb foreign capital and develop its economy.

1 Basic Status of Foreign Investments in the Tumen River Region of China

By the first half of 2017, the Tumen River Region of China had implemented more than 100 foreign-funded projects, and had used over US\$15 billion of foreign investments. The actual use of foreign capital exceeds US\$300 million, seeing a year-on-year increase of over 50%.³ Due to its unique geographical and cultural advantages, the Tumen River Region has distinct characteristics in the flow of foreign investment. From the perspective of industrial division, the secondary industry has taken the lead in attracting foreign investment; from the perspective of countries of investors, South Korea's foreign investment has become the mainstay; from the perspective of investment areas, the areas directly under the prefecture, Yanji City and Hunchun City, because of their good geographical locations, perform better in attracting foreign investment.

(I) The leading role of foreign investment in the secondary industry

In terms of foreign investment in the Tumen River Region of China, primary industry has 39 foreign-funded enterprises, accounting for 5% of the total; the investment in foreign-funded enterprises of the primary industry amounts to US\$19.45 million, accounting for only 1% of the total; primary industry has signed 42 foreign investment contracts, accounting for 7% of the total; and the contracted foreign investment amounts to US\$128.96 million, accounting for 6% of the total. The secondary industry has 303 foreign-funded enterprises, accounting for 40% of the total; the investment in foreign-funded enterprises of the secondary industry amounts to US\$135.33 million, accounting for only 73% of the total; secondary industry has 279 foreign investment contracts, accounting for 50% of the total; and the contracted foreign investment amounts to US\$1632.75 million, accounting for 73% of the total. The tertiary industry has 417 foreign-funded enterprises, accounting for 5% of the total; the investment in foreign-funded enterprises of the tertiary industry amounts to US\$470.61 million, accounting for only 26% of the total; the tertiary industry has 243 foreign investment contracts, accounting for 43% of the total; and the contracted foreign investment amounts to US\$461.29 million, accounting for 21% of the total.

²Jinping (2016).

³According to the data of Yanbian government.

From the above proportions, it can be seen that the secondary industry is in a dominant position for attracting foreign investment. The manufacturing sectors in the secondary industry are still the "darlings" of foreign investment. In the manufacturing sectors, there are 282 foreign-funded enterprises, accounting for 37% of the total; the investment amounts to US\$1214.37 million, accounting for 66% of the total; 265 foreign investment contracts have been signed, accounting for 47% of the total; and the contracted foreign investment amounts to US\$1353.74 million, accounting for 61% of the total. Therefore, the proportion of the manufacturing sectors is even higher than the total of the primary industry and the secondary industry in many aspects. Secondary industry in the Tumen River Region of China performs well in attracting foreign investment, and foreign investors favor manufacturing sectors in the secondary industry.

(II) South Korea, the mainstay of foreign investments in the Tumen River Region

In the case of foreign investments in the Tumen River Region of China, the majority of investments come from Asian countries. There are 591 foreign-funded enterprises in this region, of which 513 have investments from Asia, accounting for 87% of all. Among the foreign-funded enterprises with investments from Asian countries, 396 foreign-funded enterprises are invested in by South Korea, accounting for 77% of those invested in by Asian countries and 67% of all foreign-funded enterprises. Following South Korea, there are 49 Japan-funded enterprises, 40 USA-funded enterprises and 37 Hong Kong-funded enterprises, accounting for 8%, 7%, and 6% of all, respectively. Judging from the number of foreign investment contracts in the Tumen River Region of China, 376 contracts have been signed with South Korean investors, accounting for 67% of all, followed by Japan, Hong Kong and the USA, which signed 50, 40 and 38 contracts, respectively. South Korea still has the largest amount of investment in this region, around US\$1088.30 million, accounting for 49% of the

(III) Geographical factors affecting the geographical distribution of foreign investment

total, followed by Hong Kong, Japan and the USA, whose investment amounts are US\$757 million, US\$97.11 million and US\$64.78 million, accounting for 34%, 4%, and 2% of the total, respectively.⁶ In all aspects, the investment from South Korea accounts for a considerably large proportion of all foreign investments in the Tumen River Region of China. It is "the only branch of the tree that is thriving" and it is a

To attract foreign investment, the geographical location is very important and can indirectly determine the geographical distribution of foreign investment. As far as the attraction of foreign investment by the counties and cities in the Tumen River Region of China is concerned, the contracted foreign investment in areas directly under Yanbian Prefecture is US\$831.69 million, accounting for 37% of the total; Yanji

major source of foreign investment.

⁴Yanbian Statistics Bureau (2016a).

⁵Yanbian Statistics Bureau (2016b).

⁶Yanbian Statistics Bureau (2016c).

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City attracts the contracted foreign investment of US\$389.89 million, accounting for 18% of the total; and Hunchun City attracts the contracted foreign investment of US\$353.90 million, accounting for 16% of the total. According to statistics, in 2015, Yanbian Prefecture signed a total of 20 new foreign investment agreements, including 8 in Yanji City, accounting for 40% of the total, 6 in the areas directly under Yanbian Prefecture, accounting for 30% of the total, 3 in Hunchun City, accounting for 15% of the total, 2 in Longjing City, accounting for 10% of the total, and 1 in Wangging County, accounting for 5% of the total. There are no new foreign investment agreements in Tumen City, Dunhua City, Helong City and Antu County. Because the areas directly under the prefecture, Yanji City and Hunchun City, have certain geographical advantages and Yanji City is the seat of Yanbian Prefecture, the construction of their infrastructures is relatively complete and the investment environment is relatively stable. To avoid risks and save costs, foreign investors invest in these geographically advantageous cities and areas, which further affects the geographical distribution of foreign investment in the Tumen River Region of China.

2 Opportunities and Challenges for the Development of Foreign Investment in the Tumen River Region of China

The current trends of political multi-polarization, economic globalization and cultural pluralism provide excellent opportunities for the development of foreign investments in the Tumen River Region of China, but they also bring big challenges.

(I) New opportunities for the development of foreign investments in the Tumen River Region of China

First, the USA's withdrawal from the TPP provides new opportunities for foreign investment and international cooperation in the Tumen River Region of China. The TPP is the US-led Trans-Pacific Partnership to curb China's economic development. However, on January 21, 2017, the White House issued a new policy agenda, announcing its withdrawal from the TPP and the North American Free Trade Agreement. As the United States of America vigorously promoted the signing of the TPP agreement, South Korea and Japan took a negative attitude toward foreign investment in the Tumen River Region of China, which slowed down the development of foreign investment in that Region. After the withdrawal of USA, the TPP lost a strong driving force, which led to a favorable situation for the promotion of cooperation among China, Japan and South Korea in the Tumen River Region. If the advantages of the geographical location of this region and its position in the economic development of Northeast Asia are fully utilized, the huge foreign investment from neighboring countries can be absorbed,

⁷Yanbian Statistics Bureau (2016d).

such as from South Korea, Japan and Russia for jointly constructing the region. This can not only boost the economic development of the Tumen River Region, but also promote its profound economic and trade cooperation with Russia, Japan, South Korea, North Korea and Mongolia, achieve the economic development of surrounding countries, facilitate the regional economic integration of the Tumen River Region, and further advance the process of regional economic integration in Northeast Asia and even the economic integration of the Asia-Pacific region. Therefore, the Tumen River Region must grasp the golden opportunity for development and construction.

Second, the Belt and Road strategy provides a platform for attracting foreign investment in the Tumen River Region of China. The Belt and Road refers to the "Silk Road Economic Belt" and the "Twenty-first century Maritime Silk Road". This is an important initiative proposed by China to firmly defend globalization, strengthen the links of countries along the Belt and Road and boost the linked economic development of the world at the critical period of the global economy when "reverse globalization" emerges. The Tumen River Region of China is the core area for the economic development of Northeast Asia, and it also has a unique geographical advantage. With the further implementation of the Belt and Road strategy, the links between China and the countries around the Tumen River Region will be further strengthened. This can create favorable conditions for the absorption of foreign investment by the Tumen River Region, and enable it to effectively play an important role in the economic development of Northeast Asia and even of the Asia-Pacific region. The progress of the Belt and Road strategy can impel the Tumen River Region to enhance the construction of its infrastructures, build an open economic system and offer perfect software and hardware facilities for foreign investment in the region. The Belt and Road strategy can attract high-quality foreign investments from South Korea, Japan, Russia, the USA, Europe and even Latin American countries into the Tumen River Region of China, guide foreign investors to transform invested industries to a certain extent, and further optimize the industrial structure of foreign investment in the region or even in the whole country. These can promote the development of the Tumen River Region and link the neighboring countries and even the world by the region for joint development and realization of a win-win situation.

Third, the inclusion of the RMB in the SDR basket can create a new environment for economic development in the offshore areas of the Tumen River Region. This means the RMB is included in the special drawing rights currency basket. On November 30, 2015, the International Monetary Fund officially announced that the RMB was included "in the SDR basket". It is an important symbol for the internationalization of the RMB. The RMB is also increasingly used in the world economy and financial activities as an international currency, and is gradually becoming a regional currency or even an international currency. As the cooperation with countries around the Tumen River Region continues to extend, foreign investment will be further expanded. As a result, financial transactions among countries will become more frequent. After the inclusion of the RMB in the SDR basket and with continuous internationalization, it is possible that in the adjacent areas of the countries around the Tumen River Region, the RMB will become a commonly used currency,

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which will greatly improve the efficiency of the flow of capital, reduce the cost of international financial transactions in the region, and reduce or even avoid financial risks brought by foreign exchange to foreign-funded enterprises. Meanwhile, it will urge the Tumen River Region to create a good financial environment, establish an offshore financial market based on the internationalization of the RMB, improve the laws and regulations on financial development, facilitate the attraction of regional foreign investment, boost the development of regional enterprises and promote the coordinated and healthy development of the Tumen River Region in all aspects.

(II) Challenges faced by the development of foreign investments in the Tumen River Region

From an international perspective, the Asian countries around the Tumen River Region are impacted by political instability. There are more or fewer factors of political instability in countries around the Tumen River Region. First, the North Korean nuclear issue is always an important factor affecting the harmonious and stable development of the Tumen River Region of China, the Asia-Pacific and even the world. North Korea is also in a state of tension with other countries due to the nuclear issue. China is inclined to resolve the nuclear issue of North Korea through the "six-party talks". If the North Korean nuclear issue is not properly resolved, it will pose a serious threat to the healthy development of the Tumen River Region of China. Second, due to the North Korean nuclear issue and US pressure, South Korea accepted the deployment of THAAD, which seriously affected the relationship between South Korea and China and did this at a critical point. This could further influence economic and trade cooperation between China and South Korea and the healthy development of investments between the two sides. After the new government of South Korea arrives on the stage, there are unknown quantities in political, economic and social policies. This is an uncertain factor for the bilateral cooperation between China and South Korea or even multilateral cooperation and attraction of foreign investment in the Tumen River Region. Third, the Abe administration in Japan has never had a correct attitude toward the Sino-Japanese relations. The Sino-Japanese relationship has reached a deadlock because of the territorial dispute over the Diaoyu Islands. The Abe administration actively visited the Yasukuni Shrine on major anniversaries, showing that it does not intend to repair the Sino-Japanese relationship, which will remain stagnant for a relatively long period of time. Due to the unstable political environment, most of the market economy countries around the Tumen River Region are facing the pressure of a declining economy. This can affect the region's attraction of foreign investment to some extent, and also the overall economic interests of investing foreign enterprises. However, due to the economic downturn of domestic industries of foreign investors, capital will certainly shift from low-efficiency industries to high-efficiency regions and industries. How to make good use of its own advantages, and attract investment in the case of political and economic instability is a big challenge for the development of the Tumen River Region.

According to the domestic situations and the conditions of the Tumen River Region, it is often at a disadvantage when competing for foreign investment. Northeastern China where the Tumen River Region is located is relatively backward in economic development, and the neighboring areas are Russia's Hasan Town and North Korea's Tumangang City, which are relatively weak in economic strength. Moreover, the infrastructure in the Tumen River Region is relatively underdeveloped, and the overall economic environment is not optimistic. It still develops labor-intensive industries that use cheap labor to make products. However, the low quality of cheap labor also restricts the further development of the corresponding industries. Even if the country establishes the Changchun-Jilin-Tumen River Pilot Area and allows it to enjoy the policies of the development of western China, these advantages are not effective as expected due to the backward conditions of the Tumen River Region. Capital often flows from low-efficiency industries and regions to high-efficiency ones. After nearly 40 years of reform and opening-up, China's coastal areas are strong economically, have good infrastructure, and there are relatively complete laws and regulations, so they are more advantageous than the Tumen River Region in attracting foreign investment. The Tumen River Region is at a disadvantage in the competition for foreign investment, which further affects the investment of foreign capital and the healthy development of this region. Its backward conditions are another arduous challenge that restricts the introduction of foreign investment.

3 Main Problems of Foreign Investment in the Tumen River Region of China

With the continuous development of the Tumen River Region, a series of problems of foreign investment are gradually emerging. If these problems cannot be properly solved, they will seriously restrict the economic development of the Tumen River Region and even affect its social stability.

(I) Weak economic strength of the Tumen River Region

In 2015, the GDP of the Tumen River Region was 88.61 billion yuan, which increased by 7% as compared with 2014 at comparable prices including the increase of the primary industry by 4.5%, the secondary industry by 8.4%, and the tertiary industry by 5.7%. The four pillar industries of food, medicine, forest products and energy mining realized an added value of 33.23 billion yuan, which increased by 10.3%. In 2016, the Tumen River Region achieved a GDP of 91.51 billion yuan, witnessing a year-on-year increase of 7.6% at comparable prices. By industries, the primary industry realized 6.92 billion yuan with an increase of 2.3%, the secondary industry realized 44.57 billion yuan with an increase of 6.4%, and the tertiary industry realized 40.02 billion yuan with an increase of 10.1%. Their ratio was 7.6:48.7:43.7, in which the proportion of the tertiary industry increased by 2.0 percentage points over the previous year. Although the three industries are growing, the overall GDP is still low. The Tumen River Region has a forest coverage rate of 80.8%, with more than

⁸Yanbian Statistics Bureau (2016e).

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1460 kinds of wild economic plants and over 250 kinds of economic animals. Coal, oil and minerals are also abundant, but their economic value has not been fully exploited to achieve economic benefits. The Tumen River Region is mostly made up of mountainous areas without large cities in the surrounding area, thus being unable to accomplish an integrated development with contiguous cities and resulting in fewer opportunities for economic development and weak economic strength. This severely restricts the introduction of foreign investment to the Tumen River Region.

(II) Investment environment of the Tumen River Region urgently to be improved

The weak regional economic strength leads to a relatively underdeveloped hard and soft environment for investment. First, the construction of regional infrastructures lags relatively far behind. Although the domestic roads, railways and air routes have been continuously improved in recent years, the relevant international routes have not been fully smoothened out, which is also a major reason for the lag in economic development. Second, the overall quality of the labor force is low. Most of the members of the labor force in the Tumen River Region can speak the Korean language, which means a certain advantage in the factor of the production market. Although there is a large quantity of cheap labor in the region, due to the low overall quality of that labor, the industries developed in the Tumen River Region are mostly laborintensive and low value-added at the initial stage of the industrial chain. This greatly restricts the regional economic upgrading. Third, the financial environment is relatively closed. The environment of the financial market in the Tumen River Region is not good, and the supporting facilities of the financial market are not complete. These can increase the financial risks of foreign-funded enterprises entering the region, and directly lead to the transfer of foreign capital to other parts of the country. At present, in addition to the five state-owned banks, there are private joint-stock commercial banks in the Tumen River Region, such as the Bank of Jilin, the Rural Commercial Bank, the China Minsheng Bank and the China Everbright Bank, but without foreign banks settling in this region, which results in the loss of a lot of support of foreign investments. In order to enhance the ability to attract foreign investments, the most important thing is to improve the regional environment of investment.

(III) A concentrated source of foreign investment and a monotonous investing method and area

First, the main source of foreign investment in the Tumen River Region is South Korea. By the end of 2015, there were 396 South Korea-funded enterprises in the region, accounting for 67% of the total; 376 foreign investment contracts signed with South Korea, accounting for 67% of the total; and the contractual investment from South Korea amounts to US\$1088.30 million, which exceeds US\$1 billion and accounts for 49% of the total. ¹⁰ The foreign investment from South Korea can be said to be second to none and thus the structure of the foreign investment is too monotonous.

⁹Statistical Communiqué on the National Economic and Social Development of Yanbian Prefecture (2016).

¹⁰Yanbian Statistics Bureau (2016b).

Second, currently foreign investment enters the Tumen River Region mostly in the form of foreign-funded enterprises. By the end of 2015, there were 441 contracts signed for foreign-funded enterprises, including 108 contracts for Sinoforeign equity joint ventures and only 15 contracts for Sino-foreign cooperative joint ventures. This indicates that the investing method is monotonous. The former are mostly wholly foreign-owned and the latter are Sino-foreign cooperatives. The monotonous investing method is not conducive to the transfer of technology and technology spillover effects indirectly obtained by absorbing foreign investment, which can promote the technological update of enterprises, provide the support from foreign investments and advance the development of enterprises in the Tumen River Region of China.

Third, the main area of foreign investment is the manufacturing sectors of the secondary industry. By the end of 2015, there were 282 foreign-funded enterprises in the manufacturing sectors of the Tumen River Region, accounting for 37% of the total, and the amount of investment exceeded US\$1.2 billion.¹² There is a lack of investment in the tertiary industry, especially in the high-tech and service sectors, and most of the manufacturing investments are concentrated in the light industry and there is a lack of investment in large-scale projects, thus the foreign investment is short of long-term stability to a certain extent.

(IV) Unreasonable distribution of foreign investment in the Tumen River Region

Foreign investments in the Tumen River Region are mostly concentrated in the areas directly under the prefecture, Yanji City, the prefecture seat, and Hunchun City, which has a geographical advantage. The sum of the amounts of contracted foreign investments of the three types of areas accounts for 71%. The other six counties and cities account for only 29% of the total contracted foreign investment. It can be seen that the structure of the distribution of foreign investments is unreasonable and too concentrated. The introduction of foreign investments is conducive to the development of an urban economy, but the imbalance of the distribution of foreign investments will indirectly lead to an unbalanced development of the Tumen River Region and gradually widen the gap of economic development between counties and cities in the region. This is not conducive to its economic development and regional social harmony and stability. Therefore, the foreign investments in the Tumen River Region should be introduced in a balanced manner and rationally distributed, thus promoting the overall coordinated development of the regional economy.

¹¹Yanbian Statistics Bureau (2016a).

¹² Yanbian Statistics Bureau (2016f).

¹³Yanbian Statistics Bureau (2016d).

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4 Suggestions for the Development of Foreign Investments in the Tumen River Region

The continuous entry of foreign investments into the Tumen River Region of China is conducive not only to its own economic development, but also to its radiation and demonstration effects, thus driving the development of Northeastern China, Russia's Hasan and the Korean Peninsula and being of great significance for the economic development of Northeast Asia.

(I) Optimizing the structure of investments and guiding foreign investments to distinctive industries

The monotonous structure of investments seriously affects the coordinated and comprehensive development of the Tumen River Region, so it is necessary to optimize that structure. High-quality foreign investments must be flexibly introduced in multiple forms from multiple channels, and they should not be concentrated in the introduction of foreign investments from only one country. In the process of introducing foreign investments, attention should be paid to the quality of foreign investments rather than the quantity. This process of introducing foreign investments should be viewed from a long-term perspective. We must break the dominance of wholly foreign-owned enterprises in the Tumen River Region and guide the foreign investments to adopt the form of Sino-foreign equity or cooperative joint ventures, so as to optimize the foreign investing methods and give full play to the role of foreign investments in Sinoforeign equity or cooperative joint ventures, advance the economic development of enterprises, and promote regional economic development. It is also necessary to expand the areas of foreign investment and guide foreign investments to high-tech industries and distinctive industries in the region. The Tumen River Region of China is mostly mountainous and has abundant forestry resources. Therefore, it can develop a forest economy according to local conditions, support the development of distinctive regional industries through support from foreign investments, maximize the role of foreign capital, build an e-commerce platform with the aid of the "Internet +" and facilitate the rapid economic improvement of the Tumen River Region.

(II) Building up the Tumen River Region's hard power of attracting foreign investments

First, to improve the overall economic strength of the region. Considering its advantages, the region may vigorously develop distinctive industries and promote economic development. The main pillar industries in the Tumen River Region of China are mostly labor-intensive and resource-intensive, and all of them are low value-added industries. Therefore, the region must extend its industrial chain and carry out the deep processing of products to increase the added value. Meanwhile, the members of the labor force must be educated and trained to improve the level and quality of their skills, and outbound personnel are encouraged to return to their hometowns to start up a business. The pillar industries should be gradually shifted from labor-intensive and resource-intensive industries to technology-intensive or capital-intensive industries, to expand the tax-source economy. The region should accurately

develop projects, mainly promote cooperation on large-scale international projects, and continuously expand new projects, incl. labor cooperation, investment cooperation, engineering construction and other projects. Integrated with the upstream and downstream industries, the region can build up an industrial chain that is system-efficient, thereby enhancing its overall economic strength.

Second, to strengthen the construction of transportation network connectivity. First of all, the region should enhance the construction of its urban roads and broaden its main urban roads to guarantee the smooth and convenient transportation of urban areas within the region. Second, it should strengthen the construction of transportation networks between cities and even between villages and towns, widen important national highways and expressways, repair provincial roads with large flows of traffic and mountain roads, and pay attention to the maintenance of roads. If there are villages and towns near expressways and important national highways, there may be entrances and exits at corresponding locations. Then, the Tumen River Region could be connected as a whole through a transportation network. Finally, the transportation network should be built so as to connect the region with other parts of the country and even with other parts of the world. Through highways, railways and air routes, the various regions of the country can be linked. Based on the domestic transportation network, it may focus on the construction of international highways, railways and air routes. The Tumen River Region, Northeastern Asia and even the Asia-Pacific can be activated by transportation. Further, the construction of the airport in Hunchun City should be accelerated, so that Yanji Airport and Hunchun Airport can become the air traffic hubs of the Tumen River Region and provide convenient conditions of transportation so as to attract foreign investors.

Third, to consolidate and strengthen the development of open and developing areas, industrial parks and facilities in the Tumen River Region. The long-standing experience of the Hunchun International Cooperation Demonstration Zone provides precious reference for the construction of the Helong Border Economic Cooperation Zone, the Tumen Liangshui—North Korea Onsŏng Cross-border Cultural Tourism Cooperation Zone, the Yanji International Airport Economic Development Zone, the Bonded Logistics Center and the Yanlongtu New Area. To enhance the construction of international ports in the region, construction on the Hunchun Quanhe International Port Inspection Building and auxiliary facility will start in the second half of 2017. After completion, the Hunchun Quanhe International Port will become the largest port in the Tumen River Region. It will play a tremendous role in the transportation of goods and promote the entry of high-quality foreign investments into the region.

(III) Creating a good soft environment for foreign investments

First, to make good use of laws, regulations and policies to create a soft environment. The Tumen River Region belongs to the ethnic minority autonomous areas. According to relevant laws and regulations, ethnic minority areas can formulate separate regulations according to their own developmental needs within the scope of the Constitution, without violating special regulations and basic legal principles. These separate regulations can break through the limitations of the higher-level law. It is not only beneficial to the economic development of ethnic minority areas and the Tumen

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River Region by formulating separate regulations for attracting and utilizing foreign investments according to local conditions, but it is also conducive to improving the financial laws and system of regulations in the Tumen River Region and providing the legal basis for the introduction and utilization of foreign investments and the establishment of a financial environment in the region. Moreover, the financial policies of the state, the province, and the prefecture must be made full use of, so as to improve the financial system of the Tumen River Region, provide the fundamental institutional guarantees, promote the absorption of foreign investments, and develop the region.

Second, to establish an offshore financial market in the Tumen River Region. As the inclusion of the RMB "in the SDR basket" started the process of the internationalization of the RMB, it provided a realistic basis for the construction of an offshore financial market in the Tumen River Region. The offshore financial market can facilitate the development of the three levels of industries in the region, build a new growth pole, stimulate international economic and trade cooperation, realize its role in stimulating the production of industrial and agricultural products, and drive forward the industrial development of the region and its hinterland. Moreover, after the establishment of an offshore financial market in the Tumen River Region, it will provide an operational platform for overseas investment enterprises. While promoting the development of foreign investment enterprises, it will also attract many powerful foreign and domestic enterprises to invest in the Tumen River Region and further boost the economic development of the region.

Third, to expand the sources of financial support for foreign-funded enterprises. The Tumen River Region needs to build an active financial market and give foreign-funded enterprises sufficient financial support to make sure that they can function properly. In terms of financial support for foreign investments, private credit should be properly liberalized, private joint-stock banks such as the Bank of Jilin, the China Everbright Bank, the China Merchants Bank and the China Minsheng Bank, should be encouraged to provide financial support to foreign-funded enterprises, and the government should give these banks corresponding support through policies. An appropriate quantity of foreign banks may be introduced to provide financial support for foreign-funded enterprises. At present, there are many South Korean foreign investors in the Tumen River Region, so reputable banks from South Korea may be introduced to set up branches in the Tumen River Region. With the gradual enrichment of sources of investment, more foreign banks can be introduced to ensure the smooth operation of foreign-funded enterprises and the healthy development of the Tumen River Region.

(IV) Constructing the Tumen River Free Trade Zone to introduce foreign investments

A free trade zone may be constructed in the Tumen River Region of China. Based on the China–South Korea Free Trade Agreement, the China-South Korea Free Trade Zone may be established first. Then, the free trade zone of China, Russia, South Korea and Japan may be established. Due to the establishment of free trade zones, tariffs will inevitably decrease, which will greatly increase the multilateral trade

activities in the Tumen River Region, and further allow for the free flow of idle capital, the labor force, resources and other production factors in the free trade zone, make full use of them and provide the economic basis for multilateral investment. As a result, high-quality foreign investments may enter the Tumen River Region, which may exchange with and learn from foreign investors with respect to corporate culture, management experience and technology through joint ventures and cooperation, promote the technological improvement and update through the transfer of technology and technology spillover effects, and finally achieve a win-win situation. A new growth pole may be formed with the Tumen River Free Trade Zone as the core, so as to drive the economic development of the Changchun-Jilin-Tumen River Pilot Area through its demonstration and radiation effects, or even the economic development of Northeastern Asia. This can facilitate the economic integration of the Tumen River Region or even the integrated economic development of the Greater Tumen River Region.

In summary, the Tumen River Region of China has a unique geographical advantage. With continuous advancement of the Belt and Road strategy and the Asian Infrastructure Investment Bank, as well as the good growth trend of the Chinese economy, the injection of high-quality foreign investments will undoubtedly be able to impel the economic development of the region, which is of great significance for the development of the Changchun-Jilin-Tumen River Pilot Area, Northeastern China and even Northeastern Asia.

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Chapter 4 Report on the Development of Qianhai, Shenzhen



Wei Yong

Abstract From the establishment of the Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone in 2010 to the establishment of the Qianhai Shekou Free Trade Zone in 2015, Qianhai, a land of only 15 km², has already become the location for the Shenzhen-Hong Kong Modern Service Industry Cooperation Zone, the Bonded Port Area, a Pilot Free Trade Zone and the Guangdong-Hong Kong-Macao In-depth Cooperation Demonstration Zone under the guidance of the three national strategies of "The Shenzhen-Hong Kong Modern Service Industry Cooperation Zone", "the Belt and Road" and "The National Pilot Free Trade Zone". This report is one of a series of reports and centers around Qianhai, the "Special Zone within the Special Zone" with 15 km² of land, sorting out and analyzing the new progress made during each year of development and construction, and giving corresponding policy suggestions.

Keywords Institutional innovation • Clustering development of the modern service industry • Shenzhen-Hong kong cooperation

The Comprehensive Plans for the Shenzhen Qianhai Shekou Area in China (Guangdong) Pilot Free Trade Zone (Draft) issued in 2017 included a total area of 37.9 km² into the scope of the plan, consisting of the Qianhai Shekou Area (28.2 km², including 15 km² of the Qianhai Area and 13.2 km² of the Shekou Area) and the surrounding areas of the Qianhai Shekou Area (9.7 km²). It is positioned as "the Guangdong, Hong Kong and Macao in-depth cooperation demonstration zone and new city center and the strategic fulcrum for the Belt and Road based on Hong Kong and Macao, serving the Mainland and facing the world".

From the establishment of the Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone to the establishment of the Qianhai Shekou Free Trade Zone, Qianhai, a land of only 15 km², has already become the location for the Shenzhen-Hong Kong Modern Service Industry Cooperation Zone, the Bonded Port Area, a Pilot Free Trade Zone and the Guangdong-Hong Kong-Macao In-depth Coop-

eration Demonstration Zone. This report centers around Qianhai, the "Special Zone within the Special Zone" with 15 km² of land, it sorts out and analyzes its new progress in the past year¹ and gives corresponding policy suggestions.

1 New Progress of Qianhai

2017 is a crucial year for the development and opening up of Qianhai. At the 5th anniversary after General Secretary Xi Jinping's visit to Qianhai, the 20th anniversary of the reunification of Hong Kong and the upcoming 19th National Congress of the Communist Party of China, Qianhai focuses on "institutional innovation, clustering development of the modern service industry and Shenzhen-Hong Kong cooperation", continuously develops and opens up and achieves the following progress.

1.1 Remarkable Institutional Innovation of Qianhai with Good Social and Economic Benefits

Institutional innovation is the core task for the development and opening-up of Qianhai. As an important carrier of institutional innovation, by August 2017, Qianhai had successively launched 284 institutional innovation measures covering financial opening, building up of a rule of law, trade and investment management, and institutional mechanisms, of which 110 are leading or originating nationally, 49 are promoted to other parts of Guangdong Province and 31 to other parts of Shenzhen. The essence of institutional innovation is to create a more international, convenient and rule-oflaw-based business environment for Qianhai and promote the rapid development of the real economy. In 2016, the registered enterprises in Qianhai realized the added value² of 92.645 billion yuan, with an annual growth rate of 164.8% from 2013 to 2016, which is more than doubled. Compared with 4.989 billion yuan in 2013, the added value of registered enterprises in the years before 2016 increased by 1757%. After several years of development and opening-up, the economic density of Qianhai reached nearly 6.2 billion yuan per square kilometer in 2016. By August 2017, a total of 133,657 enterprises had settled in Qianhai, with the registered capital of 8,912.138 billion yuan, a total of 97.019 billion yuan of investment in fixed assets, 94.841 billion yuan of contracted foreign investments, and 10.142 billion yuan of actually used foreign investments (Table 1).

¹The data used in this report are sourced from the Authority of Qianhai.

²Realized added value of registered enterprises is calculated through the same approach as the regional GDP, but the former is calculated at the place of registration and the latter is calculated at the place of business, so they cannot be seen as the same indicator; the growth rate is calculated by the current year's price, that is, the calculation is based on the actual prices of the year, which are not converted into comparable prices or constant prices.

Indicators	Unit	2013	2014	2015	2016	Average annual growth rate (%)
I. Added value of registered enterprises	Billion yuan	507.35	692.98	1019.01	1416.19	40.8
Incl. Qianhai area	Billion yuan	49.89	192.98	569.46	926.45	164.8
Shekou area	Billion yuan	457.46	500.00	449.55	489.74	2.3

Table 1 Added value of registered enterprises in the Qianhai Shekou area of the Guangdong free trade zone from 2013 to 2016

Data source Authority of Qianhai

In August 2017, the Authority of Qianhai announced the *Interim Measures on the Management of Institutional Innovation Carriers in the Shenzhen Qianhai Shekou Area of China (Guangdong) Pilot Free Trade Zone (Draft for Comments)*, which proposed to identify a group of "government agencies, market entities and think tank institutions (including third-party consulting institutions and research institutes)" as the carriers of institutional innovation aiming at realizing collaborative innovation among the government, enterprises and private think tanks by the construction of carriers, building effective mechanisms for institutional innovations, achieving breakthroughs in important areas and key links and advancing institutional innovation, replication and promotion. Around the innovation to the financial system, rule of law and management of investments, trade and administration, Qianhai has made the following new progress.

1. Innovations to the financial system: the initial formation of the system of policies for cross-border financial innovation

As the test field for the new round of reform and opening-up and the location for the Shenzhen-Hong Kong Modern Service Industry Cooperation Zone, the Bonded Port Area, a Pilot Free Trade Zone and the Guangdong-Hong Kong-Macao In-depth Cooperation Demonstration Zone, Qianhai undertakes the important missions of docking with international investment and trade rules and building an internationalized and ruled-based business environment at the beginning of its establishment. The opening of and innovation to the financial sector is the top priority. In December 2016, the Qianhai Institute for Innovative Research and the University of Hong Kong publicly released the "Qianhai Cross-border Financial Index (QCFI)". According to the index, it is known that Qianhai has a good trend in construction and development of an ecological cross-border financial environment; there are an investment environment and significant policy advantages, a stable and healthy financial ecological environment and sustained and effective attraction to all kinds of financial enterprises.³ By August 2017, among 133,657 enterprises that had settled in Qianhai, the number of financial enterprises had reached 56,347, accounting for 42.16%.

³http://inanshan.sznews.com/mb/content/2016-12/15/content_14585828.htm.

Traditional, innovative and similar financial institutions have gathered in Qianhai, which has become an important "cross-border financial center" in China.

(1) Accelerating cross-border RMB business and promoting the opening of capital accounts

The opening of capital accounts is an important content of the reform of China's financial system. From the "gradual realization of the convertibility of the RMB under the capital account" to the "orderly realization of the convertibility of the RMB under the capital account", it has been included in the "12th Five-Year Plan" and the "13th Five-Year Plan" as an important task. Qianhai, which is "the pilot and demonstration window for the opening of the national financial sector" and "the innovation and pilot zone for cross-border RMB business", shoulders the responsibilities for promoting the opening of capital accounts and advancing the internationalization of the RMB. The opening of capital accounts requires a prudent and orderly process. Generally speaking, first of all, the capital accounts settled in RMB should be gradually unleashed, and then the capital accounts settled in foreign currencies are gradually relaxed. This can minimize the risks due to the opening of capital accounts. In order to speed up the opening of RMB capital accounts, Qianhai should steadily push forward the pilot work of cross-border RMB business.

Qianhai was the earliest region in China to conduct the cross-border back-to-back RMB loan business. In December 2012, the promulgation of the *Interim Measures on the Management of Cross-border RMB Loans in Qianhai* marked the start of the cross-border RMB loan business in Qianhai. By August 2017, the accumulated cross-border RMB loan withdrawal amount reached 37.1 billion yuan, which benefited 171 enterprises settled in Qianhai. In terms of cross-border two-way equity investment business, Qianhai launched the QFLP⁴ pilot in 2012 and QDLP⁵ pilot in 2014. By August 2017, Qianhai already had 118 QFLP managed enterprises and 41 QDLP pilot enterprises. For the cross-border two-way capital pool business, Qianhai launched the "Pilot Centralized Operation of Foreign Exchange Funds of Transnational Companies and the Pilot of Cross-border Two-way RMB Capital Pool Business within the Group" in 2015. By August 2017, 14 transnational groups made up of 336 affiliated companies had completed the filing of the cross-border two-way RMB capital pool and had facilitated the cross-border financing of domestic and foreign enterprises.

After the cross-border back-to-back RMB loan business, cross-border two-way RMB bond business, cross-border two-way equity investment business and cross-border two-way capital pool business, the first platform-based cross-border credit asset transfer business of China was completed at the Qianhai Financial Exchange in December 2016. As approved by the State Administration of Foreign Exchange, the cross-border transfer of non-performing assets of banks began in Qianhai in June 2017. By August 2017, a total of 30 cross-border transfers of RMB credit assets with a total volume of transactions of 813 million yuan had been completed. With

⁴Qualified Foreign Limited Partner.

⁵Qualified Domestic Limited Partner.

the implementation of pilot policies of these cross-border RMB businesses, Qianhai had initially formed a financial policy system with cross-border financial innovation as its main feature, and explored a batch of experiences that could be replicated and promoted to the whole country.

(2) Accelerating innovation in financial regulation

"Innovation and opening are inseparable from the construction of a stable, sustainable and risk-regulated financial system." In response to uncertain financial risks, Qianhai actively strengthens the prevention of financial risks. In August 2017, the Qianhai Financial Risk Prevention and Control Work Conference was held in Qianhai. The conference gave importance to preventing and controlling financial risks in Qianhai and strengthening financial regulations. It proposed five key points for the innovation to the financial regulations of Qianhai⁷: "(1) To strengthen the construction of financial regulation agencies, make regulatory responsibilities clear, enhance the regulation functions, establish and improve financial regulation agencies and platforms and enrich financial regulation; (2) to enhance the execution of financial regulation responsibilities, strengthen industry regulation responsibilities, achieve "no blind spots and no blankness", reinforce the local regulatory accountability and achieve "no absence and no deviation"; (3) to enhance the exploration of the mechanism for financial regulations, take the lead in piloting comprehensive financial regulations, improve the financial security defense line and risk emergency response mechanism, put the regulatory power at the forefront and firmly defend the bottom line to eliminate systemic and regional financial risks; (4) to enhance the technological means of financial regulations, explore the use of big data to monitor and control financial risks, build platforms and explore the high-tech regulation model of financial risks in Qianhai; and (5) to enhance the subject responsibilities of risk prevention and control of financial enterprises, explore the establishment of a mechanism for the work on in-house financial risk prevention and control and form the "external + internal" joint regulation efforts.

In 2016, the RMB officially joined the SDR system and became an important member of the international monetary and financial system. The internationalization of the RMB had taken a solid step. In the open international financial environment with multilateral game, a mature and stable domestic financial market will become an important guarantee for the internationalization of the RMB. Due to various uncertainties in the macro economy and the imperfect financial system, it is easy to incur risks in cross-border capital flows during the process of promoting the opening of capital accounts. How to effectively prevent and resolve the risk of cross-border capital flows during the process of capital account opening? This requires an active exploration of the effective path of managing capital flows. We should strengthen the macro-prudential management of cross-border capital flows, gradually shift from

⁶Official website of the Authority of the Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone. http://www.szqh.gov.cn/ljqh/cxqh/cxdt/201608/t20160823_36081354.shtml.

⁷Cited from Ma (2017, Column A06).

traditional micro-approval to macro-prudential management, and effectively prevent and control risks while facilitating cross-border investment and financing.⁸

Qianhai was the first region to launch the pilot program for macro-prudential management of foreign debts. In January 2016, the People's Bank of China issued the *Notice on Expanding the Pilot Implementation of Full-caliber Macro-Prudential Administration of Cross-border Financing*, which upgraded the macro-prudential management of cross-border financing to the full-caliber macro-prudential management of cross-border financing of domestic and foreign currencies and promoted the four free trade zones in Shanghai, Tianjin, Guangzhou and Fujian to it, as well as 27 pilot financial institutions across the country. In May 2016, the pilot of the project was implemented throughout the whole country. By August 2017, a total of 103 enterprises in Shenzhen had handled the macro-prudential pilot of foreign debts and the full-caliber cross-border financing business. The contracted amount reached US\$5.318 billion, and the average financing cost was reduced by 1–2%.

2 Continuous Expansion of the Construction of the Rule of Law Demonstration Zone

Qianhai, "the socialist rule of law demonstration zone with Chinese characteristics", in the past six years, has constantly explored innovations to the rule of law, achieved innovations to legislation, justice and law enforcement, and initially established "the framework for the socialist legal system".

(1) Legislation aspect

The legislative power is the power granted by the state to Qianhai and hence it has a competitive advantage that other free trade zones and functional development zones do not have. "Law-based governance of the country gives top priority to legislation." In the past few years of development and opening-up, Qianhai has adopted the three-pronged approach of "basic legislation, industrial regulations, and supporting policies", successively launched a series of regulations, measures and rules around the clustering development of the modern service sector in the cooperation zone, especially the opening up of and innovation to the financial sector, and initially formed the Qianhai regulation system with the "basic law" as the core. In 2017, Qianhai released the *Outline of the Plan for Construction of the Socialist Rule of Law Demonstration Zone with Chinese Characteristics in Qianhai* and pointed out that⁹: "To comprehensively promote the modernization of the national governance system and capacity, serve the Belt and Road, one country, two systems and free trade zone construction strategies, and take the lead in exploring the regional governance model of marketization, rule of law and internationalization, we should pioneer with respect

⁸Cited from Jiang and Gan (2017, 3).

⁹Cited from the *Outline of the Plan for the Construction of the Socialist Rule of Law Demonstration Zone with Chinese Characteristics in Qianhai.*

to scientific legislation, strict law enforcement, fair justice, and law-abiding actions by the people, build a world-class legal environment and become a demonstration zone for the socialist rule of law with Chinese characteristics."

(2) Judicial aspect

Qianhai Court is the only "model court of comprehensive judicial reform in the socialist rule of law demonstration zone with Chinese characteristics". To further adapt to the developmental requirements of the rule of law demonstration zone, serve the Belt and Road strategy, and to guarantee the construction of the cooperation zone and the free trade zone, Qianhai Court fully advances the reform of and innovations to the trial mechanism involving foreign, Hong Kong, Macao and Taiwan parties, enhances the trial capacity, quality and effectiveness, increases their trust in judicial trials and strengthens the effectiveness and credibility of international justice. It establishes a professional internationalized trial team, creates a jury system with Hong Kong experts, improves the system of foreign, Hong Kong, Macao and Taiwan mediators, deepens the identification and application of extraterritorial laws, and explores the mechanism for the resolution of diversified commercial disputes. In 2017, Qianhai Court issued the Outline and Work Guidelines for the Reform of the Judicial Mechanism of the People's Court of the Shenzhen Oianhai Cooperation Zone for the Trial of Cases Concerning Hong Kong, Macao and Taiwan to further intensify the reform of the trial mechanism involving foreign, Hong Kong, Macao and Taiwan parties. By August 2017, Qianhai Court had handled a total of 6,092 civil and commercial cases, more than half of which were cases involving foreign, Hong Kong, Macao and Taiwan parties (3,412), and the cases involving parties from Hong Kong had reached nearly 40%.

Moreover, in terms of legal services, as an important strategic node of the Belt and Road Initiative, Qianhai, in order to better serve the Belt and Road strategy and allow more enterprises to "come in" and "go out", constantly brings about innovations to the international legal services and the safeguarding of enterprises which "come in" and "go out". In March 2017, Qianhai launched the Belt and Road rule-of-law map project. "This project uses Internet technology to discover, capture, organize and sort out public information and data of relevant countries and regions and provides the comprehensive, quick and accurate public services for our government, enterprises and the public to inquire about laws and regulations of countries and regions along the Belt and Road", ¹⁰ promotes the exchange of goods and services of these countries and regions and facilitates the development of international investment and trade. In May 2017, Qianhai established the "Qinghai Belt and Road Legal Service Federation", which gathered more than 1,000 Chinese language lawyers from more than 70 regions in nearly 50 countries and "built the international legal service platform with lawyers speaking the Chinese language in order to provide the all-around services in crossborder investment, cross-border mergers and acquisitions, intellectual property rights and dispute resolution."

¹⁰Cited from Jiang (2017).

(3) Law enforcement

As the only "anti-corruption demonstration zone" in the country, Qianhai actively explores the new model of "government + market + society" to fight against corruption. In 2013, the Oianhai Anti-Corruption Bureau was established and made responsible for improving Party conduct, fighting corruption and upholding integrity. Adhering to the philosophy of "anti-corruption as the goal, integrity as the basis, rule of law as the foundation, system as the key, and punishment as the guarantee", Qianhai has successively introduced 68 work opinions on the implementation methods of improving Party conduct and constructing the "anti-corruption demonstration zone", the first White Paper in China on evaluating the anti-corruption status and the regulations for preventing conflicts of interest. After several years of hard work, the clean government construction in Qianhai has notched up the initial success. According to the data in the White Paper, the "Clean Government Index" is 82.9 points for Oianhai in 2016, including 88.3 points for the "case investigation index", 86.1 points for the "control index", 79.4 points for the "rule of law index" and 76.6 points for the "risk prevention index". Further, in 2016, the "Corruption Perceptions Index" was 80.7 points, including 96.5 points for "corruption contacts", 78.2 points for "anticorruption satisfaction", 78.1 points for "corruption perceptions" and 70.3 points for "corruption tolerance". These data reveal that statutory institutions in Qianhai have done a good job in punishing corruption and law and discipline violation, but they do not perform well in preventing the risk of corruption. For the public percepts of anti-corruption, we find that the public is highly tolerant of the corruption occurring around us. It is imperative that the work on publicity and education on fighting against corruption and promoting clean government be carried out so that the public can actively participate in this work.

2. Innovations to the management system

(1) Bringing about innovations to the investment management model

"Lowering the threshold, improving efficiency and benefiting enterprises" are the goals of Qianhai's innovative management model. It intensifies the reform of the commercial system, advances "separating certificates from business license version 2.0", focuses on "simplifying the post-approval of enterprises" and optimizes the market entry and exit mechanism of enterprises under the criteria of "canceling what can be canceled, eliminating what can be eliminated, combining what can be combined and transferring what can be transferred". Qianhai expands the "internet + taxpaying" management model, brings about innovations to the diversified tax payment methods, originates the business of "cross-border tax payment by electronic cheques", launches the platform for multi-language tax advisory services, explores the "no-disturbing honest tax-paying" risk management model, does not disturb honest taxpayers, regulates dishonest taxpayers and optimizes the environment for tax development. Further, Qianhai actively explores the new road of taxation and bank cooperation and realizes in three steps from the "one-stop service" of Qianhai, to "one-network service" of Shenzhen and to the "tax-bank big network pattern"

in China. The taxation-bank cooperation model allows for handling more than 100 tax-related businesses of "tax declarations, invoice issuance, tax risk report inquiries, and VAT special invoice deduction certification" in the special tax service area of banks, thus simplifying the taxpaying formalities of enterprises, saving tax costs and improving tax efficiency.

(2) Optimizing the customs clearance environment for trade

For the facilitation of trading, Qianhai adheres to the principles of "promoting cooperation, simplifying formalities and reducing costs" and docks with international economic and trade rules. It continues to expand the mechanism for comprehensive port supervision and advance the construction of "one window" 3.0 for international trading; push forward the implementation of projects such as the "Shenzhen-Hong Kong Customs Clearance and Trade Connect", and achieve the "exchange of customs information", "regulation exchange" and "mutual recognition of law enforcement"; moreover, it continues to facilitate the construction of the "bonded + retail" display trading platform and so on. In April 2017, Qianhai released the trade facilitation index. The index draws on the internationally accepted trade facilitation evaluation method, and measures the trade facilitation index of the Qianhai Shekou Free Trade Zone in aspects of "port management", "customs clearance environment", "trade function transformation" and "radiation effects". In 2016, the index was 0.8515, seeing an increase of 5.85% compared to 2015.

(3) Building the credit rating system and strengthening oversight

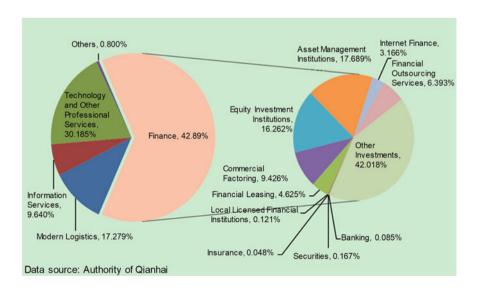
Qianhai is actively promoting the government reform of "separating certificates from business licenses". While "streamlining administration and delegating power", it actively builds the credit rating system, exercises oversight both during and after the handling of matters, and adopts the forms of "easy access and strict regulation" and "strengthening regulations". In 2017, Qianhai established the center for social credit services "to promote corporate credit rating, credit risk warning, regular blacklisting, and the implementation of credit access in high-return areas such as land transfer, project construction, and finance". As an internal organization of the statutory body, the Qianhai Center for Social Credit Services provides regulatory services and credit demand services to the government and enterprises. By building the social credit system, it can be helpful for innovating the government's regulatory model, effectively prevent and control various risks encountered by Qianhai in development and opening-up, and build a safe business environment.

2.1 New Progress in the Clustering Development of the Modern Service Sector

By August 2017, there were 133,657 enterprises in Qianhai with the total registered capital of 8,912.138 billion yuan, seeing a year-on-year increase of 21.3%, of which 4,729 are Hong Kong enterprises, which witness a year-on-year increase of 27.2%

and have a total registered capital of 424.216 billion yuan. There are 56,347 financial enterprises with a year-on-year increase of 19.4% and a total registered capital of 5,369.928 billion yuan, accounting for 42.16%; there are 23,095 modern logistics enterprises with a total registered capital of 957.97 billion yuan, seeing a year-on-year increase of 8.9% and accounting for 17.28%; there are also 12,885 information service enterprises with a total registered capital of 637.473 billion yuan, seeing a year-on-year increase of 16.8% and accounting for 9.64% and 40,344 technology and other specialized service enterprises with a total registered capital of 1,905.215 billion yuan, seeing a year-on-year increase of 38.5% and accounting for 30.2%. In 2016, the tax revenue was 18.49 billion yuan. From January to July 2017, the tax revenue was 17.88 billion yuan, which was equal to 96.7% of the total tax revenue for the whole year of 2016. From 2013 to 2016, Qianhai achieved an average annual growth rate of tax revenue of 229.1%.

The financial sector is still a key industrial sector developed in Qianhai, although the share of Qianhai has declined compared with the same period last year. From the perspective of the structure of the financial sector, traditional financial institutions (banks, securities firms, insurance companies) account for a relatively low proportion of only 0.3%; there are 56,178 innovative financial entities, accounting for 99.7%, made up of 2,606 financial leasing entities, 5,311 commercial factoring entities, 42 petty loans entities, 284 credit guarantees entities, 19 factor trading platforms, 8,934 equity investment institutions, 9,967 asset management institutions, 1,784 internet finance institutions, 3,602 financial outsourcing services and 23,671 other investment institutions. The financial sector of Qianhai has developed into a diversified financial institution system with innovative financial institutions as its mainstays.



2.2 Accelerating the Pace of Cooperation Between Shenzhen and Hong Kong

Shenzhen-Hong Kong cooperation is the core task of Qianhai's development and opening-up. "Relying on Hong Kong, serving the Mainland and facing the world" were the instructions given by General Secretary Xi when paying a visit to Qianhai in 2012. "Relying on Hong Kong" refers to deepening the cooperation with Hong Kong, learning from Hong Kong, building the international investment and trade rules docked with international standards, developing the modern service sector, and especially focusing on the development of financial sectors and creating the Qianhai International Financial Center. The year 2017 is the 20th anniversary of Hong Kong's reunion. "Witnessed by President Xi Jinping, the Chief Executive of the Hong Kong Special Administrative Region, Carrie Lam, the Chief Executive of the Macao Special Administrative Region, Chui Sai-on, the Chairman of the National Development and Reform Commission (NDRC), He Lifeng and the Governor of Guangdong Province, Ma Xingrui all signed the Framework Agreement on Deepening Guangdong-Hong Kong-Macao Cooperation in the Development of the Greater Bay Area. 11 The Framework Agreement clearly stipulated that 12: "For Guangdong, to reinforce its roles as the nation's pilot zone for reform and opening-up, as well as a main propeller of economic growth, and develop technology and industrial innovation centers, as well as a base for advanced manufacturing and modern service industries; for Hong Kong, to consolidate and enhance its status as international financial, transportation and trade centers, strengthen its status as a global offshore Renminbi business hub and an international asset management center, promote the development of its professional services and innovation and technology industries, and establish a center for international legal and dispute resolution services in the Asia-Pacific Region. To strive to develop the Guangdong-Hong Kong-Macao Greater Bay Area into a more dynamic economic region, a quality living circle which is an ideal place for living, working and traveling and a showcase for in-depth cooperation among the Mainland and Hong Kong and Macao, and join hands in building a first-class bay area and world-class city cluster."

1. Industrial cooperation

Advancing industrial cooperation between Shenzhen and Hong Kong, especially in the modern service sector, is an important part of Shenzhen-Hong Kong cooperation. HSBC Qianhai Securities, jointly established by Hong Kong and Shanghai Banking Corporation Limited and Qianhai Financial Holdings Co., Ltd. in June 2017, and East Asia Qianhai Securities jointly established by the Bank of East Asia in Hong Kong, Qianhai Financial Holdings Co., Ltd. and two mainland enterprises settled in Qianhai, became the first joint venture multi-licensing securities enterprises under the CEPA framework, and promoted the cooperation and development of Shenzhen

¹¹Cited from the Interpretation of the Framework Agreement (2017).

¹²Cited from the Framework Agreement on Deepening Guangdong-Hong Kong-Macao Cooperation in the Development of the Greater Bay Area.

and Hong Kong in the financial sector. Furthermore, Qianhai has established the Qianhai SZ-HK Fund Town, and foreign and Hong Kong financial institutions, PE, VC and third-party financial institutions began to cluster in the fund town and initially formed an ecosystem of wealth management.

Further, in order to facilitate the development of Hong Kong enterprises on the mainland, the "Mainland-Hong Kong Connect" platform for serving Hong Kong enterprises was officially launched in Qianhai. The four platforms, namely the "Government One-stop Platform", ¹³ the "Information Exchange Platform", ¹⁴ the "Resource Docking Platform" and the "Training Platform", ¹⁶ were established to help Hong Kong enterprises expand their domestic business and deepen Shenzhen-Hong Kong industrial cooperation. On the other hand, Qianhai has also built up two "one, two, three, four" service models with Hong Kong: "one platform, ¹⁷ two channels, ¹⁸ three forms, ¹⁹ four parties cooperation ²⁰", and "deciding to convene the joint conference of Hong Kong enterprises in Qianhai on the fourth day of the third week in the second month of the first quarter of each year". The aim is to provide high-quality tax administration services to Hong Kong enterprises. By August 2017, there were 4,729 Hong Kong enterprises in Qianhai with a registered capital of 424.216 billion yuan.

2. Talent exchanges

In terms of talent exchanges, Qianhai has "introduced professionals from Hong Kong such as lawyers, certified public accountants, certified tax agents and architects by means of professional qualification certifications, Shenzhen-Hong Kong talent work alliances, partnerships, etc." By August 2017, more than one thousand Hong Kong people were practicing in Qianhai. To promote cooperation among Shenzhen and Hong Kong governments, industrial associations and enterprises, it established the "Qianhai Shenzhen-Hong Kong Postdoctoral Exchange Station", the "Qianhai Overseas Students Pioneer Park", the International Business School, the Hong Kong Youth

¹³It provides the comprehensive services including registration, legal, financing and taxation services for enterprises in Hong Kong and on the Mainland.

¹⁴It promptly releases relevant policies and industrial plans of the government to help enterprises understand the macroeconomic environment at home and abroad and the important macroeconomic decision-making background.

 $^{^{15}}$ It advances the deep cooperation through holding the government investment promotion conferences and timely investment tours.

¹⁶It concentrates resources from Hong Kong and the mainland to jointly build an international business school and provide professional business operation and training services.

¹⁷"Building a platform for dialogue between Qianhai and Hong Kong enterprises to understand the needs of the latter".

¹⁸ "Strengthening the relationship between enterprises and tax bureaus by holding regular joint meetings and irregular salons".

¹⁹ "Solving the tax-related appeals of Hong Kong enterprises through three forms: training, survey and counselling".

²⁰"Forming a close mechanism for communication through the joint efforts of the Qianhai State Tax Administration, the Qianhai Local Tax Administration, the Authority of the Qianhai Hong Kong Office and the Hong Kong Chamber of Commerce Qianhai".

Training Program, as well as the "First Shenzhen-Hong Kong Cooperation Forum in Qianhai" and the "Shenzhen-Hong Kong-Macao Youth Innovation and Entrepreneurship Competition" to accelerate the in-depth exchanges of talents between Shenzhen and Hong Kong.

As the incubator for youth innovation and entrepreneurship in Hong Kong and on the mainland, Qianhai Dream Works has already shown good incubating ability. Under the guidance and supervision of the special Dream Works Steering Committee, six platforms including "Entrepreneurial Services, Incubator Cluster, Investment and Financing, Publicity and Promotion, International Roadshow, and Entrepreneurship Mentoring" are gradually built up and initially form a relatively complete entrepreneurial ecosystem. By August 2017, Qianhai Dream Works had incubated a total of 235 entrepreneurial teams, of which 117 are from Hong Kong, accounting for nearly half.

3 Key Problems for the Development of Qianhai

3.1 How to Give Full Play to the Institutional Innovation Advantages of Qianhai and Seek a Kind of Development that Is Different from that of Other Free Trade Zones

China's economic growth has entered a new normal, which requires us to optimize the structure of factors, rationally allocate resources, unleash the economic vitality of the market, accelerate innovation, continuously advance institutional and technological innovations, and integrate into the world's multi-polar competition with an advantage of innovation. Ever since the establishment of the first free trade zone in Shanghai in 2013, by August 2017, three batches of free trade zones had been established in 11 provinces (municipalities). Qianhai was included in the Qianhai Shekou Area of the Guangdong Free Trade Zone in 2015. "Building free trade zones is an important measure for China to actively explore the expanded opening of the service and investment market, actively respond to changes in international trade and investment rules, and accelerate the reform of the economic system faced with the deep adjustment of the global economic governance system and the entry of domestic economic development into a new normal."²¹ It can be said that institutional innovation is an important task in the construction of free trade zones. "In terms of opening up to the outside world, we will further consider how the government manages the market, serves the market, and facilitates investment and trade; in the transformation of government functions, it is necessary to explore how to clarify the boundary between the government and the market, and how to improve the transparency and convenience of the government".²²

²¹Cited from Li (2016).

²²Cited from Jiang (2014).

Qianhai has successively launched 284 institutional innovations, of which 110 are leading or originating nationally, 6 are included in the 19 institutional innovations promoted by the State Council to the whole country, 49 are promoted to other parts of Guangdong Province and 31 to other parts of Shenzhen. With the widespread promotion of these institutional innovations across the country, what advantages does Qianhai have in its development and opening-up compared with other free trade zones? With respect to institutional innovation, how can Qianhai make good use of its own advantages and form differentiated developments with other free trade zones? For example, Qianhai is engaged in financial innovation, and Shanghai also pays attention to financial innovation. Both aim at "realizing the internationalization of the RMB and opening capital accounts", so how to divide their responsibilities in financial innovation and avoid repeats? These are the important issues faced by Qianhai in its future development and opening-up.

3.2 How to Highlight the Role Played by Hong Kong in Qianhai

The year 2017 is the 20th anniversary of the reunion of Hong Kong and also the "Shenzhen-Hong Kong Cooperation Year" of Qianhai. From the settlement of the first law firm jointly operated by the mainland and Hong Kong in 2014 to the establishment of the Qianhai SZ-HK Fund Town in 2017, in the past years of development and opening-up, Qianhai has actively promoted cooperation between Shenzhen and Hong Kong and explored the cooperation mechanism. Hong Kong is an international financial center with a well-developed modern service sector. Qianhai is located in Shenzhen which is separated from Hong Kong by a river, so it has unique geographical advantages and regional characteristics, which are not available to other free trade zones in China and cannot be copycatted. "Two systems and two sets of cultures can generate enormous energy in the process of blending. The rapid flow of factors between the two systems can promote social transformation".²³ Qianhai should focus on the Hong Kong element in its future development and openingup and deepen its cooperation with Hong Kong in all aspects. How to highlight the role played by Hong Kong in Qianhai is actually how to deepen cooperation between Shenzhen and Hong Kong. "How to deepen", this actually refers to the depth and breadth of cooperation. In terms of depth, it means promoting cooperation in the financial, legal, trade, management and other institutional cooperation fields between the two regions; in terms of breadth, it means advancing the cooperation on social, economic, cultural and talent exchanges."²⁴ How to speed up cooperation between Shenzhen and Hong Kong from depth and breadth, construct a platform for

²³Cited from the Qianhai Institute for Innovative Research, Suggestions from Leaders of Hong Kong SAR for a New Road to Common Prosperity: Why It Is Impossible? What Can Be Done? http://www.qiir.org/sitecn/yjsjj/1908_1683.html.

²⁴Cited from Yong (2015).

cooperation and build a mechanism for cooperation between the two regions are the key problems to be continually solved by Oianhai.

4 Policy Suggestions for the Development of Qianhai

4.1 Focusing on the Construction of a Rule of Law and Shenzhen-Hong Kong Cooperation, Developing Differently from Other Free Trade Zones

The construction of a rule of law and Shenzhen-Hong Kong cooperation are the unique advantages that Qianhai has which differentiates it from other free trade zones. As a special zone in the SEZ, Qianhai has legislative powers that are not available to other free trade zones. In the seven years of development and openingup, Qianhai has continuously brought about innovations to legislation, justice and law enforcement, and has achieved positive results. In terms of legislation, the basic law of Qianhai was introduced as "one regulation and two measures". With the three-pronged approach of "basic legislation, industrial regulations and supporting policies", the Qianhai regulation system with the "basic law" as the core was initially formed. Regarding the judicial aspect, Qianhai Court was established and the elements of Hong Kong were introduced to explore the diversified commercial dispute resolution mechanism. With respect to law enforcement, the Qianhai Independent Commission against Corruption was established with reference to the experience of Hong Kong and to explore a new mechanism for the overseeing of anti-corruption activities. Shenzhen-Hong Kong cooperation is the geographical advantage of Qianhai. In the past few years, Qianhai has actively cooperated with Hong Kong on industrial cooperation and talent exchanges, established a youth dream works and a fund town, built a platform of "Mainland-Hong Kong Connect" and served enterprises and talent exchanges between Shenzhen and Hong Kong.

The construction of a rule of law and Shenzhen-Hong Kong cooperation are the important driving forces for the distinctive development of Qianhai unlike other free trade zones. The possession of legislative power means avoiding the phenomenon of "restricting the government departments when the reform and innovation measures conflict with the higher-level laws", reducing the formalities and decreasing the cost of reform. Shenzhen-Hong Kong cooperation has provided a template for the reform of institutions and mechanisms of Qianhai. As an open international metropolis, Hong Kong can provide experience for the construction of a rule of law, investment and trade management, and talent retention, and accelerate the development and opening-up of Qianhai. In the next few years, Qianhai should seize the two driving forces of the construction of a rule of law and Shenzhen-Hong Kong cooperation, draw on Hong Kong's experience, be guided by the rule of law, and build the "demonstration zone of the socialist rule of law with Chinese characteristics".

4.2 Promoting the Driving Force of Innovation and Realizing the Integration of Technology and Finance

Under the new normal of economic development, with the increase in factor costs and the constraints of resources and environment, the factor-driven economic development is increasingly exposing its limitations. Speeding up the technological and institutional innovations, transforming economic growth from originally factor-driven to innovation-driven and facilitating economic transformation and development are the fundamental approaches to sustainable economic development. As the pioneer of China's new round of reform and opening-up, Qianhai in Shenzhen must take the lead in innovation-driven development.

Shenzhen is a well-known high-tech industrial base in China. It has many global high-tech enterprises like Huawei, BGI and ZTE. Qianhai is only a part of Shenzhen. How to make use of the advantages of Shenzhen in scientific and technological innovations and achieve breakthroughs in innovations to industrial technology are the key to forming the core competitiveness of Qianhai, which is different from other free trade zones. The financial sector is an important part of Qianhai's development and opening-up. Its important goals include deepening the cooperation of Shenzhen and Hong Kong, building an international financial center with Hong Kong, and driving the economic development of the entire bay area.

In many developed countries, technology and finance have become deeply integrated after years of development. The most famous case is the Silicon Valley of the United States of America. It can be said that the development of Silicon Valley was a process of continuous integration of technology and finance. At different stages of its development, high technology enterprises became inseparable from the financial services of banks, securities firms, investment banks and asset management companies. Financial institutions also constantly bring about innovations in response to the developmental needs of enterprises at different stages. They realize the win-win situation in long-term integrated development. "The emergence and development of high-tech enterprises require the development of a high-tech venture capital market that is compatible with them, and the further improvement and perfection of the growth enterprise market and venture capital market are requirements of the development of high-tech enterprises for the capital market."²⁵ In its future development. Qianhai should learn from the experience of developed countries in the integration of high-tech fields and finance, use the high-tech innovations of Shenzhen, optimize financial services, enhance support for high-tech enterprises, promote the application of technologies in finance, improve the efficiency of financial services, accelerate the integrated development of "technology + finance" in Qianhai, advance the growth of the bay area economy and better serve the Belt and Road strategy.

²⁵Cited from Wang (2007, 1).

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Chapter 5 Report on the Economic Development of the Shenzhen Bay Area



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Abstract In the background of economic globalization, trade among countries and regions is increasingly frequent, so the importance of the logistics becomes obvious. At the same time, the developmental model of the Bay Area economy based on geographical advantages and industrial clusters has been widely adopted in the developed economic regions of the world. Probing deeply into economic phenomena, this paper takes Shenzhen as an example to explore the complementary relationship of the developmental model of Bay Area economy, the logistics industry and regional economic development. First of all, based on the theory of logistics integration, we define the relevance of its connotation and conditions of formation to the regional economy. Then, based on the development of the logistics industry in the Shenzhen Bay Area, we discuss the developmental path of Shenzhen to further enhance the regional economic level through logistics integration.

Keywords Bay area economy · Logistics industry · Logistics integration · Shenzhen's development

With the increasingly frequent trade of countries and regions, the economic developmental trend of global integration is closely linked to the logistics industry. On the one hand, the growth of the regional economy needs to be supported by the logistics industry to reduce transportation costs and increase the speed of transportation, thereby accelerating the circulation of raw materials and commodities within and among regions and contributing to economic growth. On the other hand, the growth of the regional economy provides a broader stage for the development of the logistics industry. Rich management experience, a modern transportation platform and a network with accurate coverage are the basic conditions for the development of the logistics industry. Therefore, the relevancy between the logistics industry and

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economic development has received increasing attention from the industry, academia and from the government.

In June 2017, Shenzhen was successfully selected as the innovation and development city of the marine economy of the "13th Five-Year Plan", which means that taking the ocean as the carrier and link, paying more attention to and relying on maritime cooperation and development has become a new requirement and expectation of the country for Shenzhen. In recent years, Shenzhen has become committed to the development of the Bay Area economy, it coordinates the advantages of its geographical location and resources, and is building an economic corridor focusing on Qianhai Bay, Shenzhen Bay, Dapeng Bay and Daya Bay. It is the bold practice of Shenzhen to develop a blue economy based on its marine superiority. The clustering of the regional economy needs the support of the logistics industry, and it also promotes the formation of logistics integration in Shenzhen and the surrounding areas.

This paper starts from the theory of logistics integration, compares the theoretical research in the academic circle, clarifies the meaning of logistics integration, analyzes the conditions for the formation of logistics integration, and then demonstrates the relevancy of logistics integration and regional economic development. Further, based on the development of the logistics industry in the Shenzhen Bay Area, we analyze the advantages of Shenzhen to further enhance its regional economic level through logistics integration. Finally, according to the logistics industry and the economic developmental model of the Bay Area, we explore the leading role of Shenzhen in the national "Belt and Road" strategy.

1 Theoretical Framework of Logistics Integration

1.1 Definition of Logistics Integration

In the past forty years, Chinese scholars have conducted in-depth research on logistics integration from different perspectives. For example, Qingqing and Lixin (2006) divided logistics integration into three levels: self-logistics integration, micrologistics integration, and macro-logistics integration. Shuyun (2003) proposed that logistics integration referred to the integration of the production, supply and sales of raw materials, semi-finished products and finished products into an organic whole, and the realization of the bonds of production and circulation and the promotion of relations. Zhigang (2005) indicated that integrated modern logistics included the effective flow of raw materials and finished products from the starting point to the end point and related information in microeconomic activities. Song (2007) defined the core of logistics integration as LRP (Logistics Requirement Planning).

The definitions of logistics integration are different because of the different perspectives of these scholars. Whether viewing the logistics industry in the context of society or focusing on its operational process, logistics integration not only

emphasizes the importance of the professional coordination of logistics itself, but also highlights the social management of logistics. To summarize these academic studies, we point out that logistics integration is the advanced and mature stage of logistics development. Within the scope of a certain regional economy, with the logistics system as the carrier and the plan for logistics demand as the core, the organic combination of procurement logistics, production logistics and sales logistics can be realized for integration and systemization of the supply chain and for the satisfaction of the customers' need for good quality and preferential prices.

1.2 Formation of Logistics Integration

The development of the logistics industry includes the smooth connection of transportation, warehousing, handling, packaging, circulation, processing, distribution and other related logistics environments. However, to improve the efficiency of logistics, achieve logistics integration and reflect the contribution of logistics as the "third source of profit" to the regional economy, it is inseparable from the coordination and unification of regional conditions such as real demand, policy support, convenient transportation, and large cargo transportation capacity.

Developmental needs can guide the logistics platform. Regional economic development and the flow of materials depend on the role of logistics as a bridge and tie; the improvement of consumption and the link of production and sales depend on the connection and lubrication effects of logistics. The efficiency of logistics determines the degree of economic development and directly determines the economic benefits. In 2016, the proportion of total expenditures in social logistics in the gross national product of China was 14.9%, which decreased by 1.1 percentage points year on year. The gross national product continues to rise, but the proportion of total logistics expenditures has been decreasing year by year. This not only reflects the contribution of the logistics industry to economic development, but it also highlights its powerful functions in the green development. According to the Big Data Development Report of China on Smart Logistics, the annual average score of China's smart logistics index in 2016 is 40.9 (the full score is 100), which means it is in a stage of rapid development. Entering into the era of the economic "new normal", the improvement of quality and the enhancement of efficiency of smart logistics becomes the only choice for planning and implementation.

Policy support is helpful for maintaining the leading role of logistics. Logistics involves wide, large-scope and numerous social and economic activities. From the outset, it has been highly valued by governments at all levels. According to the National Bureau of Statistics, the fixed asset investment in transportation, warehousing and postal services has increased year after year. In 2015, it reached 4,897.48 billion yuan, an increase of 4,330.58 billion yuan over 2003. The costs associated with the construction of ports have also increased year by year. The huge investment and fast upgrading of the construction of infrastructures of the logistics industry fully

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reflect the importance placed on and the strong support provided by the country for the development of the logistics industry.

Convenient transportation enhances logistics functionality. The main functions of traditional logistics are transportation and storage. Modern logistics combines many management functions on the basis of tradition, and still cannot do without its essential services: transportation and storage. Accordingly, the significance of geographic location is again magnified. Convenient transportation by sea, land and air, optimal driving effects of the hinterland and the strong radiation efficiency have become the gold standards for logistics integration. Then, based on a number of traffic trunk lines, coordinating a variety of modes of transportation and linking multiparty traffic functions, we can build a comprehensive multi-level three-dimensional logistics network and form a wide-area, broad-coverage multi-dimensional logistics circle.

The large freight volume creates the demand for logistics. The strong manufacturing in the economic hub provides large amounts of freight demand for the logistics industry and forms a stable logistics market. In 2015, the total volume of freight of the country reached 41.76 billion tons, and the cargo turnover reached 17,835.59 billion ton-kilometers, which increased by 4.79 billion tons and 1,903.19 billion ton-kilometers respectively compared with 2011. In just four years, the national volume of freight has increased by billions of tons. The huge freight demand has not only directly facilitated the surge of the flow of material, but it has also promoted the coordination of logistics links to grow from point to line, from line to area and from area to mass, and perfecting logistics integration.

2 Logistics Integration and Its Relevance to Regional Economic Development

As an important part of regional economic activities, the logistics industry plays a role as a booster in regional economic development. Logistics integration has direct and indirect promotion effects on economic development. The two complement each other and bring out the best in each other.

2.1 The Direct Contribution of Logistics Integration to Regional Economic Development

The direct contribution of industries in the region to economic development lies in the gross national product they create. As a large-scale industry in the region, the logistics industry directly contributes to the growth of the gross national product. The GDP generated by the nationwide logistics industry has maintained steady and rapid growth, reaching an annual growth rate of nearly 8%. The direct contribution of the

logistics industry in the major bay areas of China to the regional economic aggregate is increasingly apparent: the added value of the logistics industry in Shenzhen reaches 198.45 billion yuan, with a year-on-year increase of 9.4% and accounting for 10.2% of the GDP. In 2016, the added value of the logistics industry in Dalian was 86 billion yuan, accounting for about 11% of the GDP. In Haikou, the total logistics output in the first three quarters of 2014 was 7.45 billion yuan, accounting for 10.4% of the GDP. The *Medium and Long-term Plan for the Development of the Logistics Industry* (2014–2020) reaffirms the importance of the logistics industry in the development of the national economy, and points out that by 2020, the added value of the nationwide logistics industry will have grown at an average annual rate of 8% and will account for 7.5% of the GDP. The basic and strategic role of the logistics industry in supporting the development of the national economy has become increasingly prominent.

2.2 Indirect Contribution of Logistics Integration to Regional Economic Development

Logistics integration can reduce logistics costs and stimulate commodity production. On the one hand, logistics integration enables system management within the logistics industry; on the other hand, the logistics transportation network formed by logistics integration greatly facilitates the transportation and sales of goods. In 2015, the total number of newly built and rebuilt roads nationwide reached 229,000 km, and the annual throughput of new (expanded) port terminals reached 1.36 billion tons. The networked logistics and transportation and the integrated and scientific management not only greatly improve the speed of the transportation of goods, but they also reduce losses during transportation and ensure the rate of conformity of the goods. The spatial distance between the production and sales is shortened, consumers' desire to purchase is increased, and the volume of sales rises year after year.

Logistics integration can attract industrial clustering and expand economies of scale. Standardized management and advanced technology can attract industrial clustering, so that the upstream, midstream and downstream of the supply chain cluster in the vicinity, further reducing transportation costs among the production factors in the production process and greatly decreasing the production costs. There are many examples in the world. For instance, the logistics industry in Tokyo Bay attracts large world-renowned enterprises such as NEC, Canon, Mitsubishi, Toyota, Sony, Toshiba and Fujitsu, and concentrates on major industrial sectors such as heavy machinery. The Keihin and Keiyo Industrial Zones were thus formed. These two industrial zones, as the most developed areas of Japan, contribute 40% of the country's industrial output value and 26% of the GDP, making it the bay area with the largest GDP in the world. The highly integrated logistics platform can attract large enterprises and achieve the construction of facilities, benefit sharing, complementary functions and mutual industrial assistance, thus creating great wealth for the regional economy.

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3 Development of the Logistics Industry in Shenzhen

The term "Bay Area" is used internationally to describe groups of ports and urban areas made up of many seaports, cities and towns distributed around the coast, and the economic effects derived are called the "Bay Area Economy". The Bay Area economy has an open economic and industrial structure, capabilities for efficient resource allocation, strong concentration and spillover functions, and a well-developed international exchange network, which are the prominent features of world-class cities. After years of development, the Shenzhen Bay Area has a significant geographic advantage, cutting-edge e-commerce and complete logistics industry. It has the good foundation and conditions for developing into a world-class Bay Area logistics economy that can better serve the national strategy.

3.1 Building of Mature Logistics by Geographical Advantages

The development and maturity of the logistics industry relies on the organic unity of geographic advantages, and Shenzhen has the social conditions and natural endowments required for logistics: from economic support to government encouragement, from transportation convenience to freight demand, the logistics industry has unique advantages in the Shenzhen Bay Area.

Economic strength provides a strong backing for logistics in the Shenzhen Bay Area. In 2016, the regional GDP of Shenzhen reached 1,949.26 billion yuan, an increase of 9.0% over 2015, ranking first among all of the cities in Guangdong Province; its economic aggregate continued to expand and ranked fourth among large and medium-sized cities on mainland China, with a net increase of nearly 200 billion yuan over the previous year, which hit a record high; and its per capita GDP reached 167,411 yuan, seeing an increase of 3.7%. In addition, the local general public budget revenue of Shenzhen in 2016 reached 313.142 billion yuan, a year-on-year increase of 16.8%. Its GDP and growth rate ranked first in the province, and even exceeded the sum of 18 cities in the province except Guangzhou and Zhuhai (see Fig. 1). Shenzhen's sufficient funds ensure the construction of logistics facilities in the Bay Area and help optimize the upgrading of a series of infrastructures in logistics parks.

Policy support brings strong reassurances for the logistics in the Shenzhen Bay Area. As early as 2002, the Shenzhen Municipal Government proactively formulated the *Opinions on Accelerating the Development of the Modern Logistics Industry in Shenzhen* and proposed building Shenzhen as a modern city as a center for logistics. It would speed up the construction of a system of logistics infrastructure and markets in Shenzhen and make it an important logistics base in China and even in Southeast Asia. The report on the work of the Shenzhen Municipal Government in 2016 also established the ambitious goal of building an international logistics hub. As a window

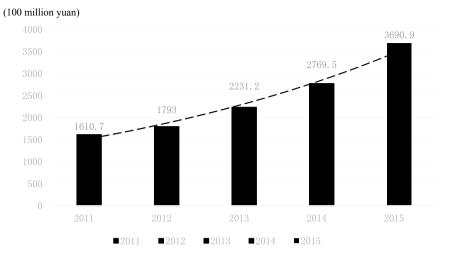


Fig. 1 Local financial revenue of Shenzhen from 2011 to 2015. *Data source* The Shenzhen Bureau of Statistics, "The 2016 Statistical Yearbook of Shenzhen"

of reform and opening-up, Shenzhen adheres to the spirits of Shenzhen, which are leading, pioneering and innovative. With the support of policies, it has drastically built the logistics industry in the Bay Area.

Convenient transportation is a new fast lane for the logistics construction in the Shenzhen Bay Area. Shenzhen has excellent harbor conditions and convenient shipping. Moreover, it is located in the central and southern coastal areas of Guangdong. The construction of the Shenzhen-Maoming Railway and the Airport High-speed Railway Station can further communications with the major cities in the province. The integration of highways, railways and high-speed railways into the intra-provincial transportation network has enhanced the role of Shenzhen as an internal radiation hub and will gradually form a one-hour economy and life circle centered on Shenzhen. In addition, the milestone completion of the Hong Kong-Zhuhai-Macao Bridge and the Beijing-Kowloon Railway further strengthens the ability of the Shenzhen Bay Area to radiate externally and form a landscape of internal development and external radiation.

The demand for freight is the driving force for the development of logistics in the Shenzhen Bay Area. Guangdong, Hong Kong and Macao are important manufacturing bases in the world and are known as "the world's factory". The manufacturing model of Guangdong centers on the processing of imported materials or according to supplied samples, assembling of supplied parts, and compensation trade, thus the outbound characteristics are obvious. The experience of logistics development at home and abroad shows that the level of the development of logistics in a country or region has a positive relationship with the level of economic development. With the rapid improvement of the economic level of Guangdong Province, the logistics industry has also entered the fast lane of development. The economic growth provides a strong market for logistics. As the leader of Guangdong's development,

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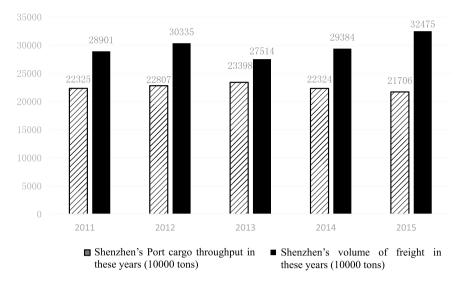


Fig. 2 Shenzhen's volume of freight from 2011 to 2015. Data source The Shenzhen Bureau of Statistics, "The 2016 Statistical Yearbook of Shenzhen"

Shenzhen's volume of freight in 2016 reached 311.6449 million tons. The number of goods dispatched and transferred from major port areas reached 23.9793 million TEUs. The throughput reached 214.0987 million tons (see Fig. 2). Furthermore, the scale of Shenzhen's imports and exports has been further enlarged. A large number of raw materials, semi-finished products, finished products and various energy sources have formed the upstream and downstream supply and demand relationship. The logistics growth channels have been broadened and expanded, providing a sufficient supply for the logistics development of the Shenzhen Bay Area. There is a huge market demand and space for development.

3.2 Enriching the Denotation of Logistics by E-Commerce

The new economy represented by e-commerce is based on the rapid development of the high-tech, and has grown into an important driving force for economic growth through new operating methods and business models. Achieving rapid transformation from traditional logistics to electronic logistics becomes the new requirement for the development of the logistics industry. The electronic means is applied to electronic logistics to realize the digitization of logistics operations by electronic organization, transaction and service methods covering business processes of logistics, warehousing and distribution. As a national innovation city, Shenzhen remains at the forefront of technological development and has the technical support to develop e-commerce and e-logistics. It can further improve the level of logistics integration through elec-

tronic technology to achieve the leap-forward development of Shenzhen's logistics economy.

Shenzhen is one of the country's important cities of the electronic information industry, with an annual output value exceeding one trillion yuan. It is an important research and development, production and export base for telecommunications equipment, panel displays and computers in China and in the world. In addition, the internet industry is well developed in Shenzhen. In 2015, the internet industry grew by 19.1% and the amount of e-commerce transactions exceeded 1.7 trillion yuan. Internet finance and the number of online lending platforms are leading in the country. Shenzhen has over 90,000 entities engaged in the internet and a large number of world-class internet brand companies. Taking the cross-border e-commerce operational model in Qianhai as an example, it not only has the traditional leading commercial and industrial advantages, but also the policy advantages of the Qianhai Free Trade Port Zone. Together with the organic combination with electronic logistics technology, building the cross-border e-commerce service platform will create a unique developmental advantage for Shenzhen. On the one hand, the strong manufacturing in the Pearl River Delta region provides solid industrial support; on the other hand, logistics integration provides a guarantee for the realization of the "fourin-one" flow of goods, materials, information and capitals in the management of the supply chain. The one-stop cross-border e-commerce service platform of Shenzhen can make the modern service industry model of "global trade, Qianhai service" possible.

3.3 Boosting the Bay Area Economy by the Logistics Industry

Logistics in the Shenzhen Bay Area is the product of Shenzhen's economic development to a certain degree. It supports the economic development of Shenzhen and makes direct contributions. The logistics industry leads to the concentration and diffusion of goods and enables products to enter the market through the smooth logistics system, realize their value of use and drive the economic development of Shenzhen. In addition, logistics in the Bay Area brings about the flow of goods, capitals, information and technology and the development of industries such as transportation, information and finance, thus creating new growth poles for the upgrading of Shenzhen's industrial structure.

First of all, the logistics industry provides a direct contribution to the economy of Shenzhen. In 2015, the gross output value of transportation, warehousing and postal services in Shenzhen reached 540.8 trillion yuan, with 886 enterprises, which accounted for 20% of the total number of enterprises in the city and had the total asset of 636.7 billion yuan; and the total number of employees was 309,280. The total volume of freight was 324.75 million tons and the port cargo throughput reached 217.06 million tons (see Fig. 4). The GDP of the city has a positive correlation with the gross output value created by the logistics industry (see Fig. 3). The social and economic benefits directly created by the logistics industry are considerable.

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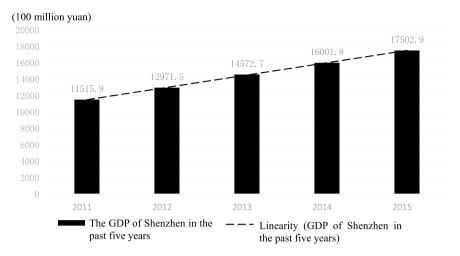


Fig. 3 The GDP of Shenzhen from 2011 to 2015

Second, the logistics industry has driving effects on the economy of Shenzhen. Logistics, as a bond between production and sales, builds a circulation platform for economic construction. The formation of a strong and convenient logistics transportation network can reduce the logistics costs of production and processing, thus greatly reducing the production costs of commodities; on the other hand, logistics integration can accelerate the speed of circulation of commodities and guarantee that commodities are delivered to the consumers with the correct quantity and good quality, thereby promoting production and forming a benign economic cycle.

Moreover, the logistics industry has a positive effect on the optimization of the industrial structure of Shenzhen. According to the growth pole theory, superior industries in the region can drive the development of the regional economy, and through the diffusion effect, they can influence the transformation and upgrading of other industries, and then drive the economic growth in the surrounding areas. The logistics industry is characterized by wide coverage and strong radiation. Logistics integration allows for accelerated clustering of upstream, midstream and downstream enterprises and, based on advanced regional network information in the modern logistics platform, it systematically manages economic production and forces other related industries to adjust their structure and promote growth. In 2016, the structure of the secondary and tertiary industries of Shenzhen was adjusted from 41.2:58.8 in the previous year to 39.5:60.5. The proportion of the tertiary industry in the GDP increased by 1.7 percentage points over the previous year, and it has already exceeded 60%. The added value of the logistics industry in the four pillar industries reached 198.45 billion yuan, witnessing an increase of 9.4%. Its driving effect on the optimization and upgrading of the city's economic structure is obvious.

4 Developmental Orientation of Logistics of the Shenzhen Bay Area in the Belt and Road Strategy

4.1 Modern Logistics Boosting the "Belt and Road" Developmental Strategy

The Vision for Maritime Cooperation under the Belt and Road Initiative jointly issued by the National Development and Reform Commission and the State Oceanic Administration proposed that "the three blue economic passages will be priority tasks: supported by the coastal economic belt in China, the China-Indian Ocean-Africa-Mediterranean Sea Blue Economic Passage is being jointly built by linking the China-Indochina Peninsula Economic Corridor, running westward from the South China Sea to the Indian Ocean, and connecting the China-Pakistan Economic Corridor and the Bangladesh-China-India-Myanmar Economic Corridor; efforts will also be made to jointly build the blue economic passage of China-Oceania-South Pacific, traveling southward from the South China Sea into the Pacific Ocean; and another blue economic passage is also envisioned leading up to Europe via the Arctic Ocean." The communication and coordination role of logistics has once again become prominent. The "blue economy" is one of the most promising developments of the 21st century, and hence it has been put on the agenda and occupies an important strategic position. With sharing the blue space and developing the blue economy as the main lines, the logistics industry should be based on the new pattern of multi-port linkage and comprehensively enhance the connectivity function as a bridgehead of the Maritime Silk Road. By 2015, China's outbound direct investment stocks reached US\$1,097.865 billion, of which the investment stocks to Asia, Africa and Europe reached US\$768.901 billion, US\$34.694 billion and US\$83.679 billion, respectively. The countries along the route of the Belt and Road accounted for nearly 81%. The logistics industry can deepen its advantage of integration, coordinate the land and sea resources, and supported by seaports and airports and the information ports as platforms, leverage the multi-port linkage effect, accelerate the development of supply chain management, and further enhance the capacity for international transit. Meanwhile, we can expand the existing developmental advantages of the Bay Area, promote major infrastructure constructions, participate in the construction of international logistics passages, actively connect with the national land backbone network, facilitate expansion to emerging markets such as Central Asia and Southern Asia, and open up broader spaces for the economic development of the Bay Area. Shenzhen will focus on strengthening its status as a world-class seaport hub and enhancing the function of Shenzhen as the ocean container hub port by linking bay areas in the Pearl River Delta and forming an integrated port cluster. It will strengthen the international procurement and distribution functions, build a global integrated logistics management platform, and cooperate with Hong Kong to construct a shipping center that radiates globally. Furthermore, it will strengthen the construction of the railway

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line from Shenzhen Port through inland cities to Central Asia and impel Shenzhen Port to become the multimodal "Belt and Road" sea-land transport hub.

4.2 Developmental Advantages of Shenzhen Following the Trend of the Belt and Road

The Shenzhen Special Economic Zone (SEZ), the window of China's reform and opening-up, is blessed with a strategic location in the Guangdong-Hong Kong-Macao Greater Bay Area and along the Maritime Silk Road. It has close exchanges and cooperation with countries along the route of the Belt and Road. Shenzhen has the overlapping advantages of the SEZ and the Bay Area. Supported by the SEZ policies, it integrates the characteristics of the Bay Area's developed economy and industries, strong functions, open interaction, clustering and spillovers. On the one hand, it strengthens the radiation effect and connectivity with countries along the Belt and Road. On the other hand, it expands the regional advantages and creates the most promising industrial cluster.

Shenzhen is based on Guangdong and Hong Kong, facing the South China Sea and radiating ASEAN. It has a long coastline and an excellent seaport, and is a stronghold located on the main Asia-Pacific channel, which enables it to deepen the development of Guangdong, Hong Kong and Macao, link the South China Sea region, and communicate with ASEAN member states. The Several Opinions on Vigorously Developing the Bay Area Economy and Building the Stronghold for the 21st Century Maritime Silk Road pointed out that it must actively promote the construction of a world-class bay area in Guangdong, Hong Kong and Macao; efforts should be made to build a strategic base to serve the development of the South China Sea; it should actively participate in the upgraded version of the China-ASEAN Free Trade Area and attract China-ASEAN international cooperation organizations to settle in Shenzhen. In 2016, the total volume of imports and exports of Shenzhen City was 2,630.701 billion yuan, in which the total amount of exports was 1,568.040 billion yuan, accounting for 11.3 and 39.7% of the total exports of the whole country and Guangdong Province, respectively, and ranked first among inland cities for twenty four consecutive years. A total of 4,132 contracted FDI projects were newly signed, with an increase of 23.0% over the previous year; the contracted foreign investment amounted to US\$52.193 billion, an increase of 103.9%; and the actual use of foreign direct investments amounted to US\$6.732 billion, seeing an increase of 3.6% (in Fig. 5). The hub has created the platform of Shenzhen. In recent years, Shenzhen has continuously coordinated land and sea resources, expanded open cooperation, created a comprehensive economic and trade promotion platform for countries along the route, built the comprehensive foreign trade transformation and upgrading base for the Maritime Silk Road and further increased the bilateral and multilateral volume of trade. Moreover, it strengthens the cross-border infrastructure connectivity, actively participates in the development and cooperation of the global value chain in the

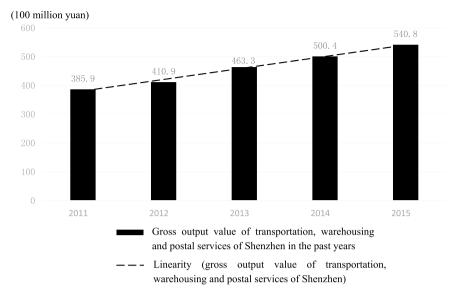


Fig. 4 Gross output value of transportation, warehousing and postal services of Shenzhen from 2011 to 2015. *Data source* The Shenzhen Bureau of Statistics, "The 2016 Statistical Yearbook of Shenzhen"

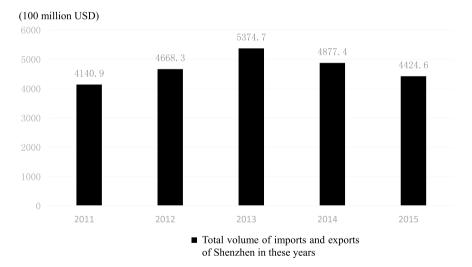


Fig. 5 Total volume of imports and exports of Shenzhen from 2011 to 2015. *Data source* The Shenzhen Bureau of Statistics, "The 2016 Statistical Yearbook of Shenzhen"

Asia-Pacific region, and thus is becoming an important growth pole for promoting the construction of the 21st Century Maritime Silk Road and driving the regional development.

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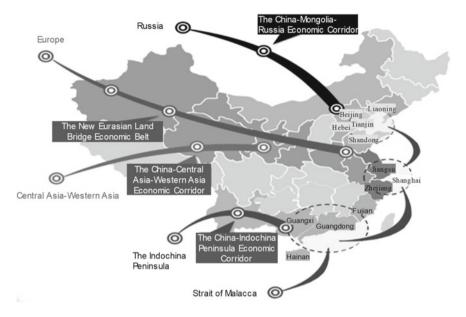


Fig. 6 Strategic map of the Belt and Road Initiative

"Alone, we go faster; together, we go further". Strengthening maritime cooperation conforms to the prevailing trend of development in the world. In 2017, the National Development and Reform Commission and the State Oceanic Administration jointly issue the Vision for Maritime Cooperation under the Belt and Road *Initiative*. For the first time, a Chinese plan was proposed for the maritime cooperation under the Belt and Road Initiative and the direction of development was made clear. Guangdong, as a province having the closest economic and trade cooperation and cultural exchanges on mainland China with countries along the route, takes the lead in the regional economic and trade exchanges. Moreover, Guangdong is located at the southernmost part of mainland China with a prominent role as a transportation hub. It has an irreplaceable geographical advantage in the cooperation with countries along the route. The Shenzhen Bay Area, as an important part of the Guangdong-Hong Kong-Macao Cooperation Zone, initially forms an internationally competitive city cluster in the region. The region as a whole is deeply integrated with the global economy, and with the accelerating infrastructure connectivity, and its role as the growth role in the geographical node has been enhanced. The Implementation Plan of Guangdong Province to Participate in the Construction of the Belt and Road Initiative clearly defines the strategic position of the Shenzhen Bay Area, and its radiation effect is also increasingly apparent (see Fig. 6).

The Silk Road starts from China and threads through Central Asia, Southeast Asia, Southern Asia, Western Asia and parts of Europe, serving as a bridge linking the Asia-Pacific economic circle in the east and the European economic circle in the west. This longest economic corridor in the world covers 4.4 billion people with a GDP of

around 21 trillion US dollars. As the globalization and regional economic integration progress, developing the blue economy has become an international consensus. The cooperation of countries with the ocean as a vehicle and bond is increasingly closer and ushering in an era of increased dependence upon maritime cooperation and development. Regarding the principle of the construction of the Belt and Road, the people of countries along the route will consult for the future, contribute to the dream and share the prosperity!

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Chapter 6 Report on the Development of Emerging Special Economic Zones in Xinjiang



Baowei Wang and Xiumei Lai

Abstract In 2016, the "Kashgar Special Economic Zone" and the "Khorgos Economic Development Zone" actively responded to the complicated domestic and international environment, focused on the overall goal of social stability and long-term security, seized the opportunity of the Belt and Road Initiative, vigorously promoted supply-side reform and promoted stable development and reform. The prefecture (city) achieved the good situation of overall social stability and rapid economic development. This paper first expounds the developmental states of Kashgar and Khorgos SEZs in terms of economic scale, industrial structure, industrial production, foreign trade, residents' income and level of urbanization, then analyzes the main problems they face in development, and finally proposes policies for solving problems, as reference for the further development of emerging special economic zones in Xinjiang.

Keywords Kashgar \cdot Khorgos \cdot Developmental report \cdot Open along the border areas \cdot Stability

The "Kashgar Special Economic Zone" (Kashgar SEZ) and the "Khorgos Economic Development Zone" (Khorgos EDZ) actively responded to the complicated domestic and international environment, focused on the overall goal of social stability and long-term security, seized the opportunity of the Belt and Road Initiative, vigorously promoted the supply-side reform and promoted stable development and reform. The prefecture (city) achieved a good situation of overall social stability and rapid economic development.

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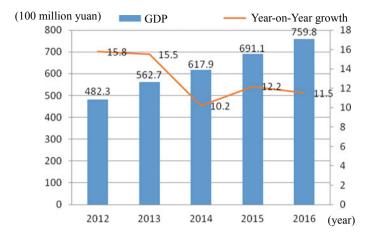


Fig. 1 The GDP of Kashgar and its year-on-year growth from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of Kashgar Prefecture (2012–2016), www.kashi.gov.cn

1 Overall Development of the Kashgar SEZ

1.1 The Steady Growth of the GDP, Slowing Growth Rate

Under the "new normal" of the national economy, opportunities and challenges coexist. Kashgar firmly takes the policy advantage of the Belt and Road, actively responds to the complicated domestic and international environment and realizes rapid economic development. In 2016, the GDP of Kashgar was 75.98 billion yuan, an increase of 11.5% over the previous year. The per capita GDP was 16,860 yuan, with a year-on-year increase of 11.2%.

Kashgar's GDP growth rate is faster than the national average (6.7%) and the Xinjiang Uygur Autonomous Region (7.6%), but compared with 2015, Kashgar's GDP growth rate is slowing and lower than the growth rate in 2012 and 2013. From this point of view, in case of a general slowdown of the nationwide GDP growth rate, the GDP of Kashgar would also be adversely affected. The economic development of Kashgar from 2012 to 2016 is shown in Fig. 1.

1.2 Slow Upgrading of Industrial Structure and Lower Proportion of the Secondary Industry

In 2016, the industrial structure of Kashgar Prefecture was slightly adjusted. The growth rates of the secondary and tertiary industries were 12.7% and 15.3%, respectively, accounting for 25.2% and 40.6% of the GDP of Kashgar, respectively. The

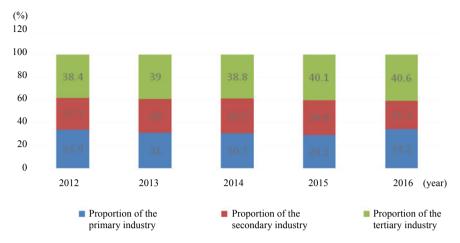


Fig. 2 Proportions of the three types of industries in Kashgar from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

proportion of the secondary industry declined for the first time since 2013. The growth rate of the primary industry was 6.5% and its added value showed a year-on-year increase and accounted for 34.2% in the GDP of Kashgar, the highest since 2012.

Since 2012, the three types of industries have similar proportions in Kashgar. Due to the unique natural geographical environment of Kashgar, melons, vegetables, corn and nuts have won the favor of consumers with excellent quality. Therefore, the GDP of the primary industry accounts for a high proportion. This is one of the reasons for the slow upgrading of the industrial structure in Kashgar. The proportions of the three types of industries in Kashgar from 2012 to 2016 are shown in Fig. 2.

1.3 A Slight Rebound of Industrial Production and the Slowing Growth in the Construction Industry

In 2016, the industrial added value of Kashgar reached 7.08 billion yuan, an increase of 12% over the previous year, and the growth rate was slightly higher than that of the previous year. Among them, the added value of industrial enterprises above the designated size was 2.93 billion yuan, which increased by 9.4%; and the added value of industrial enterprises below the designated size was 4.15 billion yuan, increasing by 14%. There were 2,099 industrial enterprises, an increase of 124 over the previous year. They were mainly industrial enterprises below the designated size, 1,937 in number, seeing an increase of 72 over the previous year; and there were only a few industrial enterprises above the designated size, 162 in number, with an increase of 52 over the previous year.



Fig. 3 Industrial added value of Kashgar and its growth rate from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

In 2016, the construction industry in Kashgar achieved an added value of 12.06 billion yuan, realizing an increase of 13.1%, and the growth rate slowed down compared with the previous year. Sixty construction enterprises have the qualification for general and specialized project contracting, with a total output value of 6.94 billion yuan. The industrial added value of Kashgar from 2012 to 2016 is shown in Fig. 3.

1.4 The Slowing Growth of Fixed Asset Investments and the Increasing Investments in the Primary Industry

In 2016, Kashgar completed the fixed asset investment of 91.92 billion yuan (excluding farmers), an increase of 13.8% over the previous year. As shown in Fig. 4, the growth rate of fixed asset investments in Kashgar was slowing down.

In 2016, the construction industry completed the fixed asset investment of 3,430.08 million yuan, witnessing a year-on-year increase of 2,227.06%; the real estate industry completed the fixed asset investment of 26,878.09 million yuan, with an increase of 0.21% over the previous year; the residents' service, repair and other service sectors completed the fixed asset investment of 394.74 million yuan, seeing a year-on-year decrease of 4.5%; and investments in public administration, social security and social organizations amounted to 9,075.67 million yuan, with an increase of 47.8% over the previous year. However, investments in the financial sector was relatively low, only 4.8 million yuan, decreasing by 86.1% year on year; but investments in the culture, sports and entertainment industry had increased significantly, amounting to 1,691.70 million yuan, realizing an increase of 24.54% over the previous year.



Fig. 4 Fixed asset investments of Kashgar and its growth rate from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

In 2016, the growth rate of investments in the primary industry of Kashgar increased sharply. The investment was 6.73 billion yuan, with an increase of 68.3% over the previous year. The development of the secondary industry was slow. The total amount of investments was 23.64 billion yuan, which increased by only 2.6% over the previous year and showed a declining trend. Among them, the industry completed an investment of 20.209 billion yuan, decreasing by 11.75%. The tertiary industry completed an investment of 61.55 billion yuan, realizing an increase of 37.6%, which greatly increased compared with the previous year. The annual investment in manufacturing, an important part of the secondary industry, was 13,602.04 million yuan, witnessing a decrease of 6.29% compared with the previous year (Fig. 5).

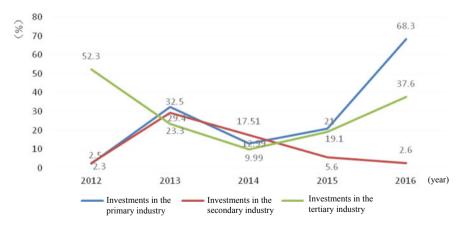


Fig. 5 Investment growth of the three types of industries in Kashgar from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

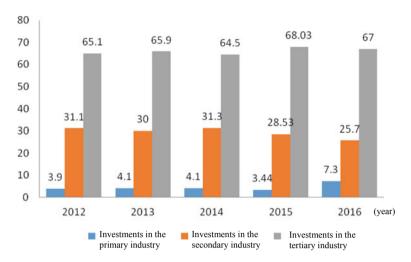


Fig. 6 Change in the proportion of investments of the three types of industries in Kashgar from 2012 to 2016 (%). *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

With regard to the proportion of investments in the three types of industries, the proportion of investments in the primary industry was the lowest, but it increased by about 4 percentage points in 2016 compared with the previous year; the proportion of investments in the tertiary industry was the highest, but it was about 1 percentage point lower than the previous year; and the proportion of investments in the secondary industry continued to decline, which was about 3 percentage points less than the previous year (Fig. 6).

With respect to the development of manufacturing and real estate, in 2016, the investments in manufacturing of Kashgar were 13,602.04 million yuan, which decreased by 6.29% over the previous year. As shown in Fig. 7, the growth rate continued to decline in 2016.

The investments in the development of real estate reached 1.94 billion yuan, with an increase of 12.4% year on year. Specifically, the construction area of houses was 2.684 million square meters, 9.1% less than the previous year; and the amount of investments in residential houses were 810 million yuan, falling by 12.5% year on year.

1.5 Increasing Foreign Trade and Favorable Geographic Advantage

In 2016, Kashgar realized a total volume of imports and exports of US\$1.678 billion, an increase of 45.45% over the previous year. The exports were US\$1.664 billion, witnessing an increase of 44.79%; and the imports were US\$14.846 million, an

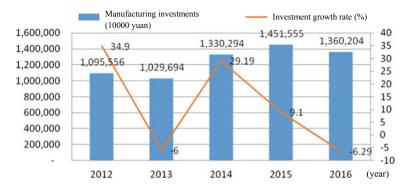


Fig. 7 Manufacturing investments of Kashgar and their growth rate from 2012 to 2016. *Data source*: Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

increase of 194.6%. The annual trade surplus was US\$1.663 billion, witnessing an increase of US\$519 million over the previous year. Since the establishment of the special zone in Kashgar in 2010, the total volume of imports and exports achieved rapid growth for the first time, which fully reflects the stimulating effect of the Belt and Road policy and gives full play to the geographic advantage of Kashgar (Fig. 8).

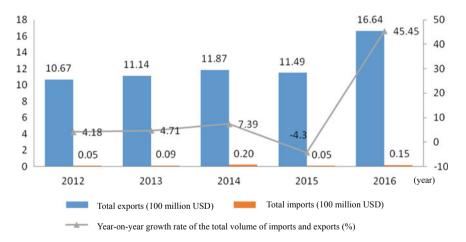


Fig. 8 Total volume of imports and exports of Kashgar and the growth rate from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

1.6 The Steady Growth of Residents' Income and Consumption

In 2016, the per capita net income of farmers and herdsmen in Kashgar was 9,275 yuan, with an increase of 13.9% over the previous year. Specifically, the per capita net wage income, the per capita net income of family operations, and the per capita net transfer income were 1,457 yuan, 7,397 yuan and 421 yuan, respectively; and the growth rates were 11.4%, 10.6% and 102.4%, respectively.

The per capita disposable income of local urban residents was 22,732 yuan, realizing a year-on-year increase of 10%. Among these, the net property income, net operating income, net transfer income, and wage income were 665 yuan, 1,312 yuan, 6,518 yuan and 14,237 yuan, respectively; and the year-on-year growth rates were 3.1%, 5.9%, 11.4% and 10.1%, respectively (Fig. 9).

The per capita disposable income of local rural residents was 7,918 yuan, witnessing a year-on-year increase of 10%. Among these, the net property income, net operating income, net transfer income, and wage income were 62 yuan, 3,871 yuan, 1,580 yuan and 2,405 yuan, respectively; and the growth rates were 5.3%, 7.6%, 16.9% and 9.7%, respectively.

In 2016, as shown in Fig. 10, the total retail sales of consumer goods in Kashgar were 17.56 billion yuan. According to the pattern of consumption, the catering revenue and retail sales of goods were 2.754 billion yuan and 14.803 billion yuan, respectively. According to the places of business operations, the rural retail sales and urban retail sales were 4.32 billion yuan and 13.24 billion yuan, respectively.

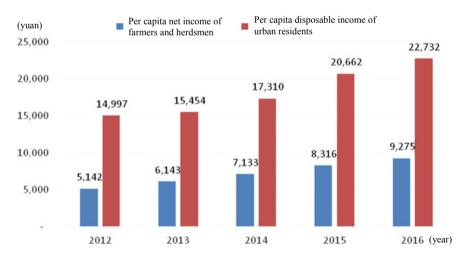


Fig. 9 Residents' income of Kashgar from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

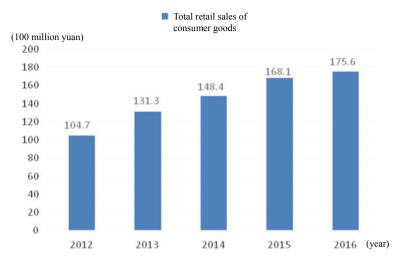


Fig. 10 Total retail sales of consumer goods in Kashgar from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

1.7 Low Level of the Rate of Urbanization

By the end of 2016, the total population of Kashgar was 4.5147 million, and the total number of households was 1.1237 million. The urban population was 1.0224 million and accounted for only 22.6% of the total population. The rural population was 3.4923 million and accounted for 77.35% of the total population. The level of urbanization in Kashgar is measured by the proportion of urban population to the total population in this paper. As shown in Fig. 11, since 2012, the rate of urbanization of Kashgar fluctuates around 20%, which is much less than the national rate of urbanization, 57.35%, in 2016.

1.8 Steady Increase of Partner Assistance Funds

According to the 2016 Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture, in 2016, the assistance funds from four provinces and cities were fully in place, with a total amount of 5.448 billion yuan for 408 projects of partner assistance. As shown in Fig. 12, the funds for assistance projects continue to grow, and the four provinces and cities actively extend their assistance to the economic development of the Kashgar SEZ, reflecting the idea of "greater contribution to society from the wealthy" and the spirit of "mutual help and mutual assistance". The situation of assistance of partner provinces and cities in 2016 and the accumulated assistance from 2010 to 2016 are shown in Table 1.

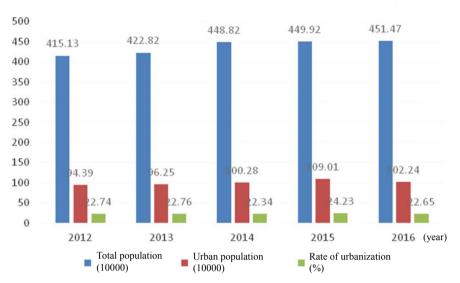


Fig. 11 Kashgar's level of urbanization from 2012 to 2016. *Data source* Statistical Communiqué on the National Economic and Social Development of the Kashgar Prefecture (2012–2016), www.kashi.gov.cn

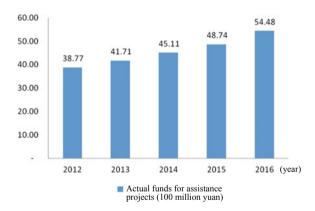


Fig. 12 Actual funds for assistance projects from four provinces and cities from 2012 to 2016

2 Overall Development of the Khorgos EDZ

In 2016, the Khorgos Economic Development Zone ("Khorgos EDZ") achieved a GDP of 3.905 billion yuan, witnessing an increase of 22.6% over the previous year, including 0.65 billion yuan for the primary industry, 1.528 billion yuan for the secondary industry, and 1.727 billion yuan for the tertiary industry. The per capita GDP was 44,782 yuan.

Provinces or cities for partner assistance	Number of assistance projects in 2016	Actual assistance funds in 2016 (100 million yuan)	Total assistance funds from 2010 to 2016 (100 million yuan)	Total number of assistance projects from 2010 to 2016
Shandong Province	140	11.64	61.05	579
Shanghai City	147	22.71	115.05	733
Guangdong Province	55	9.96	50.36	300
Shenzhen City	66	10.17	43.6	291
Total	408	54.48	270.06	1,903

Table 1 Assistance from partner provinces and cities

The total value of industrial output was 0.394 billion yuan, with an increase of 0.055 billion yuan year on year, and the growth rate was 16.2%; the value of industrial sales was 0.279 billion yuan, seeing a decrease of 0.053 billion yuan, about 16.1% less than the previous year; and the industrial added value was 0.128 billion yuan, witnessing an increase of 0.038 billion yuan, and the growth rate was 42.7%.

2.1 Stable Growth of Fixed Asset Investments and Accelerating Growth Rate

In 2016, the Khorgos EDZ (City) completed the fixed asset investment of 3.211 billion yuan, with an increase of 0.666 billion yuan year on year, and the growth rate was 26.2%. Among them, the investment in construction projects was 2.306 billion yuan, which increased by 0.387 billion yuan year on year, and the growth rate was 20.2%; and the real estate investment was 0.905 billion yuan, realizing an increase of 0.279 billion yuan year on year, and the growth rate was 44.6%. As shown in Fig. 13, from 2012 to 2016, the fixed asset investments of the Khorgos EDZ (City) increased steadily, but the growth rate fluctuated widely, and the growth rate was fast in 2016.

2.2 Decrease in Foreign Trade, Increase in Exportations

The foreign trade of Khorgos in 2016 reached US\$9.361 billion, seeing a year-on-year decrease of US\$2.639 billion, about 22.0% less than the previous year. Among them, the importations accounted for a large proportion and totaled US\$6.518 billion, which was 27.6% less than the previous year; and the exportations were US\$2.843 billion, about 5.2% less than the previous year.

In 2016, the total volume of imports and exports of Khorgos City was US\$1.166 billion, seeing an increase of US\$0.498 billion over the previous year, including the

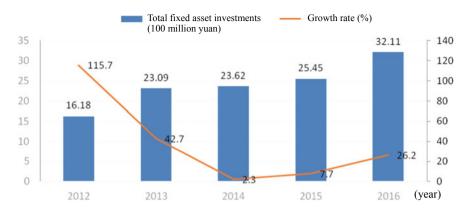


Fig. 13 Total fixed asset investments of the Khorgos EDZ (City) and its growth rate from 2012 to 2016. *Data source* The 2016 Statistical Communiqué on the National Economic and Social Development of the Khorgos EDZ (City)

exports for a value of US\$1.10 billion, which increased by US\$0.533 billion year on year, with a growth rate of 94.0%; and the imports for a value of US\$0.066 billion, which decreased by US\$0.035 billion year on year, with a decline of 34.7% (Fig. 14).

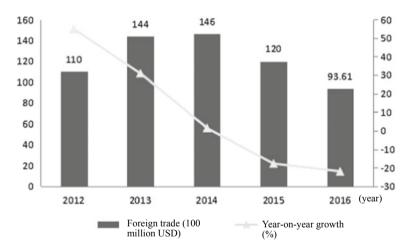


Fig. 14 Foreign trade developmental trend of Khorgos City from 2012 to 2016. *Data source* 2016 Statistical Communiqué on the National Economic and Social Development of the Khorgos EDZ (City)

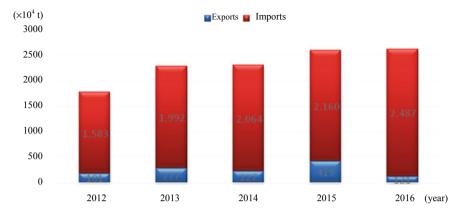


Fig. 15 The volume of foreign trade of Khorgos City from 2012 to 2016. *Data source* 2016 Statistical Communiqué on the National Economic and Social Development of the Khorgos EDZ (City)

2.3 Slight Increase in the Volume of Foreign Trade and a Significant Growth of Cooperation Centers

In 2016, the volume of foreign trade achieved an increase of 290,000 tons, which was 1.1% more than the previous year, totaling 26.08 million tons. Among those, the exports were 1.21 million tons and the imports were 24.87 million tons. Specifically, the volume of freight through highway ports was 410,000 tons, with a decrease of 8.2%; the freight volume through railway ports was 820,000 tons, witnessing a decrease of 10.4%; the volume of freight of cooperation centers was 50,000 tons, seeing an increase of 37.5%; and the volume of freight through pipelines was 24.8 million tons, with an increase of 15.2% (Fig. 15).

3 Main Problems for Emerging SEZs in Xinjiang

3.1 Deepening the Counter-Terrorism Campaign

Since the launch of the special campaign against terrorism, the social security in Xinjiang has greatly improved and the satisfaction and sense of security of the people of all ethnic groups have been widely enhanced. This provides a safe and stable precondition for the economic development of the region. However, terrorists appear intermittently and the "stability issue" still exists and seriously hinders the economic development.

Moreover, the "stability issue" in Xinjiang should not be confined solely within Xinjiang, but attention should also be paid to the relations with neighboring countries.

International terrorist activities should not be underestimated. According to a news report of India's *Economic Express* on September 21, 2017, Pakistan's Defense Minister Khurram Dastgir had filed a charge against India and accused India of indulging in terrorist activities and trying to undermine the economic corridor constructed by China and Pakistan with an investment of US\$50 billion.

3.2 Popularizing Bilingual Education

In Kashgar, the population of Han Chinese accounted for about 6.3% in 2016, and the Uyghur population was as high as 92.2%. There are 31 other ethnic groups, such as the Tajik. This makes it inconvenient to communicate among the different ethnic groups, and ethnic integration is often premised on the proficiency of language. Although most schools in urban areas of Kashgar have adopted bilingual education and there are no barriers in exchanges and trade between the city and tourists, but bilingual education is not popular and not widespread enough.

3.3 Slow Progress in the Optimization of the Industrial Structure

In 2016, the primary industry, secondary industry, and tertiary industry accounted for 34.2%, 25.2%, and 40.6% of Kashgar's GDP, respectively. Although with the preferential policies and various supporting policies of the special economic zones, the foreign trade in Kashgar has gradually expanded, the financial system has gradually improved, and the tourism industry is being diversified. However, due to a weak foundation, backward technology and a lack of a strong labor force, the economic development of Kashgar fails to achieve effective allocation of resources.

Kashgar has abundant production of cotton, melons, dried fruits, corn, etc. It is the raw material base for large-scale processing and production in Xinjiang. However, its distinctive fruit, corn, cotton and other raw materials are not supported by a processing industry in Kashgar; in other words, the primary industry of Kashgar remains at the stage of primary agricultural products. The industrial chain is short and fails to extend to the high value-added industries. There are no connections between the primary industry and the secondary industry, and no coordinated development of industries.

3.4 The Low Level of Urban and Rural Integration

By the end of 2016, the urban population of Kashgar was 1.0224 million, accounting for 22.6% of the total population; and the rural population was 3.4923 million, accounting for 77.35% of the total population. Since 2012, the rate of urbanization

of Kashgar has fluctuated around 20%, which is much lower than the national average of 57.35% in 2016. It is difficult to form the pattern of development of "driving rural areas forward by urban areas and promoting urban areas by rural areas" and the urban-rural relationship of "reciprocal support, complementary advantages and common development". If no attention is paid to the integration of urban and rural development in the initial stage of the construction of the Kashgar SEZ, it will inevitably widen the gap between urban and rural areas in the process of development, hinder the free flow of resources and production factors between urban and rural areas, make it difficult to integrate living standards, ideas and lifestyles between urban and rural areas, and that ultimately leads to difficulty in achieving the sustained, coordinated and healthy development of the urban and rural economy.

3.5 Underdeveloped Logistics Restricting Economic Development

On the one hand, the logistics-related infrastructure in Kashgar is extremely underdeveloped, and road transportation has to become the main mode of transportation between China and Pakistan. The capacity for road transportation is limited and it is greatly affected by natural disasters such as landslides and mudslides, which seriously impair the efficiency of transportation. On the other hand, Kashgar has not yet formed a scientific system for the management of logistics, the logistics information service network is imperfect, and the corresponding hardware and software equipment are backward, which further results in the inefficiency of the processing of logistics information. There are few logistics professionals, and except for a few large enterprises in Kashgar, the others are scattered small enterprises or selfemployed households, so it is difficult to integrate logistics resources and enlarge the scale of the logistics industry, and the long-term development of trade and logistics in Kashgar is affected.

4 Policy Suggestions for Promoting the Development of SEZs in Xinjiang

4.1 Awareness of Difficulty in Counter Terrorism and Responsibilities for Maintaining Stability

First of all, it is necessary to clarify that Xinjiang's fight against the three forces of separatism, extremism and terrorism is complicated, arduous and even long-term; their destructive power and influence should not be underestimated and we should keep alert. Then, we should fully mobilize the power of the masses, firmly rely on the masses and lay a solid foundation for winning the counter-terrorism campaign.

To be specific, we must innovate working methods of the masses, do well in propaganda, and mobilize the participation of the masses through measures of reward and punishment. Finally, we should give importance to villagers' groups in maintaining stability, actively deploy village-level stability forces, make full use of the strength of party branches and grass-roots party members, and implement specific policies.

4.2 Popularizing Bilingual Education and Promoting Ethnic Integration

Bilingual education should not be confined solely to urban areas. It is necessary to strengthen the training of bilingual teachers, give preferential policies to attract bilingual teachers to remote villages for popularizing the Chinese language and build a foundation for promoting ethnic exchanges. All ethnic groups have their own distinctive culture and religious beliefs, and the realization of cultural integration of all ethnic groups and the understanding and tolerance of different cultures of different ethnic groups are the prerequisite for the harmonious and stable development of a society. Therefore, we must actively carry out various forms of national unity propaganda and education, organize activities that are conducive to the exchange of ethnic culture, and make the idea of national unity become deeply rooted in the minds of the people.

4.3 Increasing the Added Value of Agricultural Products and Promoting Industrial Optimization and Upgrading

Kashgar is now being assisted by four provinces and cities, including Shenzhen, Guangdong, Shanghai and Shandong. In addition to receiving assistance funds, it should seize the opportunities, learn their economic development experience, improve its production capacity of processing and manufacturing, realize the transformation from production and sales of low-grade agricultural products to high value-added products, extend the industrial chain, enhance the linkage and coordination of industries, and allow for the most efficient allocation of resources.

The rural population in Kashgar is relatively large, accounting for about 70% of the total. It had best fully mobilize the enthusiasm of the majority of farmers for economic development. First, it must provide subsidies for certified seeds and for the planting of rice, wheat, melons and other varieties, and properly provide the knowledge of planting and education about it so as to ensure the utilization and yield of high-quality land. Second, it should strengthen the training of the members of the rural labor force, absorb the local labor force, raise the income of farmers, rely on agricultural products and rural labor, and realize the specialized development of distinctive industries.

4.4 Improving Urban-Rural Integration and Achieving Coordinated Development

Urban and rural integration should focus on the integration of space, economy, society, the ecological environment and development. Against the background of the Belt and Road Initiative, to effectively promote the urban and rural integration of Kashgar, we must first comply with the national development plan, seize the period of opportunity of the construction of new urbanization, rely on the national policies and assistance from partner provinces and cities, form a growth mechanism appropriate for Kashgar, promote agricultural modernization, information and industrialization in Kashgar as early as possible and lay a solid foundation for the development of urban and rural integration. Second, we should focus on promoting the construction of rural infrastructures, implement the land contract management system, improve the rate of utilization of rural land, and give importance to rural ecological environmental protection while developing. Finally, relevant policies should be formulated in accordance with the specific conditions of the counties and towns of Kashgar.

4.5 Accelerating the Construction of Infrastructures and Establishing a Comprehensive Logistics System

The construction of infrastructure is inseparable from the support of national policies. Since the establishment of the SEZ in 2010, especially the adoption of the Belt and Road strategy, national policies have been supporting the construction of infrastructures in Kashgar, which has made remarkable achievements. The "13th Five-Year Plan" also points out that by 2020, Kashgar will have comprehensively improves its system of public transportation and will have created a "bus city" to better meet the needs of its citizens.

The establishment of the logistics system requires a long-term plan, and it cannot be built in a day. First, with the city of Kashgar as the center, the large-scale storage base should be constructed, covering infrastructure facilities such as information systems, inspection and all-around services, and selecting logistics facilities with abundant resources and a superior location as the logistics nodes. Second, it should increase publicity efforts, use preferential policies to attract investments, attract experienced logistics enterprises to settle down, and build an industrial park of logistics where logistics enterprises cluster. Third, it should focus on attracting and retaining logistics professionals, localizing the world's advanced management technologies and promoting the high-speed and efficient operation of logistics. Finally, it must enhance the logistics advantages and strategic position of Kashgar, rely on the existing railway, highway, aviation and other infrastructures, radiate surrounding cities such as Shache, Zepu, Yecheng and Bachu, with the city of Kashgar as the center, and form a multi-faceted and multi-layer logistics and transportation system.

4.6 Strengthening the Strategy of Talent Training and Implementing the Plan for the Introduction of Talents

Talents are one of the driving forces of economic development. Against the background of accelerated economic development, it is imperative for emerging SEZs in Xinjiang to develop and introduce talents. They should increase the breadth and depth of talent introduction, provide effective preferential policies, and address all aspects of concerns for the introduction of talents. On the one hand, talent development should formulate a comprehensive and integrated strategy. The government and enterprises should jointly set up talent development funds to cover finance, the internet, e-commerce and other fields, with the focus on local talents and college students. On the other hand, they should implement the mechanism of overseeing to ensure that talent development funds are effectively used and that the talent output targets can be achieved.

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Chapter 7 Report on the Development of the Shenzhen Special Economic Zone



Fenglan Wu and Zhongxin Ma

Abstract In 2016, the development of the Shenzhen Special Economic Zone was remarkable: economic growth took the lead in the province, the industrial structure was continuously optimized, the replacement of old growth drivers with new ones was accelerated, the qualitative advantage of development was highlighted, the economic quality and ecological quality were "double-improved", the decline in foreign trade was stabilized, the growth of domestic trade accelerated, the level of economic development was heightened, the per capita income continuously increased, the number of patents was leading in the country, and the ability to innovate was enhanced. The comparative analysis of the competitive power of each district based on the model of the principal component analysis showed that Nanshan District was the most competitive district ahead of other districts regarding economic scale, the level of economic development and the capability for innovation, and leading in the speed of economic development and in population; Longgang District and Futian District ranked in the second place and the third place, and they had their own strengths in different indicators. The ranking of comprehensive competitive power and capability for innovation were highly consistent, and the driving role of innovation in economic growth was becoming increasingly obvious. Moreover, the Shenzhen Special Economic Zone also faced problems and challenges, such as rising business costs, insufficient land space, and weaknesses in public services. To solve these problems, the policy suggestions for further promoting the economic development of the Shenzhen Special Economic Zone are proposed.

Keywords The shenzhen SEZ · Development · Capability for innovation · Comprehensive competitive power

The year 2016 is the starting year of the "13th Five-Year Plan". The international economic situation was complex and changeable, and the downward pressure on

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the economy continued to increase. The Shenzhen Municipal Party Committee and Government thoroughly implemented the new ideas of General Secretary Xi Jinping regarding governance, including the "Four-Pronged Comprehensive Strategy" (which includes building a moderately prosperous society in all respects, driving reform to a deeper level, fully implementing the rule of law, and strengthening Party discipline) and the "five developmental concepts" (innovation-driven, coordinated, green, oriented toward global progress, and beneficial to all). They bolstered the "four matters of confidence" (confidence in our chosen path, guiding theories, and political system, and most importantly, confidence in our culture), vigorously promoted the supply-side structural reform and constantly guided the new normal of economic development. The overall situation was guided by the "four adherences, three supports, and two spearheads", so as to enhance the quality and standards of Shenzhen, and accelerate the construction of international science and technology, industrial innovation centers and the socialist modernization pilot area. During the entire year, the main economic indicators grew steadily, the new economic growth drivers were continuously strengthened, the reform and opening-up continued to advance, and the energy for innovation accelerated coherence and it showed the new developmental features of strong innovation, optimal structure, steady speed and high quality.

1 Overview of the Development of the Shenzhen SEZ in 2016

1.1 Fastest Economic Growth in the Province and a Continuously Expanding Economic Scale

In the past ten years, the economy of Shenzhen has maintained a steady growth trend (Fig. 1). In 2016, Shenzhen's economic development made steady progress, and it achieved rapid growth. According to preliminary calculations, its GDP in 2016 was 1,949.26 billion yuan, ranking fourth among large and medium-sized cities on mainland China, with a net increase of 198.961 billion yuan over the previous year, which hit a record high and had a year-on-year growth of 9%. The growth rate was 2.3% points and 1.5% points higher than the national average and the provincial average respectively and ranked first among all of the cities in the province (Fig. 2). The annual fixed asset investment was 407.816 billion yuan, seeing a year-on-year increase of 23.6%; among them, the secondary industry investments increased by 17.7% and the tertiary industry investments increased by 25.0%, a 22-year high. The economic growth rate rose quarter by quarter even under the adverse overall trend. The growth rates in the first quarter, the first half year, the first three quarters, and the whole year were 8.4%, 8.6%, 8.7%, and 9.0%, respectively. The total population of the city maintained a steady growth. At the end of 2016, the number of permanent residents was 11.9084 million, an increase of 529,700 from the end of 2015, with a growth rate of 4.7%.

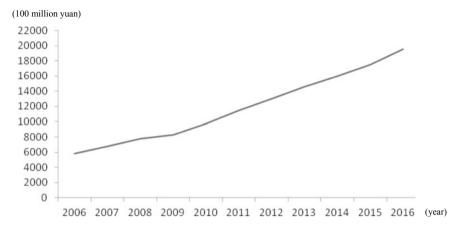


Fig. 1 GDP growth trend of Shenzhen from 2006 to 2016. Data source http://www.sztj.gov.cn/

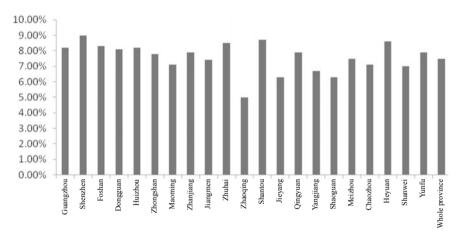


Fig. 2 Comparison of the GDP growth rates of Shenzhen and other cities in Guangdong. *Data source* http://www.gdstats.gov.cn/

1.2 Continuous Optimization of the Industrial Structure and Replacement of Old Growth Drivers with New Ones

In 2016, the proportion of the tertiary industry in the GDP of Shenzhen continued to increase, and the industrial structure became more optimal (Fig. 3). The added value of the primary industry was 0.629 billion yuan, which decreased by 3.7% year on year and accounted for 0.03% of the total GDP; the added value of the secondary industry was 770.043 billion yuan, which increased by 7.0% year on year and accounted for 39.5% of the total GDP; and the added value of the tertiary industry was 1,178.588

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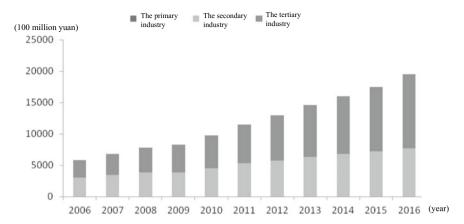


Fig. 3 Trend of change in the industrial structure of Shenzhen from 2006 to 2016. *Data source* http://www.szti.gov.cn/

billion yuan, which increased by 10.4% year on year and accounted for 60.5% of the total GDP.

The pillar industries grew vigorously, emerging industries and future industries developed rapidly and the replacement of old growth drivers with new ones was accelerating. The added values of the four pillar industries of finance, logistics, culture and high technology were 287.689 billion yuan, 198.45 billion yuan, 110.091 billion yuan and 656.002 billion yuan, which increased by 14.6%, 9.4%, 15.4% and 12.2% respectively compared with 2015. Their growth rates were significantly higher than the average growth rate, and their contribution to the overall economy became more prominent (Fig. 4). The value of emerging strategic industries increased by 784.772 billion yuan, with a year-on-year increase of 10.6%, accounting for 40.3% of the regional GDP. The added value of the four future industries reached 102.628 billion yuan, accounting for more than 5% of the GDP.

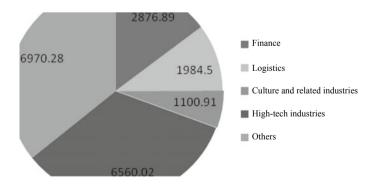


Fig. 4 Proportion of the four pillar industries of Shenzhen in 2016. *Data source* http://www.sztj.gov.cn/

1.3 Considerable Advantage of the Development of High Quality and the "Double Improvement" of Economical Quality and Ecological Quality

Shenzhen gained the advantage of economic development by good quality, effectively responded to the complex and ever-changing international economic situation and the downward pressure on the domestic economy, and achieved the "double improvement" of economic quality and ecological quality (Fig. 5).

While the GDP maintained its rapid growth, Shenzhen's fixed asset investments, total retail sales of consumer goods, and profits of industrial enterprises above the designated size kept relatively high growth rates. The public financial revenue reached 790.1 billion yuan; among those, the local general public budget revenue accounted for nearly 40%; and the proportion of the financial revenue to the GDP grew steadily and exceeded 16%.

Green development made new achievements. The number of days with good air quality in Shenzhen increased to 354 days, and the environmental advantages suitable for living and business became continuously obvious. The "Shenzhen Blue" had already become a beautiful symbol of the city. The consumption of energy resources became "lower and lower," and the energy consumption per 10,000 yuan of GDP was less than 0.38 tce, which decreased by 4.1% year on year; the average concentration of PM2.5 was 27 μ g/m³, which decreased by 10% year on year; and the rate of green coverage rate was 45.1%, the rate of domestic garbage disposal was 100%, and the ecological environment ranked top among large and medium-sized cities in China.

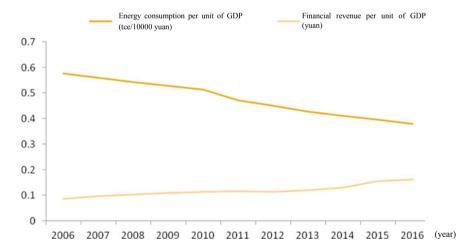


Fig. 5 Trend of change in energy consumption per unit of GDP and financial revenue per unit of GDP from 2006 to 2016. *Data source* http://www.sztj.gov.cn/

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1.4 Stabilized Decline of Foreign Trade and an Accelerating Increase in Domestic Trade

In 2016, Shenzhen spared no efforts to optimize the structure of foreign trade, and promulgated 19 measures such as export tax rebate and subsidized interest for working capital. Foreign trade showed the trends of stabilizing quarter by quarter and structural optimization. The total volume of imports and exports reached 2,630.701 billion yuan for the whole year and its decline became stabilized (Fig. 6). The volume of exports accounted for 11.3% of the country's total exports, reaching 1,568.040 billion yuan and ranking first for 24 consecutive years. The exports of integrated service enterprises for foreign trade and cross-border e-commerce enterprises grew rapidly by 15% and 17%, respectively; exports of the six traditional labor-intensive industries began to rebound and increased by 8.7%. The total amount of imports was 1,062.661 billion yuan, of which the growth rate of consumer goods importations reached 8.9%. The number of newly signed foreign direct investment contract projects increased by 23.0% year on year; the contracted foreign investments and actual use of foreign direct investments reached US\$52.193 billion and US\$6.732 billion, respectively.

The total retail sales of consumer goods in Shenzhen reflected the status of trade in the region. In 2016, the retail sales of consumer goods increased by 8.1% year on year to 551.276 billion yuan. Among these, the wholesale and retail sales grew by 8.2% year on year. In the wholesale and retail industry, food and beverages, tobacco and alcohol, newspapers and magazines, daily necessities, communication equipment and automobiles grew rapidly, with an increase of 17.5%. 22.5%, 15.1%, 4.9% and 12.7%, respectively. According to the trend of recent years, the total retail

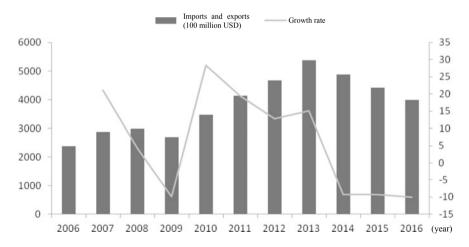


Fig. 6 Shenzhen's total volume of imports and exports and the trend of change in its growth rate from 2006 to 2016. *Data source* http://www.sztj.gov.cn/

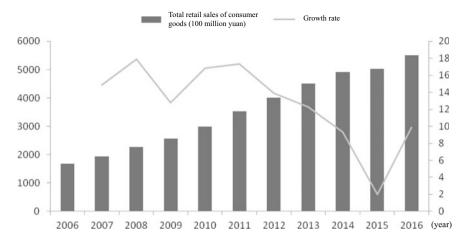


Fig. 7 Total retail sales of consumer goods of Shenzhen and the trend of change in its growth rate from 2006 to 2016. *Data source* http://www.sztj.gov.cn/

sales of consumer goods was growing steadily, and the growth rate began to stabilize and rebound (Fig. 7).

1.5 Better Economic Development and Increasing Per Capita Income

In recent years, the economic development of Shenzhen has steadily increased, and the increase of per capita GDP and per capita disposable income has been stable (Fig. 8). The per capita GDP reached 167,411 yuan (about US\$25,200), which surpassed Taiwan for four consecutive years, and the gap with per capita GDP of US\$22,000 in Taiwan was widening. After eliminating the price factor, the per capita disposable income of residents in Shenzhen actually increased by 6.5% year on year; and the per capita consumption expenditure of residents had an actual year-on-year increase of 10.1%, and the Engel coefficient was 0.305.

While maintaining the steady growth of per capita GDP and per capita disposable income, Shenzhen continued to enhance the supply quantity and quality of public services. It increased expenditures on people's livelihood. The expenditures on education and medical care increased by 32.3% and 33.7%, respectively; and the social security, housing security, cultural and sports undertakings also achieved new breakthroughs.

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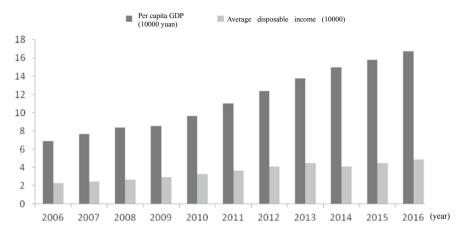


Fig. 8 Trend of change in per capita GDP and per capita disposal income of residents from 2006 to 2016. *Data source* http://www.szti.gov.cn/

1.6 Most Patents in the Country, Accelerated Improvement of Innovation

In 2016, Shenzhen accelerated the improvement of its capability for innovation, and changed from a follower to a leader of technological innovation in many fields. Its total investment in research and development accounted for 4.1% of the GDP and reached the level of developed countries. In 2016, 210 new national, provincial and municipal innovation platforms were introduced. It newly attracted 6 full-time academicians and 23 senior innovation teams. The city had 1,441,400 professional and technical personnel, a number which increased by 6.5% over the previous year. It newly recruited 136,500 overseas and high-skilled talents. The number of national high-tech enterprises increased by 2,513 and totaled 8,037.

In recent years, the number of domestic patent applications and grants and international PCT applications increased rapidly (Fig. 9). In 2016, the number of domestic patent applications reached 145,294 with an increase of 37.7% over the previous year. Among them, there were 56,336 invention patent applications, ranking first among all sub-provincial cities in China, with a year-on-year increase of 40.74%; and the number of domestic patents granted reached 75,043, an increase of 4.1% over the previous year. The number of invention patents granted ranked first among sub-provincial cities nationwide; and the number of PCT international patent applications reached 19,648, accounted for 46.59% of the total, and ranked first among cities in the country. By the end of 2016, Shenzhen had accumulated 337,122 invention patent applications, and the total number of effective invention patents ranked second among all large cities in the country, second only to Beijing; and it had 80.09 domestic effective invention patents per 10,000 people, ranking first among big cities across the country.

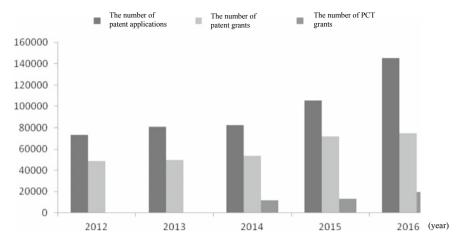


Fig. 9 Patent grants from 2012 to 2016. Data source http://sziprs.org.cn/

2 Comparison of the Comprehensive Competitive Power of the Districts in Shenzhen in 2016

2.1 Building of the Principal Component Analysis Model

The principal component analysis is a method of statistical analysis based on correlation analysis. Based on the mathematical statistics theory, the method of dimensionality reduction is applied for comprehensively evaluating the information contained in multiple variables. Suppose there are n subjects and p indicators, and the indicator matrix set for all combinations of indicators is:

$$X = \begin{bmatrix} x_{11} & x_{12} & \cdots & x_{1p} \\ x_{21} & x_{22} & \cdots & x_{2p} \\ \vdots & \vdots & \vdots & \vdots \\ x_{n1} & x_{n2} & \cdots & x_{np} \end{bmatrix}$$

Here, $x_1, x_2, ..., x_p$ are P indicators of each research unit. Suppose m principal component indicators are $Q_1, Q_2, ..., Q_m$ (m \leq p). Q_i and Q_j ($i \neq j; i, j = 1, 2, ..., m$) are mutually independent vectors; Q_m is irrelevant to $Q_1, Q_2, ..., Q_{m-1}$, and the linear combination of $x_1, x_2, ..., x_p$ with the largest variation. Then $Q_1, Q_2, ..., Q_m$ are called the first, second, third, ... and m-th principal components of the original variable $x_1, x_2, ..., x_p$. Assume that $r_{ij}(i, j = 1, 2, ..., p)$ is the correlation coefficient of the original variable, λ_p is the eigenvalue of the eigenequation $|\lambda I - R| = 0$, and the eigenvector corresponding to λ_i is W_i (i = 1, 2, ..., p); and the contribution rate and cumulative contribution rate of the principal components are u, U, then the equation can be expressed as follows:

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$$\begin{cases} z_1 = l_{11}x_1 + l_{12}x_2 + \dots + l_{1p}x_p \\ z_2 = l_{21}x_1 + l_{22}x_2 + \dots + l_{2p}x_p \\ \vdots \\ z_m = l_{m1}x_1 + l_{m2}x_2 + \dots + l_{mp}x_p \end{cases}$$

$$l_{ij} = p(z_i, x_j) = \sqrt{\lambda_i W_{ij}} (i, j = 1, 2, ..., p)$$

$$u = \frac{\lambda_i}{\sum_{k=1}^{p} \lambda_k} (i = 1, 2, \dots, p) \quad U = \frac{\sum_{k=1}^{i} \lambda_k}{\sum_{k=1}^{p} \lambda_k} (i = 1, 2, \dots, p)$$

The composite principal component value can be expressed as:

$$Q_q = Q_1 * \lambda_1 / \sum_{s=1}^{p} \lambda_s + Q_2 * \lambda_2 / \sum_{s=1}^{p} \lambda_s + \dots + Q_p * \lambda_p / \sum_{s=1}^{p} \lambda_s$$

The composite principal component (q = 1, 2, ...n) often takes the principal component with the eigenvalue larger than 1.

2.2 Calculation of the Comprehensive Competitive Power of All Districts

According to the data of the economic development of all of the districts in 2016, we selected seven indicators: economic scale (GDP), economic growth rate (GDP growth rate), population (resident population), business environment (total retail sales of consumer goods), level of economic development (per capita GDP), capability for innovation (the number of international patent PCT applications) and industrial structure (the proportion of the tertiary industry), and calculated the comprehensive competitive power of all of the districts based on the model of the principal component analysis; and the process summary is shown in Tables 1, 2 and 3.

We extract the 1st, 2nd and 3rd principal component, the eigenvalue $\lambda_1 = 2.92$, $\lambda_2 = 1.83$ and $\lambda_3 = 1.20$ and the total explained variation (cumulative contribution rate) is 85.04%, so the new variables Q_1 , Q_2 and Q_3 can be used to replace the original indicator variables.

The composite principal component value is:

$$O = O_1 * 2.92/5.95 + O_2 * 1.83/5.95 + O_3 * 1.2/5.95$$

 Table 1
 The correlation coefficient of the indicators

Correlation coefficient	Economic scale	Economic growth rate	Population	Business environ- ment	Level of economic develop- ment	Capability for innovation	Industrial structure
Economic scale	1.00	-0.05	0.78	0.78	0.22	0.69	0.22
Economic growth rate	-0.05	1.00	-0.04	-0.10	-0.25	0.11	-0.25
Population	0.78	-0.04	1.00	0.49	-0.06	0.30	-0.06
Business environ- ment	0.78	-0.10	0.49	1.00	0.65	0.26	0.65
Level of economic develop- ment	0.22	-0.25	-0.06	0.65	1.00	0.48	0.55
Capability for innovation	0.69	0.11	0.30	0.26	0.48	1.00	-0.11
Industrial structure	0.22	-0.25	-0.06	0.65	0.55	-0.11	1.00

Table 2 Total explained variation

Component	Initial eigenvalues			Extraction sums of squared loadings			
	Total	Variation %	Cumulative %	Total	Variation %	Cumulative %	
1	2.92	41.75	41.75	2.92	41.75	41.75	
2	1.83	26.10	67.85	1.83	26.10	67.85	
3	1.20	17.19	85.04	1.20	17.19	85.04	
4	0.87	12.47	97.52				
5	0.13	1.89	99.40				
6	0.03	0.49	99.89				
7	0.01	0.11	100.00				

 Table 3
 Component matrix

Variation	Component 1	Component 2	Component 3
Economic scale	0.94	0.33	0.04
Economic growth rate	-0.18	0.45	0.35
Population	0.60	0.68	-0.34
Business environment	0.88	-0.09	-0.30
Level of economic development	0.47	-0.73	0.47
Capability for innovation	0.63	0.21	0.73
Industrial structure	0.51	-0.69	-0.35

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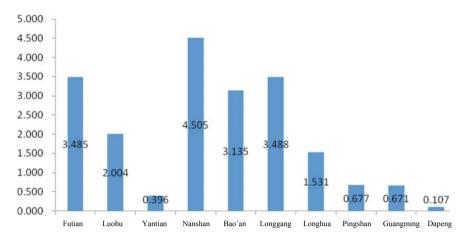


Fig. 10 Comparison of competitive power indicators of all of the districts *Note* Calculated by SPSS23 software

Table 4 Comparison of competitive power indicators of all of the districts

District	GDP (100 M yuan)	GDP growth rate (%)	Resident population (10 K people)	Total retail sales of consumer goods (100 M yuan)	Per capita GDP (10 K yuan)	International patent applications (number)	Proportion of the tertiary industry (%)
Fukuda	3561.44	8.60	150.17	1665.12	23.72	1761.00	93.71
Luohu	1974.07	9.00	100.40	1152.47	19.66	313.00	96.17
Salt pan	537.68	8.80	22.65	71.09	23.74	158.00	84.74
Nanshan	3842.37	9.30	135.63	737.11	28.33	10389.00	54.04
Baoan	3003.44	8.80	301.71	715.45	9.95	1147.00	50.19
Longgang	3177.06	9.90	214.38	670.52	14.82	4534.00	35.56
Longhua	1856.67	8.00	154.94	263.66	11.98	377.00	44.05
Pingshan	506.05	12.60	40.79	70.90	12.41	216.00	33.44
Guangming	726.39	9.10	56.08	110.40	12.95	752.00	36.76
ROC	307.42	7.00	14.09	56.04	21.82	1.00	41.13

Data source: http://www.sztj.gov.cn/

The results of the calculation and the indicator values of the comprehensive competitive power are shown in Fig. 10 and Table 4.

2.3 Comparative Analysis of the Comprehensive Competitive Power of All of the Districts

The results of the calculation show that Nanshan District is the most comprehensive area ahead of other districts on economic scale, level of economic development and capability for innovation, and is the leader in speed of economic development and

population; Longgang District and Futian District rank second place and third place, and they have their own strengths in different indicators.

Compared with Bao'an District, Longgang District has not only outperformed in economic scale, speed and level of economic development, but it is also far ahead of Bao'an District in capability for innovation (the number of international patent applications of Longgang District is four times that of Bao'an District). This reflects the significantly weakened strengthen of Bao'an District after the adjustment of administrative divisions, and also the fact that the innovation-driven development of Longgang District is more vigorous.

The last five districts on the ranking of comprehensive competitive power are mainly the eastern districts and the newly established administrative areas or functional zones. Yantian and Dapeng in the eastern region are the last two districts. Newly established Pingshan District and Guangming District rank in 7th and 8th places. Luohu District has dropped to the second echelon and ranks 5th, and the new functional district Longhua ranks in 6th place.

In general, the rankings of comprehensive competitive power are highly consistent with the capability for innovation. This indicates that the leading role of innovation is becoming more and more obvious; the traditional central areas of Luohu and Futian are facing severe challenges under the constraints of land and other resources. Nanshan and Longgang with a strong capability for innovation show their advantage as a leader and their strong momentum and they will become new development centers. Pingshan and Guangming, the two new administrative districts, also have a strong momentum of growth and a prominent late-mover advantage.

3 New Growth Drivers and the New Model of Economic Development of Shenzhen

3.1 Accelerated Reform of the Qianhai Shekou Free Trade Area and the Expansion of Shenzhen-Hong Kong Cooperation

The Qianhai Shekou Free Trade Area developed rapidly. In 2016, its output value increased by 141 billion yuan, which was 38% more than that of 2015. The tax revenue reached 27 billion yuan, with a year-on-year increase of 55%. There were 53,088 newly registered enterprises, and the total number of registered enterprises reached 124,560. A total of 123,292 commercial entities existed in the Qianhai Shekou Free Trade Area, a number which increased by about 78%, including 5,454 enterprises with Hong Kong capital in the Qianhai Area, accounting for 93.52% of the foreign-funded enterprises. There were 1,894 Hong Kong enterprises or their branches that had settled in the Qianhai Cooperation Zone, such as the Hong Kong Stock Exchange and the HSBC Group. Shenzhen-Hong Kong Youth Dream Works introduced more than 70 Hong Kong entrepreneurial teams. The fixed asset investments reached 37

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billion yuan and the average annual growth rate was about 80% in the last five years. The actual use of foreign investments was US\$3.8 billion, an increase of 70%, exceeding the initial target.

The Qianhai Shekou Free Trade Area is faced with the unique opportunities of free trade reform pilot, Shenzhen-Hong Kong cooperation, the integration of production and city, and institutional and mechanism reform. It is an important platform for the opening-up and the implementation of the Belt and Road strategy. Accelerating the construction of the Qianhai Shekou Free Trade Area is a great action for thoroughly implementing the important instructions and speeches of General Secretary Xi Jinping. It is the "No.1 Project" and top priority of the Shenzhen Municipal Party Committee and Government. The Qianhai Shekou Free Trade Area undertakes the glorious tasks of the in-depth integration of Shenzhen and Hong Kong, promoting Hong Kong's long-term prosperity and stability, and enabling the replication of the Qianhai model; and thus, it can gradually form the "Qianhai Expression" for innovation to the international system, the "Qianhai Plan" of financial innovation and the "Qianhai Model" of legal talent innovation.

In addition to national strategic opportunities, tax incentives and institutional innovations are also important driving forces for the sustained and rapid development of the Qianhai Shekou Free Trade Area. The Qianhai Free Trade Area provides tax incentives for enterprises and individuals. The tax rate for enterprises in the logistics industry, information service industry, science and technology service industry and cultural industry is 15%, which is 10% lower than that of ordinary enterprises. For individual income taxes, the portion exceeding 15% of the salary will be returned to the individual during the following year, covering high-end talents and other talents in shortage from foreign countries, Hong Kong, Macao, Taiwan, overseas Chinese and overseas students. The individual income tax subsidy for 250 overseas high-end talents and other talents in shortage reaches 84.41 million yuan, including 127 talents from Hong Kong, accounting for 50.8%. Institutional innovation has achieved fruitful results. Based on 102 institutional innovations that have been implemented, in 2016, 106 institutional innovation initiatives were formed, and some initiatives were replicated across the country and the province.

3.2 Economic Growth by Technological Innovation, Accelerated Formation of the City of Innovation

Mass entrepreneurship and innovation are the main engines for the transformation and upgrading of Shenzhen's economic structure under the new normal and also an important starting point for accelerating the construction of a modern international innovative city and an international center for science and technology and industrial innovation. Shenzhen has continuously promoted the linkage of innovation, entrepreneurship, venture capital and makers, it has formed the combination of capital, policies and talents and set an example for mass entrepreneurship and innovation

in China. In 2016, 81 new maker spaces, 32 maker service platforms and 12 incubators were increased; it successfully held the 2nd Shenzhen International Maker Week and attracted 500,000 participants from 35 countries and regions. Shenzhen Bay Venture Plaza became a new business card for innovation and entrepreneurship across the country.

The achievements of scientific and technological innovation are constantly emerging. After 18 years of development, the hi-tech fair has become the largest, most standardized, most effective and most influential national-level international science and technology event in China. In 2016, the 18th China Hi-Tech Fair with the theme of "Innovation Driven, Quality Oriented" was held in Shenzhen, displayed the latest breakthroughs of China in innovation and entrepreneurship in frontier fields to the world and attracted 589,000 visitors from 97 countries and regions.

With the accelerated clustering of innovation factors, Shenzhen has become a highly concentrated area of innovative elements such as talent, capital and technology. In 2016, Shenzhen's R&D investment occupied 4.05% of its GDP, which is equivalent to the proportion of Israel and South Korea. The financial industry is highly developed and it has become the third largest financial center on the mainland of China after Shanghai and Beijing. From the introduction of the first academician in 1999, by 2016, 16 full-time academicians had been introduced. A large number of industrial leaders, such as Huawei, not only master the most advanced technologies in their industry, but they have also begun to invest heavily in the field of basic research; technology rookies, such as BGI, often publish articles in top international journals such as *Science* and *Nature*. The innovative products of these high-tech enterprises continue to polish the golden signboard of Shenzhen as the "City of Innovation".

The results of the big data analysis of the "Intellectual Property Statistics Database" show that I the Shenzhen-Hong Kong cluster ranks second in the global "innovation clusters", second only to the Tokyo-Yokohama cluster, and that of San Jose-San Francisco (Silicon Valley) ranks third. The city of innovation is formed at a faster pace. Shenzhen has become a true "China Silicon Valley" and is heading for the next goal: a world-class "City of Innovation".

3.3 Inclusion of the Guangdong-Hong Kong-Macao Greater Bay Area in Planning and Driving the Opening-up by the Bay Area Economy

The Bay Area economy is characterized by openness, innovation, livability and inclusiveness. From the perspective of the global economy, the Bay Area economy is an important engine for global economic development. The Guangdong-Hong Kong-Macao Greater Bay Area is located at the same latitude as the Tokyo Bay Area and the San Francisco Bay Area. It has the two free port cities of Hong Kong and Macao,

¹Data source: Global Innovation Index (2017) published by the World Intellectual Property Organization.

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the three special economic zones of Shenzhen, Zhuhai and Shantou, and the three free trade areas of Nansha, Hengqin and Qianhai Shekou. It possesses the effect of the superposition of multiple economic models such as free ports, free trade areas and special zones and occupies a total area of 56,594.32 km². In 2016, the total population was 67.9842 million, the GDP was 9,230.376 billion yuan, and the per capita GDP reached 135,800 yuan. The proportion of the tertiary industry was 65.06%. The total volume of imports and exports was 12,593.194 billion yuan, and its ratio to the GDP was 136%. The economic aggregate, the level of economic development and its level of opening-up are close to the world-class Bay Areas.

In March 2016, the State Council issued the *Guiding Opinions on Deepening the Pan-Pearl River Delta Region Cooperation* and clearly pointed out that the Pan-Pearl River Delta region should work together with Hong Kong and Macao to build the Guangdong-Hong Kong-Macao Greater Bay Area. Subsequently, the National "13th Five-Year Plan" proposed to promote the construction of the Guangdong-Hong Kong-Macao Greater Bay Area. Since then, the planning and construction of the Greater Bay Area have been elevated to the top design of the country.

Shenzhen is the original proponent of the domestic Bay Area economy and a practitioner and promoter of the Bay Area economic development. The Bay Area has become an important city attribute of Shenzhen. Shenzhen has always planned to open up to the standard of the world-class Bay Area and actively participates in the construction of the Guangdong-Hong Kong-Macao Greater Bay Area to achieve a higher level of internal and external linkage and opening-up.

4 New Problems and Challenges for the Economic Development of Shenzhen

4.1 Fast Increase in Operating Costs, Inevitable Choice to Promote Industrial Transformation and Upgrading Towards the Middle and High End

In recent years, along with the rapid economic development, land costs have risen sharply, "record high prices of land" appear frequently, and house prices go up drastically. As a result, the rising housing costs for employees lead to an increase in labor costs, and rents of office buildings and factories also increase to a certain extent. In the background of the complex and volatile international macroeconomic environment and the downward pressure on the domestic economy, the rising operating costs bring tremendous pressure on the development of enterprises in Shenzhen. A large number of low-end and medium-end enterprises have chosen to move to neighboring cities or inland cities, thus presenting severe challenges to the sustainable growth of Shenzhen's economy. Vigorously promoting industrial transformation and upgrading and accelerating the transformation towards high-end, high-tech, high value-added industries has become an inevitable choice for the economic developmental model of Shenzhen.

4.2 Seriously Insufficient Land Leading to Higher Requirements for Scientific Planning and an Efficient Use of the Urban Space Resources

Shenzhen covers an area of about 1,998 km², equivalent to one-eighth of Beijing, less than one-third of Shanghai and Guangzhou. In 2005, Shenzhen allocated 50% of the total land area of the city (about 974.5 km²) to the basic ecological control line. At present, the built-up area of Shenzhen has reached 900 km², which means that there is no more land available for development in Shenzhen, and the development of its industry and the city is seriously restricted by land space.

Shenzhen should further expand its space. On the one hand, it can realize the coordinated development by regional cooperation in the "Shenzhen, Dongguan, Huizhou, Heyuan and Shanwei" economic circle. On the other hand, it must fully exploit the potential of land resources, scientifically plan and efficiently utilize land by measures such as innovating industrial land classification, encouraging the mixed use of land, raising the upper limit of the plot ratio of industrial land, intensively arranging supporting facilities, and regulating the flexible guidance and quantitative control of land; it should realize the re-allocation and re-optimization of space resources, use an innovative line of thought to solve the problem of insufficient space, and provide a reliable and sustainable guarantee of space for industry and urban development.

4.3 Weaknesses in Public Services, Urgent Needs for Improving Education, Medical Care, Transportation and Other Supporting Facilities Compatible with Urban Development

Public services such as education, medical care and transportation cannot keep up with the needs of Shenzhen's rapid economic development and population growth. The level the quality of the public services is not compatible with the level of urban development in Shenzhen. The quality of higher education is not high, and no university or subject has been selected as "double first-class". Compared with Beijing, Shanghai and Guangzhou where the "double first-class" universities or subjects are in great number, there is still a big gap. The gap in basic education is relatively large. In 2017, the quota for grade one students in public primary schools was 46,300, and the gap in 2018 will reach 61,000. It is estimated that at least 2 million children whose parents work in Shenzhen will be forced to be "left" in their hometown due to the strict admission requirements of public schools and the high tuition fees of private schools. Medical resources are also seriously insufficient. It is difficult and expensive to see a doctor. In 2016, there were less than 10 Grade III Level A hospitals in the city, but 48, 34, and 29 in Beijing, Shanghai, and Guangzhou, respectively; and the shortage of medical and health talents in the city was 35,000. Traffic congestion also occurs from time to time, especially in the eastern region.

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5 Policy Suggestions for Furthering the Economic Development of the Shenzhen SEZ

5.1 Actively Docking with the National Strategy of the Belt and Road for Opening up

The Belt and Road is a national strategy that was initiated by China and promoted at a high level. It is a big strategic opportunity to promote a higher level of opening-up in the new era. On the one hand, the Shenzhen SEZ should actively strive for and implement the overall arrangements of the national strategy of the Belt and Road, sparing no efforts in building a bridgehead for the Maritime Silk Road and accelerating the construction of a "Belt and Road" hub city. On the other hand, it must vigorously support enterprises in carrying out trade and investment activities in countries along the Belt and Road, utilize national support policies, make full use of project docking, visits, exhibitions, conferences and other means to help enterprises get more opportunity for exportations; it must establish the "Belt and Road" public service platform, provide information such as laws and regulations, quality standards, customs and culture and a market environment, all of which are required for "going global", and it must give full play to the initiative of enterprises and better serve the national strategy.

5.2 Planning for the Integration of the Guangdong-Hong Kong-Macao Greater Bay Area

The construction of the Guangdong-Hong Kong-Macao Greater Bay Area is a national strategy to promote the in-depth cooperation of Guangdong, Hong Kong and Macao. Currently, it has entered the stage of planning and preparation. As the promoter and advocate of the Greater Bay Area, the Shenzhen SEZ should actively explore the institutional mechanism of "common interests" in the metropolitan area of the Greater Bay Area, give full play to its technological advantages, financial advantages and geographical advantages with the neighboring Hong Kong, and play a core role as the engine in the construction of the Greater Bay Area. With Qianhai and Lok Ma Chau as the platform, it should promote deeper cooperation between Shenzhen and Hong Kong on the background of the Guangdong-Hong Kong-Macao Greater Bay Area. In terms of technological innovation, it should build a crossborder science and technology corridor in the Bay Area together with Hong Kong and Guangzhou. Regarding infrastructure, the high-speed railway along the Bay Area should be planned from the east and west axes, the planning and construction of the eastern airport should be accelerated, and the two wings of the Bay Area in the east and west should be propelled to take off.

5.3 Unswervingly Implementing the "Eastward" Strategy

The problem of the "unbalanced development of eastern and western regions" has long existed in the economic development of Shenzhen. Longgang, Pingshan, Yantian and Dapeng in the eastern region are relatively backward, but they have the late-comer advantage. Faced with tight land constraints and high costs in the western region, if Shenzhen wishes to maintain its rapid growth, it must vigorously develop the eastern region, unswervingly implement the "Eastward" strategy, focus on building the eastern center of Shenzhen, accelerate the construction of the Shenzhen-Shanwei cooperation zone, and drive forward the development of the eastern part of Shenzhen and even the entire northeastern part of Guangdong. It must accelerate the plans for and the construction of infrastructures such as subways, high-speed railways and highways, improve the level of public services such as medical care, education, culture and parks, and by industrial policies, guide enterprises to move to the eastern region.

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Various portal websites.

Chapter 8 Report on the Development of the Zhuhai Special Economic Zone



Hongquan Chen

Abstract In 2016, faced with downward pressure, the Zhuhai Special Economic Zone overcame difficulties such as the large-scale decline in foreign trade for the second consecutive year. The overall economy maintained a relatively high growth rate, the industrial economy bottomed out, and private economic investments continued to be active. The proportion of the tertiary industry exceeded 50% for the first time, and the industrial structure was continuously optimized. The Hengqin New Area had a boom in development and investment and achieved a good start for the 13th Five-Year Plan. Confronted with the new international and domestic situation, this report suggests that the Zhuhai Special Economic Zone needs to further optimize its industrial structure, focus on the development of modern service sectors, deploy the strategic emerging industries and future industries following the trend of the new global round of high-tech industry scale strategies, enhance institutional innovation to further invigorate the development of the Hengqin New area and enhance the efforts of credit support by banks for the real economy of Zhuhai.

Keywords The Zhuhai SEZ · The Hengqin new area · Economic operations · Industrial structural optimization

1 Economic and Social Development of Zhuhai in 2016

1.1 High Growth Rate of Economic Operations and Good Financial Position

In 2016, the Zhuhai Special Economic Zone ("Zhuhai SEZ") achieved a regional GDP of 222.637 billion yuan, with a year-on-year increase of 8.5%, which was 1% point higher than the average GDP growth rate of the province. Its GDP growth rate

ranked in second place after two consecutive years in first place in the Pearl River Delta region.

In 2016, the per capita GDP of the Zhuhai SEZ increased by 7.8% year on year to 134,500 yuan, which could be converted to US\$20,200 at the average exchange rate, about 1.85 times the per capita GDP of Guangdong Province. It continuously ranked third place in Guangdong, only slightly lower than Guangzhou and Shenzhen (see Figs. 1 and 2).

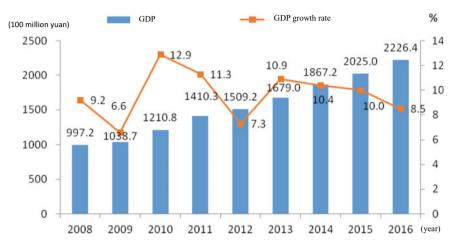


Fig. 1 Regional GDP and growth rate of the Zhuhai SEZ from 2008 to 2016. *Note* The absolute numbers of the indicators such as regional GDP and added value of each industry in this figure and other figures and tables in this report are calculated at current prices, and the growth rates are calculated at comparable prices. *Data source* 2016 Statistical Communiqué on the National Economic and Social Development of Zhuhai, and the 2016 Statistical Yearbook of Zhuhai

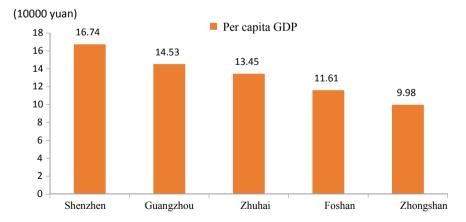


Fig. 2 Comparison of the top five cities of Guangdong in per capita GDP. *Data source* 2016 Statistical Communiqué on the National Economic and Social Development of these cities

In 2016, the general public budget revenue of the Zhuhai SEZ was 29.237 billion yuan, with a year-on-year increase of 12.4%, which was 4.8% points lower than the previous year, but 2.1 and 7.9% points higher than the average growth rates of Guangdong Province and the whole country. The general public budget expenditure was 41.716 billion yuan, with an increase of 7.2%, which was 32% points lower than the previous year. After balancing the revenue and expenditures, the fiscal expenditure was 124.79 trillion yuan more than the financial revenue, which increased by 598 million yuan over the previous year.

1.2 Continuous Optimization of Industrial Structure and Proportion of the Tertiary Industry Exceeding 50%

In 2016, the industrial structure of the Zhuhai SEZ was continuously optimized and mainly reflected in the following aspects.

First, the industrial structure of the Zhuhai SEZ was further adjusted and optimized, and the tertiary industry achieved rapid growth and made the greatest contribution to economic growth. In 2016, the added values of the primary, secondary and tertiary industries of the Zhuhai SEZ were 4.821 billion yuan, 105.977 billion yuan and 111.839 billion yuan, which increased by 1.4%, 5.8% and 11.7% year on year, respectively. The contribution rates of the three types of industries to economic growth were 0.4%, 33.6%, and 66.0%, respectively. The proportion of the tertiary industry exceeded 50% for the first time, and the ratio of the three types of industries was 2.2:47.6:50.2.

Second, the service sector in the Zhuhai SEZ, especially modern services, developed rapidly and played an increasingly obvious role in driving economic development forward. In 2016, the added value of modern services in Zhuhai was 66.166 billion yuan, which increased by 12.6% and accounted for 29.7% of GDP. The three leading service industries, information transmission software and information technology services, transportation, warehousing and postal services, and leasing and business services, achieved an operating revenue of 11.82 billion yuan, 9.69 billion yuan and 9.11 billion yuan, which increased by 29.9%, 15.4% and 28.8% year on year, respectively. The service enterprises obtained good operating results and those above the designated size attained a total profit of 12.05 billion yuan, seeing an increase of 9.5%.

Third, the industrial structure of the Zhuhai SEZ was further optimized and mainly embodied as follows. (1) Although the industrial added value of enterprises above the designated size increased by 5.9%, that of private enterprises grew at the fast rate of 18.8% year on year, which was much higher than the growth rate of state-owned and state-controlled enterprises at 2.2% and the growth rate of Hong Kong, Macao, Taiwan and foreign-invested enterprises at 2.7%. (2) The structure of light and heavy industries continued the trend of high-end and moderately heavy. In 2016, the added value of the heavy industry above the designated size increased by 8.2%,

the added value of the light industry increased by 2.1%, and the proportion of the heavy industry and the light industry increased to 63.7:36.3. (3) The growth rates of pillar industries and advanced manufacturing were relatively fast, which were 8.1% and 7.2% year on year, respectively, while the growth rate of traditional industries slowed down remarkably. The industrial added value of the home appliance and electrical industry, the largest pillar industry, increased by 11.9% year on year, the equipment manufacturing industry increased by 11.6%, and the traditional textile and garment industry increased by -8.9% year on year.

1.3 Effective Policy for Stabilizing Growth and the Bottom-Out of the Industrial Economy

In 2016, against the new normal background of economic development, the industrial economy of the Zhuhai SEZ faced a heavy downward pressure, and the Government of the Zhuhai SEZ adopted a series of measures for "stabilizing growth". First, it did well in the urban connections for stabilizing growth, strengthened the supervision and guidance of districts, analyzed the steady growth of industries in these districts and took targeted measures for stabilizing growth. Second, it issued the Several Measures to Accelerate the Development of the Private Sector of Economy, the Measures for the Management of Special Funds for the Cultivation of High-tech Enterprises in Zhuhai and other policy measures to promote industrial investment and innovative economic development. Third, it improved the level of the construction of parks as industrial carriers and facilitated the development of industrial clusters. Fourth, it sped up the construction of key industrial projects and implemented the tracking system for leading enterprises and key industrial projects. Fifth, it vigorously supported the technological transformation of enterprises, found key and high-growth technological transformation projects and provided the budget funds for awards for technological transformation. These policy measures achieved good results. For example, the investment in industrial technological transformation was 14.744 billion yuan, which witnessed a year-on-year increase of 64.6% and accounted for 51.3% of the industrial investment in Zhuhai. It directly drove the industrial investments in Zhuhai to achieve a growth of 11.4%, and on the other hand, added new vitality and a new foundation for the future development of Zhuhai's industrial economy. Generally, in 2016, the growth of the industrial added value of enterprises above the designated size rose from the lowest rate at -4.4% in February and turned from negative to positive in May. It showed a trend of bottom-out, and increased by 5.9% during the whole year.

From the perspective of leading industries, six pillar industries continued to be the main driving forces for the industrial growth of the Zhuhai SEZ. In 2016, the added value of these six pillar industries reached a total of 70.038 billion yuan, which increased by 8.1% year on year (see Table 1) and contributed 67.1% of the added value of industrial enterprises above the designated size in the city. Among them,

	Average growth	Home appliance and electrical	Electronic information	Power energy	Petrochemical	Precision machin- ery	Biopharmaceutical
2010	18.6	16.0	29.8	10.6	20.0	13.2	23.0
2011	11.5	20.3	-4.0	10.6	11.4	14.2	25.0
2012	7.8	15.6	1.1	-7.6	10.0	14.7	18.5
2013	9.2	7.4	14.8	0.8	11.2	8.6	11.0
2014	5.0	5.6	6.5	7.2	-2.3	4.2	16.2
2015	9.6	0.7	20.5	12.9	2.8	14.9	15.7
2016	8.1	11.9	-1.6	9.1	16.6	22.5	2.9

Table 1 The industrial added value and the year-on-year growth rate of the six pillar industries of the Zhuhai SEZ from 2010 to 2016%

Data source Statistical Communiqué on the National Economic and Social Development of Zhuhai (2010-2016)

the home appliance and electrical industry, as the largest pillar industry of Zhuhai, achieved an added value of 24.047 billion yuan, seeing a substantial year-on-year increase of 11.9%. The precision machinery manufacturing industry surpassed the biopharmaceutical industry and became the fifth largest pillar industry. In 2016, it attained an industrial added value of 6.015 billion yuan, with a year-on-year increase of 22.5%. The power energy industry and the petrochemical industry also achieved rapid growth rates of 9.1% and 16.6% year on year, and completed the industrial added value of 9.489 billion yuan and 6.908 billion yuan, respectively. The electronic information industry as the second largest pillar industry of Zhuhai performed poorly. Its industrial added value was 18.36 billion yuan, with a year-on-year increase of — 1.6%.

1.4 Significantly Slowing Down Fixed Asset Investments and Continuously Active Investments in the Private Sector of the Economy

Driven by the key infrastructure projects, such as the Hong Kong–Zhuhai–Macao Bridge and the development of the Hengqin New Area as well as real estate investments, the growth rate of fixed asset investments in the Zhuhai SEZ ranked first in the Pearl River Delta region for four consecutive years from 2011 to 2014. During the entire period of the "12th Five-Year Plan", the average growth rate of fixed asset investments reached as high as 21.3%, and the total amount doubled. However, after entering the period of the "13th Five-Year Plan", with the completion of many large constructions of infrastructures, the growth rate of fixed asset investments in the Zhuhai SEZ dropped significantly. In 2016, the Zhuhai SEZ completed the fixed

asset investment of 138.975 billion yuan, witnessing a year-on-year increase of 6.5% (see Fig. 3), and the growth rate dropped by 8.5% points over the previous year.

In terms of investment entities, the fixed asset investments of the non-state-owned sectors, especially the private economic sector, maintained rapid growth. They were still the mainstays for fixed asset investments in Zhuhai, but the sharp decline in the growth rate of state-owned enterprises was the main reason for dragging down the fixed asset investments in Zhuhai. In 2016, the non-state-owned economic investments in the Zhuhai SEZ accounted for 75.32% and reached 104.679 billion yuan, with a year-on-year increase of 23.9%; among these, the private economic sector maintained a rapid year-on-year growth of 32.7% with a total amount of investments of 63.88 billion yuan; and the investments from Hong Kong, Macao, Taiwan and foreign investors were 22.884 billion yuan, seeing a year-on-year increase of 23.3%. In contrast, state-owned economic investments underwent a large-scale decline in the Zhuhai SEZ and were only a total of 34.296 billion yuan, which increased by — 25.5% year on year.

In terms of industries, the investments in the secondary industry resumed growth, while the tertiary industry continued as the main direction of fixed asset investments in the Zhuhai SEZ. However, the industrial investments in infrastructures, such as transportation, declined significantly and became an important factor in the sharp decline in the growth of fixed asset investments. In 2016, the growth rate of investments in the secondary industry increased from -6.3% in the previous year to 11.4%, and the amount of investments was 28.747 billion yuan. The growth rate of investments in manufacturing also turned from negative to positive, increasing by 10.2%, with the amount of investments reaching 24.128 billion yuan. The growth rate of investments in the tertiary industry decreased significantly in 2016. It was only 5.2%, about 16.7% points lower than that of the previous year. However, the amount of investments was still as high as 109.925 billion yuan and accounted for

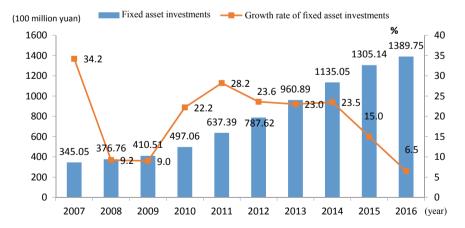


Fig. 3 Fixed asset investments of Zhuhai and its growth rate from 2007 to 2016. *Data source* 2016 Statistical Communiqué on the National Economic and Social Development of Zhuhai

79.09% of the total investments. In the tertiary industry, the investments in real estate development were 64.103 billion yuan, with a year-on-year increase of 22.3%; the investments in transportation, warehousing and the postal industry were 12.321 billion yuan, which increased by -40.1% year on year; and the investments in water conservation, the environment and the public facilities management industry were 11.229 billion yuan, which was -3.32 billion yuan as compared with the previous year.

1.5 Decline in Foreign Trade for Two Years Affected by Various Factors at Home and Abroad

In 2016, the Zhuhai SEZ achieved a total volume of imports and exports of 275.305 billion yuan (equivalent to 41.35 billion US dollars if converted at the average exchange rate¹), which had a year-on-year decline of 7.0% and a drastic decline for two consecutive years. Among these, exports were 180.226 billion yuan, seeing a slight year-on-year increase of 0.5%; and imports were 95.08 billion yuan, with a substantial year-on-year decrease of 18.6% and a double-digit decline for two consecutive years.

In recent years, due to the cyclical depression of the international economy and the rise in global trade protectionism, the structure of China's foreign trade was adjusted and the domestic demand-driven growth model was gradually enhanced. Affected by these factors, China's huge volume of foreign trade encountered difficulty in sustaining its high growth and even fell into a downturn. This would be a "new normal" for a long period in the future. In 2016, the growth rates of the total volume of imports and exports, the volume of exports and that of imports of Guangdong Province were -0.8%, -1.3% and 0.01%, respectively. In the same period, the three indicators of the country grew by -0.9%, -1.9% and 0.6%, respectively. As a special economic zone and a city at the forefront of reform and opening-up, Zhuhai's situation of sluggish foreign trade basically reflected this trend.

In 2016, several new changes took place in the foreign trade structure of the Zhuhai SEZ. (1) For the trade mode, general trade completely replaced the processing trade as the main mode of exportation. In 2016, Zhuhai's general trade exports were 101.532 billion yuan, with a year-on-year increase of 11.9%, but the exportations of the processing trade were 73.724 billion yuan, only 72.61% of the former (see Table 2). (2) With regard to the export markets, Zhuhai's exports to the "Belt and Road" countries increased by 41% to 46.11 billion yuan, which became the highlight of Zhuhai's foreign trade. Among them, exports to ASEAN countries were 19.455

¹In order to adapt to the needs of reform and opening-up, international economy and the internationalization of the RMB under the new situation, the data regarding imports and exports have been released in RMB and US dollars since 2014. After several years of transition, the economic data in 2016 were basically published in RMB, and they were no longer published in US dollars. Due to factors such as exchange rate fluctuations, the year-on-year growth data in the two currencies are statistically different (as shown in Fig. 4, etc.).

Table 2 The importation and exportation of goods in Zhuhai and its growth rate in 2016

Indicator	Absolute amount (100 M yuan)	YoY growth %
Total imports and exports	2753.05	-7.0
Exports	1802.26	0.5
Incl.: General trade	1015.32	11.9
Processing trade	737.24	-11.6
Incl.: Electromechanical products	1278.40	-0.2
High-tech products	488.49	19.0
Imports	950.80	-18.6
Incl.: General trade	426.80	-24.1
Processing trade	255.61	-17.9
Incl.: Electromechanical products	496.36	-14.8
High-tech products	346.10	-18.3

Data source 2016 Statistical Communiqué on the National Economic and Social Development of Zhuhai

billion yuan, witnessing a year-on-year increase of 37.8%, and the exports to India were 7.422 billion yuan, with a year-on-year increase of 150.8% (see Table 3). It can be seen that the Zhuhai SEZ is an important strategic fulcrum for the Belt and Road and has seen initial results in the process of actively participating in the national strategy of the Belt and Road.

From the perspective of foreign investments, the number of newly established foreign-invested enterprises in the Zhuhai SEZ was 803 in 2016, seeing a year-on-year increase of 23.4%; the contracted foreign investments amounted to US\$9.051 billion, with a substantial increase of 150.4% year on year; and the actual amount of foreign investments absorbed was US\$2.295 billion, with a year-on-year increase of 5.4%. Foreign investments were mainly concentrated in six industries of the Zhuhai SEZ, namely manufacturing, construction, real estate, leasing and commercial services, scientific research and technological services, geological exploration and finance, which accounted for 97.4% of the actual amount of foreign investments absorbed. The last four categories of modern service industries actually absorbed 48.9% of the foreign investments and slightly surpassed the secondary industry.

Countries and regions	Exports (100 M yuan)	YoY growth (%)	Imports (100 M yuan)	YoY growth (%)
The USA	366.68	-26.8	77.14	6.5
Hong Kong ^a	328.97	2.2	NA	NA
The EU	282.18	-12.2	70.68	3.1
ASEAN	194.55	37.8	149.29	-7.9
Japan	80.36	3.5	74.96	-13.1
India ^b	74.22	150.8	NA	NA
The Belt and Road countries	461.10	41.0	378.58	-25.7

Table 3 The imports and exports of the Zhuhai SEZ with major countries and regions and the growth rate in 2016

Data source 2016 Statistical Communiqué on the National Economic and Social Development of Zhuhai

1.6 Construction of "Big Traffic" and Strengthening Traffic Hub of the Belt and Road

After many years of development, especially the strategy of "big traffic" development during the period of the "12th Five-Year Plan", the three-dimensional transportation infrastructure of ports, airports, highways and railways in the Zhuhai SEZ made great progress. The Guangzhou-Zhuhai Railway and the Guangzhou-Zhuhai Rail Transit ended the history when the Zhuhai SEZ was not connected by railways. The Airport Expressway and the Gaolangang Expressway greatly promoted the development of Zhuhai Airport and Port. On September 27, 2016, the main bridge of the Hong Kong-Zhuhai-Macao Bridge was officially completed. The "Bridge Dream" came true and would further facilitate cooperation among Zhuhai, Hong Kong and Macao and enhance the status of the Pearl River West Coast as the transportation hub of the Zhuhai SEZ.

In 2016, the annual passenger throughput of Zhuhai Airport was 6,130,400 with a year-on-year increase of 30.2%, the cargo and mail throughput was 31,500 tons with an increase of 22.01% year on year, and the number of transportation flights was 49,700 with a year-on-year increase of 25.5%. The growth rates of the three aviation indicators ranked first among airports in Southern China. The annual flow of railway passengers was 13.574 million, which witnessed a year-on-year increase of 6.3%; and the turnover of railway freight was 950 million ton-km, seeing a year-on-year increase of 69.8%. The annual passenger traffic on highways was 30.189 million, slightly increasing by 0.1% year on year, and the turnover of highway freight transit was 5.08 billion ton-km, which increased by 3.9% year on year. The cargo throughput

^aThe amount of importations from Hong Kong is very small. The data of 2016 have not been released, and the imports by Zhuhai from Hong Kong were only 181 million US dollar and 765 million yuan in 2014 and 2015, respectively

^bThe data regarding the exports of Zhuhai to India in 2016 have not been released

in the ports above the designated size was 117.787 million tons, which increased by 5.1%. The ports completed the container throughput of 1.654 million TEUs with a year-on-year increase of 23.6%.

The above-mentioned significant increase in multiple indicators showed that the attractiveness and radiation of the Zhuhai SEZ were continuously enhanced. The Zhuhai SEZ had closer domestic and foreign economic and trade links and its role in the Pan-Pearl River Delta or in the Belt and Road became increasingly important.

1.7 Constant Improvement of People's Livelihood and the Quick Increase in Residents' Income and Consumption Expenditures

In 2016, the Zhuhai SEZ further increased input in people's livelihood and social construction. The public financial budgets were used for nine livelihood expenditures, including education, science and technology, social security and employment, medical and health care, energy conservation and environmental protection, agriculture, forestry and water affairs and housing security, which totaled 28.41 billion yuan with a year-on-year increase of 26.2% and it accounted for 68.1% of the public financial budget expenditures of Zhuhai, 10.2% points more than the previous year.

In 2016, the employment situation in the Zhuhai SEZ remained stable. In 2016, the registered urban unemployment rate in Zhuhai was 2.28%, a slight increase of 0.02% points over the previous year. The urban newly increased employment registered 46,968, an increase of -617 from the previous year. The number of urban laid-off workers who were re-employments was 13,106, which increased by 297 over the previous year. The number of people with difficulty in employment who were re-employed was 2,273, which decreased by 303 over the previous year. The rural labor transfer employment was 2,203, an increase of 19 over the previous year.

In 2016, the per capita disposable income of all of the residents of the Zhuhai SEZ was 40,154.1 yuan with a year-on-year increase of 11.1%, which was 2.6% points higher than the GDP growth rate and 2.4% points higher than that of Guangdong Province. Among them, the per capita disposable income of urban residents was 42,537.4 yuan with an increase of 11%, which was 2.6% points higher than that of Guangdong Province; and the per capita disposable income of rural residents was 22,889.4 yuan, an increase of 11.6% over the previous year and 3% points lower than that of Guangdong Province.

In 2016, the total retail sales of consumer goods in the Zhuhai SEZ was 101.61 billion yuan with an increase of 11% over the previous year and 2.5% points higher than the GDP growth rate. The per capita consumption expenditure of urban residents was 32,150.5 yuan with a year-on-year increase of 11.9%; and the per capita consumption expenditure of rural residents was 18,372.6 yuan with a year-on-year increase of 14.5%. In 2016, the existing housing construction area of urban residents of the Zhuhai SEZ was 30.6 m² per capita with an increase of 0.5 m² over the previ-

ous year; and the existing housing construction area of rural residents was 45.5 m² per capita with an increase of 3.4 m² over the previous year.

The high income growth of residents in the Zhuhai SEZ is an important basis for the growth of consumption in Zhuhai. This also allows the common people to share the fruits of economic growth. On the other hand, it also reveals that the contribution of domestic demand, such as consumption, to Zhuhai's economic growth is improving, which is beneficial for the transformation and upgrading of the economic structure of Zhuhai.

1.8 Improving the Ecological Environment and Building an Ecologically Livable City

In 2016, the ecological environment indicators of the Zhuhai SEZ, such as the atmospheric and water environments, continued to improve. In 2016, the number of days with haze in Zhuhai was 24 days, seeing a decrease of 21 days from the previous year. The daily average values of inhalable particulate matters (PM10) and fine particulate matters (PM2.5) in the ambient air decreased by 17.6% and 16.1%, respectively. In the whole year, there were 346 days of excellent air quality, and the air quality compliance rate was 94.5%, a further increase of 6% points over the previous year. It ranked 8th in the annual air quality ranking of 74 key cities nationwide announced by the Ministry of Ecology and Environment. In 2016, the quality of the water environment of the Zhuhai SEZ remained at a good level, and the water quality compliance rate of the sources of centralized drinking water was 100%. The daily capacity for the treatment of urban sewage reached 834,000 tons with a year-on-year increase of 13.6%.

In 2016, the Zhuhai SEZ made remarkable achievements in energy conservation and emission reduction. In 2016, the comprehensive energy consumption of industrial enterprises above the designated size was 5.675 million tce, seeing a decrease of 1.6% from the previous year, and the growth rate dropped by 9.1% points. The energy consumption per unit of industrial added value fell by 7.1%, falling for four consecutive years.

In recent years, the Zhuhai SEZ was committed to building an ecologically livable city and a national demonstration city for the construction of an ecological civilization. The construction of an ecological civilization achieved remarkable results and took a leading position in the province and even in the whole country. It won widespread recognition and praise, as well as the honorable titles granted by the ministries and commissions, academic institutions and even the United Nations many times, such as "Ecological Garden City of China", "Most Livable City of China", "National Ecological Demonstration Zone", "National Forest City", "National Ecocity", and "International Garden City". In 2016, the Zhuhai SEZ won another three related honors. On January 22, 2016, Zhuhai was awarded the title of "National Eco-City" by the National Environmental Protection Agency, and it was the only

city in Guangdong Province to receive that award. On January 29, 2016, Zhuhai was rated as one of the seven "Ecological Garden Cities of China" in the first batch by the Ministry of Housing and Urban-Rural Development, and here too it was the only city in Guangdong Province to get this award. On June 5, 2016, at the award ceremony of the "China Ecological Civilization Award", the first government award for demonstration of the construction of an ecological civilization in China, Zhuhai was awarded one of the 19 "China Ecological Civilization Awards—Advanced Collectives" in the first batch and also the only city in Guangdong Province to receive this award.

2 New Situations Confronted by the Zhuhai SEZ

2.1 A Slight Segmentation of the Global Economy and the Slow Growth of International Trade

In 2016, the global economy got rid of the impact of the financial crisis to a certain extent and maintained a trend of weak recovery. The global economy grew by 3.1%, which was 0.1% points lower than the previous year. Globally, the voices of anti-globalization and populism were heard one after another. The rise of trade and investment protectionism led to a slow growth of international trade. In 2016, the global trade of goods and services only increased by 1.9%, which was 0.8% points lower than the previous year and 1.2% points lower than the global economic growth. Furthermore, the "black swan" incidents in the political, economic and social fields of various countries occurred frequently, and a variety of "gray rhino" risks were on the rise, the world's geopolitical conflicts continued, and there were still considerable uncertainties in global economic and social development.

In 2016, the developed economies slowly recovered, the economic growth rate was differentiated and employment improved. All of the developed economies grew by 1.6% in 2016, which was 0.5% points lower than the previous year. The GDP growth rate of the USA in 2016 was 1.6%, which decreased by 0.5% points from the previous year, but its GDP growth in the third quarter of 2016 was as high as 3.5%. Moreover, its core economic indicators, such as consumer spending, labor market, and inflation, continued to improve. In November 2016, the unemployment rate in the USA fell to 4.6%, the lowest since August 2007, and the US economy would continue to resume growth. In the euro area, although they benefited from domestic demand and export recovery, the economic recovery in the euro area was still slow due to high public debts, coupled with the adverse effects of the Brexit and the refugee crisis. Its economic growth in 2016 was 1.7%, which was 0.3% points lower than the previous year. However, inflation, employment and other core economic indicators continued to improve. In December 2016, the unemployment rate in the euro area was 9.6%, the lowest in four years. The Harmonised Index of Consumer Prices (HICP) increased by 1.1% over the last month, a new high since September

2013. The deflation pressure that has long plagued the euro area was eased. Japan's economic recovery was difficult, the deflation pressure remained, and employment was relatively stable. In 2016, Japan's economic growth rate began high and ended low. The annual growth rates of the GDP from the first to the fourth quarter were 2.3, 1.8, 1.4 and 1.0% as compared with the same period last year, and inflation remained at a low level. Its CPI was around -0.3 to -0.5 for six consecutive months from April to September 2016. However, the Japanese labor market was relatively stable and even improved. The unemployment rate was much lower than that of many other developed economies. In December 2016, the unemployment rate in Japan was only 3.1%, which was 0.2% points lower than the previous year.

In 2016, emerging economies generally stabilized, but some countries were still in recession. In 2016, emerging economies grew by 4.1% with a slight increase of 0.1% points over the previous year. The Indian economy maintained rapid growth. In 2016, India's GDP grew by 6.6%, a slight decrease of 0.1% points from the previous year. Under the influence of the rebound in bulk commodity prices such as oil, the Brazilian and Russian economies stabilized. Among them, the Brazilian economy was still in recession, with an economic growth of -3.5%, but a slight increase of 0.3% points over the previous year. Russia's economic growth was -0.6%, which rose significantly by 3.1% points over the previous year. Moreover, South Africa's economic growth rate in 2016 was 0.3%, which was 1% point lower than the previous year.

The global economy will undergo a big differentiation in the future, and the American economy will recover first due to the new round of the technological revolution and industrial transformation as well as the expansionary fiscal policy of the Trump administration's "tax reduction plus infrastructure construction". It may be difficult for some emerging economies and developing countries to resume the kind of growth driven by the "locomotive" of the American economy because of their structural dilemmas, such as the pressure of capital outflow and excessive reliance on resources such as bulk commodities. Under the influence of anti-globalization and populism, the new wave of trade protectionism is likely to be more serious, and the pressure of slowing growth of global trading may also intensify, which will further accelerate the domestic trend of the global value chain on a global scale. The economic development of countries, regions or even cities must be more dependent on domestic demand.

2.2 Continuous Optimization of the Domestic Economic Structure and the Enormous Growth Potential

In 2016, China's economic downward pressure was eased, the economic growth rate remained within a reasonable range, the economic structure was continuously optimized, and the quality of economic development and economic efficiency were improved.

First, the macro economy continued to maintain a relatively high growth rate. In 2016, the GDP was 74.4 trillion yuan with a year-on-year increase of 6.7%, which was 0.2% points lower than the previous year, while the GDP growth rate in 2015 was 0.5% points lower than that in 2014. Second, the residents' income grew steadily and the people's living conditions were constantly improved. In 2016, the per capita disposable income of national residents was 23,821 yuan, with a yearon-year increase of 8.4%, which was 0.5% points lower than the previous year. The per capita consumption expenditure of national residents was 17,111 yuan, with a year-on-year increase of 8.9%, which was 0.5% points higher than the previous year. Third, the economic structure was further optimized, and the domestic demand-driven economic growth momentum such as consumption and service sectors was further enhanced. In 2016, the total retail sales of consumer goods was 33.23 trillion yuan with a year-on-year increase of 10.4%. The contribution rate of final consumption expenditure to GDP growth was 64.6%, an increase of 4.7% points over the previous year. In 2016, based on the breakthrough of 50% for the first time last year, the proportion of the added value of the tertiary industry to the GDP further increased by 1.4% points to 51.6%. Fourth, the growth rate of the industrial economy was still low, and the growth rate of fixed asset investments continued to fall. In 2016, the total industrial added value was 24.8 trillion yuan with a year-on-year increase of 6.0%, which was 0.1% points higher than the previous year. The total investment in fixed assets was 60.7 trillion yuan with a year-on-year increase of 7.9%, which was 1.9% points lower than the previous year. Fifth, the supply-side structural reform such as "address overcapacity, reduce inventory, de-leverage, lower costs, and bolster areas of weakness" achieved preliminary effectiveness, and the economic efficiency was gradually improved.

For the future development of the Chinese economy, as General Secretary Xi Jinping remarked during the Asia-Pacific Economic Cooperation (APEC) CEO Summit: "China's positive economic fundamentals and long-term trajectory remain unchanged. What also remains unchanged is the basic fact that China's economy has a strong resiliency, great potential, and ample room for maneuver. The strong support and conditions favorable for continued growth have not changed. And the forward movements of the country's economic restructuring and upgrading have not changed." With the intensification of the reform of new urbanization, supply-side structural reform, state-owned enterprise reform, and streamlining procedures and delegating powers, the new round of the technological and industrial revolution and strategic emerging industries are constantly developing, and the innovative business model and a sharing economy in the Internet + era are in the ascendant in China. Therefore, there is reason to believe that China's economic growth potential is still huge.

2.3 Upsurge in the Development and Construction of the Hengqin New Area and the New Growth Engine for Zhuhai's Economy

On April 23, 2015, the Zhuhai Hengqin New Area was approved as one of the three main areas of the Guangdong Free Trade Zone. Since then, its development and construction are booming in the Hengqin New Area. It is becoming a new growth engine for Zhuhai's economy and has realized the staged goal of "big changes in three years and large size in five years" in advance.

In 2016, the Hengqin New Area maintained rapid growth under the unfavorable international and domestic economic pressures. The regional GDP reached 15.75 billion yuan, seeing a year-on-year increase of 20.1%.

The Hengqin New Area had already become a "promising" and "preferred" land for new investments in the Zhuhai SEZ. In 2016, the fixed asset investments of the Hengqin New Area reached 34.624 billion yuan, with a year-on-year increase of 19.5%, contributing 66.6% to the growth of fixed asset investments in the Zhuhai SEZ. At present, 85 key projects are being developed and constructed in the Hengqin New Area, including dozens of Fortune Global 500 and China 500 companies, with a total amount of investments of more than 340 billion yuan, such as the Poly Group Overseas Headquarters, the CITIC Group South China Headquarters, Everbright Holdings South China Headquarters and the HNA Basic Headquarters. In terms of newly-established enterprises, in 2016, the number of newly registered market entities in the Hengqin New Area was 12,167 with a substantial increase of 44.7% year on year, and the registered capital was 687.7 billion yuan with a year-on-year increase of 141.9%. Batch after batch of enterprises and capitals were being concentrated in the Hengqin New Area.

The Hengqin New Area made great achievements in cooperation with Macao and created a new situation of cooperation between Zhuhai and Macao and an opening-up to the outside world. In 2016, 616 Hong Kong and Macao-funded enterprises were newly established in the Hengqin New Area, equivalent to the total number in the past six years, with a new registered capital of 95.711 billion yuan. Among them, there were 387 newly registered Macao-funded enterprises, more than the total of the past six years; 229 newly registered Hong Kong-funded enterprises, an increase of 87% over the end of 2015. The Hengqin Guangdong–Macao Cooperation Industrial Park entered the stage of comprehensive construction. Sixteen projects recommended by the Macao SAR government to enter the Hengqin Guangdong–Macao Cooperation Industrial Park signed the project cooperation agreements and obtained the land for the project development.

3 Suggestions for Further Development of the Zhuhai SEZ

3.1 Focusing on the Development of Modern Services

As stated above, although the international economic situation is complex and changeable, the economic growth potential of China as a developing country is still enormous. However, the future economic growth potential is different from the past reliance on foreign trade, external demand and extensive growth. The consumption, services and high-tech industries will become the main driving forces for China's growth in the future. In 2015, the proportion of the tertiary industry in China exceeded 50% for the first time, and in 2016 that of the Zhuhai SEZ also exceeded 50% for the first time. The Zhuhai SEZ needs to adapt to this change, give full play to the impact of the Pearl River West Bank transportation hub, the important strategic fulcrum for the Belt and Road, the high-tech industrial base, and the superior ecological environment, focus on the development of the tertiary industry, especially modern services, and promote the rapid development of the productive and domestic service sectors.

3.2 Strategically Promoting the Industrial Developmental Trend of Zhuhai in the Revolution of the Science and Technology Industry

The Zhuhai SEZ was among the earliest regions in China to establish a high-tech direction of industrial development. The construction of the "Three High and One Characteristic" (which means high-end manufacturing, high-end service sectors, high-tech industries and a characteristic marine economy and ecological agriculture) modern industrial system was implemented during many years and achieved great results, thus forming a good foundation for the six pillar industries. On the other hand, the industry of the Zhuhai SEZ had the shortcomings of a relatively small size and a weak foundation due to historical reasons. In order to overcome these shortcomings, the Zhuhai SEZ needed to follow the developmental trends of "guided by the revolution in information technology, the industrial revolutions of internet technology, biotechnology, new energy and new materials technology, space utilization and marine development technology". By striving to lay out and promote the development of strategic emerging industries and future industries, it was possible to seize the new historical developmental opportunities and achieve "overtaking". At this point, the experience of the Shenzhen Special Economic Zone was worth learning. As early as 2013, the Shenzhen SEZ formulated its future industrial plans for life and health, ocean, aerospace and robotics, and adopted a series of related policies such as financial funds, industrial chain cultivation and the construction of an industrialization project. These "future industries" in the past developed rapidly in Shenzhen, and now they have even become "pillar industries" to a certain extent. In

2016, the contribution of strategic emerging industries and future industries to Shenzhen's GDP growth rate increased to 53%. In 2016, the added value of Shenzhen's robotics industry was 28.8 billion yuan, seeing a year-on-year increase of 26.8%.

3.3 Increasing Institutional Innovations and Further Invigorating the Hengqin New Area

In recent years, the Hengqin New Area has become a "promising land" for investment in the Zhuhai SEZ. It is an important part of the Guangdong–Hong Kong—Macao Deep Cooperation Demonstration Zone and the construction of the Guangdong–Hong Kong–Macao Greater Bay Area, and has become a new important growth engine for Zhuhai's economy. This is mainly due to the fact that the Hengqin New Area has fully utilized the reform advantages of the free trade zone in terms of institutional innovation, reform of the administrative, preferential policies, the optimization of the business environment, and the facilitation of investments and trading, so that the market entities quickly gather and revitalize the market. Based on this, on the one hand, the Zhuhai SEZ is gradually promoting the experience of the Hengqin New Area in the city; on the other hand, it must further intensify institutional innovation and explore and promote the new developmental vitality of the Hengqin New Area.

3.4 Taking Effective Measures to Promote the Support of Bank Credit for Zhuhai's Real Economy

In 2016, large amounts of bank credit funds of the Zhuhai SEZ flowed into the real estate industry, while the support for the real economy was relatively weak. At the end of 2016, the balance of domestic and foreign currency loans in the Zhuhai SEZ was 409.8 billion yuan, which increased by 38% as compared with the beginning of the year. Among them, the balance of household loans was 180.9 billion yuan, about 75% higher than the beginning of the year, while the balance of loans of nonfinancial enterprises and entities was 207.02 billion yuan, about 10.7% higher than the beginning of the year. Although the household loans included residents' operating loans and consumption loans, the most important part was housing loans. It should be noted that the growth rates of household loans in Shenzhen and Guangzhou in 2016 were 38.7% and 22.6%, respectively, both of which were much lower than that of Zhuhai. This indicated that residents in Zhuhai were enthusiastic for house purchases. Correspondingly, in 2016, the volume and prices of the Zhuhai property market rose, the volume of transactions increased sharply by 58.7%, and the average price was 19,612 yuan/m², rising by 22.5% year on year. Large amounts of bank credit funds entered the real estate industry rather than the real economy such as manufacturing and service industries, and this was not good for the long-term economic development

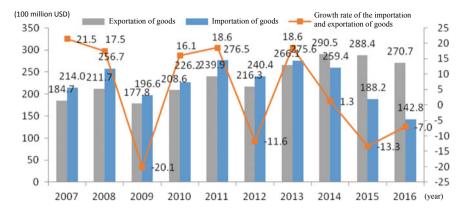


Fig. 4 The importation and exportation of goods in Zhuhai and its growth rate from 2007 to 2016. *Data source* 2016 Statistical Communiqué on the National Economic and Social Development of Zhuhai

of Zhuhai. Therefore, in addition to enforcing the state policies on real estate control, the Government of the Zhuhai SEZ needs to take effective measures for pushing bank credit funds to support the real economy. It can adopt the fiscal policies as well as those of taxation and guarantees and directly establish strategic emerging industry support funds and the Hengqin New Area developmental funds. It may also vigorously introduce external venture capitals and guide the direction of bank credit funds, thereby advancing the long-term economic development of Zhuhai.

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Chapter 9 Report on the Development of the Shantou Special Economic Zone



Jiaping Huang

Abstract This paper summarizes the status of the social and economic development of the Shantou Special Economic Zone in 2016 and the problems it faced. In 2016, the economy of the Shantou Special Economic Zone was generally better than the average level of Guangdong Province and it performed well. It also had some problems such as unbalanced development and excessive dependence on fixed asset investments. The government played a key role in promoting its economic development. This paper also introduces the establishment and development of the Shantou Overseas Chinese Economic and Cultural Cooperation Pilot Zone. As a new attempt to promote the overseas Chinese economy, the cooperation pilot zone reflects the characteristics of the Shantou Special Economic Zone, and its future development deserves our attention.

Keywords Shantou SEZ \cdot Economic development \cdot Overseas Chinese economic and cultural cooperation pilot zone

1 The Social and Economic Development of the Shantou SEZ in 2016

1.1 The Overall Trend of Economic Development

In 2016, the Shantou Special Economic Zone ("Shantou SEZ") realized a regional GDP of 208.054 billion yuan, an increase of 8.7% over the previous year. Compared with 2015, the added value of the primary industry was 10.757 billion yuan, with a growth rate of 3.4%; the added value of the secondary industry was 105.159 billion yuan, with a growth rate of 9.0%; and the added value of the tertiary industry was 92.138 billion yuan, with an increase of 9.0%. Compared with 2015, the growth rate of the regional GDP was 0.3% higher. The growth rates of the primary and secondary

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industries were higher than the previous year by 0.1% and 1.6% respectively, but the growth rate of the tertiary industry was lower than that of the previous year by 1.4%. Compared with the overall development of the province, the GDP growth rate of the Shantou SEZ was 1.2% points higher than that of Guangdong Province. The growth rates of the primary and secondary industries were higher than the average level of Guangdong Province by 0.3% and 2.8% respectively, but the growth rate of the tertiary industry was lower than that of Guangdong Province by 0.1%. It could be found that the economic growth of the Shantou SEZ increased steadily, and the contribution of the secondary industry was very obvious, but the momentum of the tertiary industry had somewhat declined.

The ratio of the three types of industries of the Shantou SEZ to the regional GDP was 5.2:50.5:44.3. Compared with the ratio of 5.2:51.5:43.3 in 2015, the proportion of the secondary industry had decreased, while that of the tertiary industry had increased. Compared with the ratio of 4.7:43.2:52.1 of Guangdong Province, the proportion of the secondary industry in the Shantou SEZ was significantly higher, while the proportion of the tertiary industry was significantly lower, reflecting the fact that the economic structure of the Shantou SEZ was more dependent on the secondary industry. It is worth mentioning that in the tertiary industry, the growth rate of the real estate industry in the Shantou SEZ was 14.5%, which was 11.7% higher than that of the previous year and also much higher than the 6.9% of Guangdong Province. In 2016, the per capita GDP of Shantou was 37,382 yuan with an increase of 8.2% over the previous year. The growth rate was relatively fast, but it was still far below the average level of 72,787 yuan in Guangdong Province. There was still much room for an increase in residents' income.

In 2016, the overall consumer price level in the Shantou SEZ increased by 2.1% over the previous year, with foods rising by 7.9% and livestock meat as a whole rising by 14.6% (of which vegetables increased by 24.6%). The prices of edible oil and research decreased by 3.6 and 0.9% from the previous year. The prices of transportation and telecommunications fell by 1.1% from the previous year. The above changes were basically consistent with the overall trend of change in Guangdong Province, but the price rise of livestock meat and vegetables was significantly higher than the overall levels of Guangdong Province, and it faced great difficulties in improving residents' lives.

1.2 Industrial Development and Investment

In 2016, the Shantou SEZ achieved a total industrial output value of 432.117 billion yuan with a growth rate of 9.6%. The total value of the industrial output of enterprises above the designated size reached 332.516 billion yuan with a growth rate of 10.5%, accounting for 77.0% of the total value of industrial output. Among the total value of the industrial output of enterprises above the designated size, the growth rate of collective enterprises reached 40.2%, while the overall growth rate of this category in Guangdong Province was -0.1%. The total value of the industrial output of foreign-

funded and Hong Kong, Macao and Taiwan-funded enterprises fell by 1.6%, while that of Guangdong Province as a whole grew by 2.3%.

In 2016, the fixed asset investments in the Shantou SEZ continued to maintain a relatively high growth rate. During the whole year, the value of fixed asset investments was 157.953 billion yuan, with an increase of 24.0% over the previous year. Among them, the state-owned investments and private investments were 16.348 billion yuan and 133.328 billion yuan, with growth rates of 6.1% and 26.8%, respectively. Private investments exceeded state-owned investments in both proportion and growth rate, indicating that private capital still dominated the development of the Shantou SEZ. The proportion of fixed asset investments to the regional GDP of the Shantou SEZ in 2016 was 75.9%, while the overall proportion of Guangdong Province was 41.5%, and the proportion of fixed asset investments to the GDP of the country was 81.5%. Thus, it can be seen that the economic development of the Shantou SEZ in 2016 was still heavily dependent on the fixed asset investments, which was only slightly lower than the national average, but much higher than the average level of Guangdong Province. How to enrich the diversity and improve the quality of economic growth is one of the serious challenges faced by the Shantou SEZ.

1.3 Foreign Trade

In 2016, the total volume of imports and exports of the Shantou SEZ was US\$8.527 billion, decreasing by 8.2% from the previous year. Among them, the total value of exports was US\$6.426 billion, which was 4.9% less than the previous year; and the total value of imports was US\$2.101 billion, which was 16.9% less than the previous year. Both exports and imports showed a downward trend, and the decline was 5.3% points higher than the decline rate in 2015 (2.9%). In the field of exports, the volume of the exports of processing trade amounted to US\$0.744 billion, falling by 18.5% year on year, while that of foreign-funded enterprises was US\$1.34 billion, decreasing by 11.7% year on year, which became the main driving factor for the decline in export trade. In 2016, the foreign direct investments were US\$90.85 million, seeing a decrease of 58.3% from the previous year. The total volume of exports of Guangdong Province have basically maintained the same level during the past four years. In 2016, the total volume of imports decreased by 0.8% compared with the previous year. The actual use of foreign direct investments amounted to US\$23.349 billion, which declined by 13.1% year on year. The above data show that the role of the Shantou SEZ as a window for foreign trade is not obvious, and its competitiveness is also declining year by year.

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1.4 Social and Economic Construction Led by the Government

Liu Xiaotao, the then Acting Mayor of Shantou, presented the 2017 Report on the Work of the Government at the 1st Session of the 14th People's Congress of Shantou on January 7, 2017 and summarized the efforts and achievements of the Shantou Municipal Government in promoting the social and economic development of Shantou City in 2016 as follows: (1) implementing the supply-side structural reform and inspiring new vitality for institutional mechanisms; (2) constructing key projects and key platforms and opening up new spaces for urban development; (3) developing new technologies, new industries and new business forms and releasing new growth drivers for the real economy; (4) improving the management of urban construction and taking a new look of urban and rural areas; (5) striving to solve the issues of people's livelihood and making new achievements in social undertakings; (6) paying close attention to the government's own construction and achieving new improvements in administrative efficiency.

While developing, there are still many problems to be solved in the Shantou SEZ. Liu Xiaotao summarized the following aspects in the government work report: First, the capability for independent innovation of enterprises was not strong, the level of industrialization was low, the new economy and new industries had not yet formed scale effects, the task of transformation and upgrading of traditional industries was heavy, and the real economy encountered difficulties; second, it was difficult for the total number and structure of talents to adapt to the developmental needs in the new era, and the introduction and development of innovative and high-skilled talents needed to be further strengthened; third, the burden of securing people's livelihood was heavy, the degree of equalization of public services such as medical care, education and public transportation, was not high, and some of the common people still had difficulties in living comfortably; fourth, urban and rural environmental pollution was still relatively serious, and the tasks of managing the ecology were urgent and difficult; fifth, the level of urban management was not high, and the comprehensive improvement of the appearance of the city still had a long way to go, especially the problems of traffic congestion and disorder in the central urban area; and sixth, the transformation of government functions had still not been properly done, and the difficulties in approval and handling matters were still problems faced by enterprises and the masses.

Among the above issues, the first two points are the key to directly enhancing the competitiveness of the Shantou SEZ, optimizing the economic and industrial structure and maintaining high-quality development; and the latter four points are closely related to the quality of life of the people, they directly affect the social development and progress of the Shantou SEZ, and they also have an indirect impact on its economic growth. These are problems that need to be solved in the future, and also the problems that the government has been trying to solve in recent years. This reveals the seriousness and profoundness of these problems, and on the other hand, the government basically still needs to make great efforts to solve them.

2 Problems in Maintaining High-Speed Economic Growth

Liu Xiaotao proposed in the 2017 Report on the Work of the Government that "in the next five years, the main goal of the city's economic and social development is: by 2021, its GDP should reach more than 340 billion yuan, with an average annual growth rate of over 9%." From the economic growth rate of the Shantou SEZ in the past five years, it is not impossible to achieve an annual growth rate of over 9%. Moreover, in recent years, the GDP growth rate has shown an overall downward trend. Although it improved in 2016 compared to 2015, the overall trend cannot be ignored. How to achieve the goal of an average annual growth rate of 9% is the most important and urgent issue in the development of the Shantou SEZ.

In response to this issue, the plan given in the government work report is to highlight the "five adherences", namely: "adhering to the people's livelihood, adhering to environmental priorities, adhering to the innovation-driven, adhering to investments, and adhering to opening-up". The first two points of "adhering to the people's livelihood and adhering to environmental priorities" aim to improve the quality of life of the people, and do not play an important role in supporting the speed of economic development. The focus should be on the last three points.

Against the background of the new normal of economic development and the supply-side structural reform, "adhering to the innovation-driven" is indeed one of the driving forces for the development of the local economy. According to the government work report, in 2016, Shantou set up the city development fund of 10 billion yuan and 91 PPP projects, and won 8 national special construction fund supported projects with a scale of investment of 6.38 billion yuan. The investment approved by the China Development Bank and Agricultural Development Bank of China exceeded 4.7 billion yuan. The number of high-tech enterprises increased by 175 with a total growth rate of 117%. Ten provincial centers for research on engineering technology and 4 new provincial R&D institutions were newly established. The number of invention patent applications and grants increased by 34.9% and 12%, respectively. It issued and implemented 50 measures to promote the great development of the private sectors of the economy, 15 measures to support listed companies in expanding and becoming stronger, and the "1+10" talent policy. The first phase of a 2 billion yuan equity investment fund, the SME and micro enterprise credit risk compensation fund of 100 million yuan, the policy guarantee fund of 130 million yuan, and the opening of the government-enterprise APP platform aimed at solving a series of problems that restricted the development of enterprises. It can be said that great efforts and certain achievements have been made. Moreover, innovation is being advanced throughout the country, and various policies have been adopted to introduce talents and promote innovation. The Shantou SEZ is located in the east of Guangdong. Compared with Guangzhou and Shenzhen, Shantou has big disadvantages in geographical location and cultural environment. To overcome these weaknesses, it must enhance its supporting policies and create an open and comfortable environment for entrepreneurship and employment in order to attract talents and promote innovation.

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The next focus in the government work report is investment. "With a focus on overcoming the shortcomings of infrastructure, we give importance to the construction of infrastructures such as highways, railways, big water conservation projects, new-generation information technology and energy and environmental protection". Through further increasing the industrial investments and investments in technological transformation, Shantou should activate private investments, and in the next five years, "the cumulative fixed asset investments should exceed one trillion yuan". In the previous article, we learned that the excessive reliance of the Shantou SEZ's economic growth on the fixed asset investments is not conducive to supply-side structural reform. First, some of the fixed asset investments belong to repetitive constructions. Their impact on the real economy is very limited, and some may not even be necessary. Second, although the fixed asset investments have a positive impact on the economy in the long run, it is difficult to directly drive the development of the real economy in a short period of time. From the target amount of investment, if it must achieve the target of cumulative investment in five years exceeding one trillion yuan, the annual fixed asset investment should account for more than 70% of the regional GDP. This ratio is much higher than the overall level of Guangdong Province in 2015, which was 41.5%. It also clearly reflects the excessive dependence of the Shantou SEZ on investments in terms of the supply-side structural reform.

The government work report finally points out that in the next five years, Shantou must persist in opening up to drive economic development forward. Emphasis should be placed on accelerating the construction of important gateway cities of the Belt and Road, striving to integrate the Overseas Chinese Pilot Zone into a national pilot free trade zone and taking advantage of Chaozhou-Shantou merchants distributed at home and abroad. As is known to all, Shantou is a famous hometown of overseas Chinese in China. It is always an advantage of Shantou to give full play to the driving role of overseas Chinese in its economic development. However, as stated above, the volume of the import and export trade of the Shantou SEZ dropped significantly in 2016, indicating that Shantou's role as a foreign trading hub is weakening. Therefore, how to promote its economic development by exploiting the advantage of the hometown of overseas Chinese has become a difficult problem that must be seriously thought over.

3 Innovation—The Pilot Zone for Shantou Overseas Chinese Economic and Cultural Cooperation

The Shantou SEZ is a famous hometown of overseas Chinese. According to incomplete statistics, there are about 50 million overseas Chinese from China, including nearly 15 million from Chaozhou and Shantou, and more than 3.4 million from Shantou. So far, as for the investments from overseas Chinese, Hong Kong, Macao and Taiwan accounts for more than 90% of the investments in the Shantou SEZ. The important role played by overseas Chinese in the development of Shantou is obvious.

On September 15, 2014, the Reply of the State Council on Supporting the Relevant Policies for the Construction of the Pilot Zone for Overseas Chinese Economic and Cultural Cooperation in the Shantou Special Economic Zone (G.H. [2014] No. 123, hereinafter "the Reply") agreed to establish a pilot zone for overseas Chinese economic and cultural cooperation in the Shantou SEZ ("Overseas Chinese Pilot Zone"). Then, the construction of the Overseas Chinese Pilot Zone officially began. The Reply clearly specified that the pilot zone should focus on the themes of cooperation, innovation and service, build an innovation platform for the clustering development of overseas Chinese, and construct a base for cross-border financial services, international procurement trade logistics, a center for tourism and leisure activities, and cultural exchanges and external communication with overseas Chinese. It should vigorously develop the dynamic urban industrial system covering cross-border finance, business exhibitions, resource and energy transactions, cultural creativity, tourism and leisure, education and training, medical services, information, and marine industries.

On February 16, 2015, the executive meeting of the Shantou Municipal Government reviewed and approved the *Implementation Plan for the Development of the Shantou Bay New Area in Guangdong (2013–2030)*. The overseas Chinese cultural cooperation platform was listed as one of the six key construction projects to be promoted in the near future (2013–2017). It planned to construct a center for cultural exhibitions and international schools for overseas Chinese, set up the global overseas Chinese economic and cultural cooperation forum, and build a comprehensive and influential comprehensive overseas Chinese cultural cooperation platform in China.

According to the report in the Shantou Daily on November 15, 2015, the executive meeting of the People's Government of Guangdong Province reviewed and approved in principle the Developmental Plan of the Pilot Zone for Overseas Chinese Economic and Cultural Cooperation (2015-2030) ("the Plan") on November 13, 2015 and requested to start implementation as soon as possible. The meeting emphasized that the construction of the overseas Chinese pilot zone should reflect the spirit of reform, take the lead in trying, learn from the reform and innovation ideas and practices of the Guangdong Pilot Free Trade Zone, actively construct a market-oriented, legalized and internationalized operational mechanism and model, and build the pilot zone as an innovative platform for the clustering and development of overseas Chinese and an important gateway to the 21st Century Maritime Silk Road. According to the Plan, the planned scope of the Overseas Chinese Pilot Zone coincides with the planned scope of the Shantou Bay New Area, involving 17 sub-districts (towns) in Longhu, Haojiang, Chenghai and Nan'ao, with a total planned area of about 480 km². The core area is about 55 km², including East Coast New Town, Zhugang New Town, Nanbin New Town, the Shantou Free Trade Area, the Guang'ao Port Area, and the Guangdong-Macao Logistics Park. The starting area is about 26 km², including the Xinjin Area of East Coast New Town, Zhugang New Town, the Nanbin New Town Center Area and the Guang'ao Port Area. On December 14, 2015, the People's Government of Guangdong Province officially approved the Plan.

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Since the implementation of the Plan, the development and construction of the Overseas Chinese Pilot Zone has made great achievements. In 2016, the planned area of 480 km² achieved a regional GDP of 17.5 billion yuan, which accounted for 8.4% of the total GDP of the Shantou SEZ, with an increase of 8.7% over the previous year. The added value of industrial enterprises above the designated size was 4.7 billion yuan, and the total investment in fixed assets was 38.9 billion yuan. The number of registered enterprises in the pilot zone reached 2,942, with a total registered capital of 27.49 billion yuan (Fig. 1).

The Overseas Chinese Pilot Zone is also focusing on financial innovation. Led by the Guangdong Provincial Financial Office and the Overseas Chinese Affairs Office of the People's Government of Guangdong Province, with the Guangdong Overseas Chinese Financial Assets Exchange as the platform, the Overseas Chinese Pilot Zone Board ("Overseas Chinese Board") was launched on September 15, 2015, and an operational center was established in the Overseas Chinese Pilot Zone. Regarding "domestic financing for domestic enterprises, domestic financing for foreign enterprises, foreign financing for foreign enterprises, and domestic and foreign

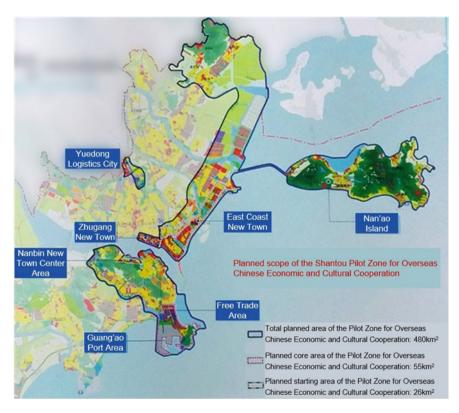


Fig. 1 Planned scope of the Shantou Pilot Zone for Overseas Chinese Economic and Cultural Cooperation

interaction", the Overseas Chinese Board provided various investment and financing products and financial services for domestic and overseas Chinese enterprises and overseas Chinese capitals. By October 17, 2016, there were 434 listed companies on the Overseas Chinese Board (6 joint-stock companies and 428 limited liability companies), and the accumulated intentional financing amount was 5.852 billion yuan.

As a new attempt to develop the overseas Chinese economy in the Shantou SEZ, the Overseas Chinese Pilot Zone has been developing smoothly since its inception and has achieved good results. The government work report has already included the Overseas Chinese Pilot Zone into the national pilot free trade zone as one of the future goals, and acceleration of its construction as one of the government's top priorities in 2017. The development of the pilot zone is remarkable.

4 Conclusions

In 2016, the development of the Shantou SEZ showed a steadily rising trend, and basically maintained its high-speed growth. The driving force for economic development was mainly fixed asset investments, and the volume of import and export trade had declined to different degrees. It can be said that the Shantou SEZ still has a long way to go on the road to structural reform on the supply side. The Pilot Zone for Overseas Chinese Economic and Cultural Cooperation planned and implemented since 2014 has become initially effective and its future development is promising. However, overseas Chinese are not only the advantage of Shantou, but also inevitably a shortcoming of Shantou. How to solve the disadvantages of Shantou in geography and culture in the work of introducing talents is the key to the economic and social development of the Shantou SEZ in the future.

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Chapter 10 Report on the Development of the Xiamen Special Economic Zone



Yikun Zhou

Abstract Faced with the downward pressure on the economy, the Xiamen Special Economic Zone accelerates the implementation of the innovation-driven developmental strategy and has achieved good results in areas such as steady growth, reform, restructuring, benefiting people's livelihood and preventing risks. Its economy grows steadily, the industry shows a trend of high at the start and low in the end, the service sectors have become the main engine of economic growth, the fixed asset investments are making progress in an orderly manner, and the consumer market reflects a steady and positive growth trend. The pace of industrial transformation is accelerating, and innovation is becoming the most important driving force for its economic and social development. The urban infrastructure is constantly improved and the ecological environment is continuously optimized. The reform in key areas has intensified, the economic achievements of the free trade area are becoming prominent, and the opening-up continues to advance. However, due to the impact of the international economic situation, the volume of Xiamen's imports and exports is relatively low. The scale of new growth points is still small, the R&D intensity of enterprises is low, and the momentum of industrial development needs to be strengthened.

Keywords Xiamen SEZ · Innovation-driven · Intensifying reform · Improving quality and efficiency

In 2016, Xiamen furthered the supply-side structural reform, accelerated the deployment of the innovation-driven developmental strategy, conscientiously implemented the five concepts of development of "innovation, coordination, green, open and sharing", it has effectively responded to the downward pressure on the economy and the attack of Typhoon Meranti and achieved a good start for the 13th Five-Year Plan.

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1 Overview of the Development of the Xiamen SEZ

1.1 Steady Economic Growth

In 2016, Xiamen achieved a regional GDP of 378.425 billion yuan, with an increase of 7.9% over the previous year (calculated at comparable prices), and its growth rate ranked 6th among 15 sub-provincial cities nationwide, about 0.7% points higher than the previous year. The per capita regional GDP was 97,300 yuan (calculated by resident population, equivalent to US\$14,600), achieving an increase of 6.3%. The water consumption per 10,000 yuan of regional GDP was 9.92 tons, the electricity consumption per 10,000 yuan of regional GDP was 607.68 kWh, and they decreased by 0.56 tons and 1.94 kWh compared with the previous year.

During the entire year, the industry showed a trend of high at the start and low in the end. The total value of industrial output of enterprises above the designated size was 525.471 billion yuan. The value of the industrial output of the two pillar industries, namely electronics and machinery, was 359.41 billion yuan, accounting for 68.4% of the city's total. The added value of industrial enterprises above the designated size was 126.478 billion yuan (about 33.4% of the city's regional GDP), with an increase of 5.4% over the previous year.

The total retail sales of consumer goods increased by 9.8% over the same period of the previous year. The fixed asset investments grew by 14.4%. The total financial revenue increased by 8.2%, the local financial revenue rose by 8.6%, and financial expenditures increased by 16.5% over the previous year. The per capita disposable income of urban and rural residents grew by 8.7% and the per capita living expenditure of residents increased by 6.8% over the previous year. The economic development of each district was in good conditions (see Table 1). Among them, the regional GDP of Siming District kept above 100 billion yuan, and the growth rates of the regional GDP in Siming District and Jimei District were higher than the average level of the whole city.

1.2 Accelerated Pace of Industrial Transformation

In 2016, Xiamen vigorously promoted the adjustment of its industrial structure. The structure of the three types of industries was adjusted from 0.7:43.5:55.8 in the previous year to 0.6:41.2:58.2 (see Fig. 1). The proportions of the primary and secondary industries continued to decline, and the proportion of the tertiary industry increased by 2.4% points over the previous year. The added value of the tertiary industry increased by 9.8%, which was 1.9% points higher than the economic growth rate.

The efficiency of industrial enterprises was generally better than that of the previous year. The annual profit growth of industrial enterprises above the designated size reached 48.24%. The comprehensive index of industrial economic benefits rose to

	Siming district	Huli district	Haicang district	Jimei district	Tong'an district	Xiang'an district
Regional GDP (100 M yuan)	1161.38	820.61	543.66	551.04	313.72	393.85
YoY growth (%)	8.4	7.5	7.0	8.7	7.9	7.5
Industrial added value (100 M yuan)	66.57	322.10	290.07	222.63	162.69	254.29
YoY growth (%)	2.4	6.3	2.3	7.1	7.5	6.2
Total retail sales of consumer goods (100 M yuan)	486.40	364.49	153.11	124.11	101.50	53.84
YoY growth (%)	11.1	5.0	6.2	12.0	23.1	17.4
Fixed asset investments (excl. farmers) (100 M yuan)	274.30	366.97	430.22	377.92	271.76	438.64
YoY growth (%)	16.1	16.4	16.4	-1.4	19.8	23.1
Public financial budget revenue (100 M yuan)	51.20	39.23	34.20	30.82	16.64	15.90
YoY growth (%)	4.3	-3.4	18.2	14.9	18.3	14.4

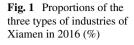
Table 1 Main economic indicators of the districts of Xiamen in 2016

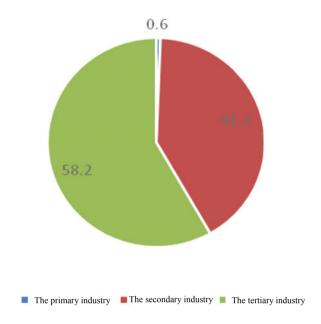
Date source The National Bureau of Statistics of the China Xiamen Survey Team, "2016 Statistical Communiqué on the National Economic and Social Development of Xiamen", http://www.statsxm.gov.cn/, March 21, 2017

225.03, of which the rate of contribution of total assets was 9.56%, the rate of capital preservation and appreciation was 105.97%, the asset-liability ratio fell to 50.25%, the ratio of current assets turnover slowed to 1.63 times, and the ratio of profit to cost increased to 6.16%, and the total labor productivity grew to 212,800 yuan/person. Industrial profits and tax payments were increased, and their growth rates were the highest in recent years. The total industrial profits increased by 48.2%, and the total industrial profits and taxes increased by 24.6%.

In 2016, there were 1,225 high-tech enterprises in Xiamen, mainly concentrated in the three industries: computer communications and other electronic equipment manufacturing, electrical machinery and equipment manufacturing, rubber and plastic products. The industrial structure was continuously optimized and the quality of economic development was further improved. The advantages of emerging industries were constantly enhanced. The output value of strategic emerging industries (235.223 billion yuan) accounted for 45% of the city's total value, and they played an important role in promoting the industrial upgrading and structural adjustment of Xiamen.

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1.3 Enhancement of Innovation-Driven Development

Innovation has become the most important driving force for economic and social development in Xiamen. In 2016, the R&D input of Xiamen occupied more than 3% of the regional GDP, and the number of high-tech enterprises accounted for 48.32% of the province's total. The conditions for the technological innovation of industrial enterprises above the designated size continued to improve, and the R&D intensity increased to 1.98%. A total of 36.6% of the industrial enterprises above the designated size carried out research and development activities, witnessing an increase of 114 over the previous year. Domestic enterprises accounted for 62.8% of the total number of enterprises with R&D activities. The internal R&D expenditures of domestic enterprises were 4.339 billion yuan, accounting for 45.1% of the total, and their R&D intensity was 2.59%, which was 0.71% points higher than that of Hong Kong, Macao and Taiwan-funded enterprises, and 1.1% points higher than that of foreign-funded enterprises. Xiamen invested a total of 11.171 billion yuan in building the platform for mass entrepreneurship and innovation and identified 165 maker spaces and 17 demonstration bases. "Mass entrepreneurship and innovation, crowd innovation, crowdsourcing, crowd support, and crowdfunding" flourished.

Innovative platforms and services became more complete. The city fostered 281 new national high-tech enterprises, and increased 39 key laboratories and centers for research on engineering technology, including one national technology innovation demonstration enterprise, two nationally-recognized centers of enterprise technology, three national and local joint project laboratories and three national centers for industrial design. It introduced more than 3,700 mass entrepreneurship and innova-

tion teams with 36,000 members, newly increased two national-level demonstration bases for small and micro enterprise entrepreneurship and innovation, and newly developed 492 SMEs and micro enterprises. It had 11,500 patent grants of various types, 18.4 effective invention patents were owned per 10,000 people, and the number of PCT patent applications accounted for 42.2% of the province's total. It undertook 380 national science and technology projects, and won three scientific and technological achievement awards. It increased 82 new national industry standards and the trade volume of technology contracts accounted for 42.7% of the province's total.

1.4 Stable Operation of the Consumer Market

The consumer market showed a steady and positive growth trend. The total retail sales of consumer goods was 128.346 billion yuan, ranking third in the province, with the retail sales of goods valued at 114.32 billion yuan and the catering revenue of 14.026 billion yuan. Enterprises above and below the designated size were growing simultaneously. A total of 174 wholesale and retail trade enterprises had an annual retail sales exceeding 100 million yuan, and 95 accommodation and catering enterprises had a retail sales exceeding 10 million yuan. These categories of goods achieved an increase of sales: grain, oil, food, beverages, tobacco and liquor, automobiles, communication appliances, clothing, shoes, hats and textiles, and traditional Chinese and Western medicines, which accounted for 71.3% of the retail sales of enterprises above the designated size and they increased by 7.0%, 12.0%, 23.4%, 31.1% and 36.3%, respectively. These categories of goods decreased in sales: household appliances, articles for daily use, petroleum and related products, cultural and office appliances and gold, silver and jewelry, which accounted for 21.7% of the retail sales of enterprises above the designated size, and they decreased by 0.4%, 3.1%, 3.4%, 4.6%, and 11.5%, respectively (see Table 2). Automobile consumption became the main reason for consumption growth. Under the stimulation of the official car reform policy and the upgrading of family cars, the sales of automobile enterprises above the designated size reached 29.299 billion yuan and drove the retail sales of enterprises above the designated size to increase by 3.9% points. With economic development and an increase of income, the emerging consumption of health and information grew rapidly, and the driving effect of emerging consumption was significantly enhanced. For example, the retail sales of enterprises above the designated size in the fields of traditional Chinese and Western medicines and communication appliances increased by 36.4% and 28.4%, respectively, and they contributed to the growth of retail sales by 2.5% points. Various forms of network platform consumption, smart home consumption, and virtual economic consumption might become popular for future consumption. Internet retail sales grew rapidly, and enterprises above the designated size achieved the retail sales of 12.715 billion yuan through the Internet, accounting for 14.3% of the total and increasing the total retail sales of the city by 2.5% points. The retail sales of Anport Online Commerce, Anta E-Commerce and JD Donghe Trade ranked the top three. The retail sales growth of

Table 2 Total sales of goods of enterprises above the designated size in wholesale and retail sales trade by category. *Unit* 10 K yuan

Indicators	Retail amount		
	2016	YoY growth %	
Total	8,363,746	10.6	
#Grain, oil, food, beverages, tobacco and liquor	941,241	7.0	
Clothing, shoes, hats and textiles	1,239,822	31.1	
Cosmetics	68,144	12.1	
Gold, silver and jewelry	100,888	-11.5	
Articles for daily use	282,895	-3.1	
Sports and recreation articles	23,918	4.2	
Newspapers and magazines	22,190	2.1	
Household appliances	324,656	-0.4	
Traditional Chinese and Western medicines	494,235	36.3	
Cultural and office appliances	146,382	-4.6	
Furniture	36,474	27.7	
Communication appliances	360,580	23.4	
Petroleum and related products	960,877	-3.4	
Automobiles	2,929,866	12.0	

Data source The Xiamen Bureau of Statistics, "Consumer Market Kept Steady Growth in 2016", http://www.stats-xm.gov.cn/, February 4, 2017

the newly established JD Donghe Trade in the fourth quarter achieved strong growth and this was the main reason for the double-digit growth in online retail sales.

1.5 Significant Increase of Effective Investments

Fixed asset investments maintained a rapid growth. Fixed asset investments (excluding farmers) reached 215.981 billion yuan, an increase of 14.4% over the previous year. Among them, the investments in the primary industry, the secondary industry and the tertiary industry increased by 16.4%, 12.2% and 14.9%, respectively. The investment ratio of the three types of industries was 0.1:18.6:81.3. In 2016, industrial investments were 39.772 billion yuan, of which the investments in manufacturing were 35.442 billion yuan, with an increase of 18.2%. Xiamen focused on the emerging investments and provided a strong momentum for economic development. In high-end industrial sectors, for example, pharmaceutics, special equipment, computer communication and other electronic equipment, the investments increased by 92.2%, 21.0%, and 9.2%, respectively. In modern service sectors, the service industry completed an investment of 175.636 billion yuan, accounting for over 80% of the total amount of investments, thus laying a solid foundation for the long-term devel-

opment of the service industry. In the field of industrial technology transformation, the investments in industrial restructuring and technological transformation increased by 41.6% and drove the industrial investments of the city to grow by 4.7% points.

The driving effect of investments in infrastructures was obvious. It was 79.235 billion yuan (including 50.008 billion yuan in the transportation industry, an increase of 59.8%), which increased by 34.2%. The land reclamation of 7.58 km² in Dadeng and Xiaodeng was basically completed. The Xinglin Bay Sewage Interception Project and the "double rings and radiating" network of expressways were basically finished. The projects for the connection of water sources in Shidou, Lianhua and Tingxi were accelerated. The Pilot Project for the Fuzhou-Xiamen High-speed Railway and the pumped storage power station started construction. The "New City + Base" became the focus of investments and accounted for about 40% of the city's fixed asset investments. The projects such as coastal tourism romantic line demonstration section, phase one of the unified construction zone of the Bingzhou area in the modern service industry base and Xiang'an Hospital were accelerated. Key provincial and municipal projects were advanced, including 111 big provincial projects, 46 key provincial projects and 276 key municipal projects under construction. The completed investments exceeded the annual investment plan by more than 20%. Thirtyeight big municipal projects were smoothly facilitated. Projects such as NEG, the Lianyue Tunnel and Fudan University Zhongshan Xiamen Hospital were basically completed, and projects such as Tongji Road rebuilding, international shipping center and heart center were further accelerated. The total number of "Five One-Batch" projects grew steadily. The total investments of projects with an investment of over 100 million yuan were 1,704.7 billion yuan. The total investments of the new "Five One-Batch" projects were about 636.1 billion yuan, and the conversion rate was higher than the provincial average.

1.6 Differentiated Foreign Trade

Affected by the declining demand on the international market, the growth of foreign trade was sluggish. The total volume of import and export trading of the city was 509.155 billion yuan, decreasing by 1.5%. The value of imports was 199.733 billion yuan, with an increase of 8.0% over the previous year, and that of the exports was 309.422 billion yuan, which decreased by 6.7% from the previous year. The trade surplus was 109.689 billion yuan, decreasing by 25.3%. Exports to the traditional markets such as the USA, the EU and Japan fell by 3.3%, 2.5%, and 1.9%, respectively. Exports of traditional superior products such as footwear, apparel and liquid crystal display panels dropped by 17.8, 18.9, and 23.3%. The total value of the imports and exports of private enterprises were 199.26 billion yuan, decreasing by 6.2%; and the total value of the imports and exports of foreign-funded enterprises were 209.442 billion yuan, decreasing by 6.2%. The total volume of imports and exports of general trading was 325.927 billion yuan with an increase of 1.5%. The total value of import and export trade with Taiwan was 35.806 billion yuan, which decreased by 12.3%.

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The two-way investment maintained a rapid growth. With regard to utilizing foreign investments, 1,278 foreign-invested projects were newly approved throughout the entire year. Their contracted use and actual use of foreign investments ranked first in the province, of which the contracted use of foreign investments was US\$7.57 billion, witnessing an increase of 81.8%; and the actual use of foreign investments was US\$2.22 billion, with an increase of 6.2%. During the whole year, 211 10-milliondollar projects were introduced, including 189 new projects and 22 capital increase projects. The city newly approved 740 Taiwan-funded enterprises (including transfer to third-party), the contracted use of Taiwanese investments increased by 84.7%, and the actual use of Taiwanese investments increased by 30.8%. By the end of the year, a total of sixty Global 500 companies had invested in 109 projects in Xiamen. As a strategic fulcrum city of the Belt and Road, Xiamen had a strong amount of outbound investments, with 359 agreed investment projects and the investments of US\$5.54 billion, which increased by 1.5 times. Among them, the total value of investments of the Chinese side was US\$5.338 billion, and the actual total investment was US\$2.975 billion. Countries along the Maritime Silk Road became the focus of investments, having 53 investment projects with an amount of US\$1.07 billion. A total of 13,032 laborers were dispatched, and the number of laborers working abroad was 10,885 at the end of the year.

1.7 Effective Intensification of the Reform

The reform of key areas advanced in depth. Xiamen intensified the reform of "power delegation, regulation improvement and service optimization", delegated 216 approval and public service items, undertook 240 approval items from higher authorities, cancelled 55 approval items and achieved full coverage of powers and responsibilities at the three levels of city, district and town (sub-district). It formulated the management measures for construction projects, promoted the construction of projects, and intensified the reform of "multi-planning integration". It accelerated the implementation of the reform of the commercial registration system of "Five Certificates into One with a Unified Credit Code" and newly added 7,000 commercial entities, which grew by 23.6%. It strengthened the online administrative approval services, and the online processing rate of municipal and district administrative licenses and public services reached 100%. The "Credit Xiamen" website was put into operation. The reform of the medical and health system was accelerated, the pilot program for family doctor contracting services was launched, and more than 480,000 people signed contracts. The public hospital management committee began to operate substantially. It formulated the Implementation Opinions on the Reform of the Price Mechanism, and advanced the parking lot management by categories, the adjustment of the reform of the medical service prices BRT fare, the adjustment of the fee for non-residential sewage treatment, that of the prices for pipeline natural gas and the comprehensive reform of agricultural water prices. It reformed the investment and financing system, signed the four industrial sub-funds, and established a pool of industrial funds with a total scale of 12.37 billion yuan.

More than a year has passed since the launch of the pilot free trade zone and the results of the construction emerged. Thirty-three reform initiatives were created for the first time in the country. Xiamen vigorously promoted the facilitation of investments and trade, and was awarded the honor of the best practice case of the national pilot free trade zones. The daily handling of documents of the platform exceeded 110,000, ranking first among the four pilot free trade zones in China. A total of 862 foreign-funded enterprises were newly established in the pilot free trade zone. It vigorously developed the emerging business patterns such as cross-border e-commerce, financial leasing and aircraft engine maintenance. Cross-border e-commerce increased by 40%, the output value of the aviation maintenance grew by 23%, and 3,400 financial, similar-financial and investment companies were introduced. In the evaluation of a third-party organization for the international business environment, it ranked in the 49th place and achieved significant improvements in cross-border trade, start-ups, and property registration.

1.8 Continual Improvement of People's Livelihood

Social undertakings developed steadily. Twenty-two public kindergartens started construction, and 58 primary and secondary schools were renovated and expanded, and the quota for students increased by 6,000 and 20,000. Medical care and education were continuously enhanced. The "Xiamen Model" for graded diagnosis and treatment was promoted to the whole country, and the signing rate of family doctors was 22.7%. Social governance made practical achievements. The number of social community organizations increased by 42%, and the occurrences of mass incidents and criminal cases dropped by 36.6% and 11.3%, respectively.

Urban construction was low-carbon, and the energy consumption of the six high-energy-consuming industries dropped by 18.0%. Two BRT lines and 38 bus lines were increased, and it won the honor of national green transportation city.

Social security was strengthened. The number of participants in the city's basic medical care, basic pension plan, unemployment, work injury and maternity insurance increased rapidly by 6.0%, 2.8%, 4.3%, 3.7% and 4.6%, respectively. Employment remained stable with 170,000 new jobs created and the registered urban unemployment rate of 3.4%. Xiamen provided stabilization subsidies for 27,000 enterprises and social security subsidies for 50,000 flexibly-employed people. The urban and rural minimum living security was raised to 610 yuan per person per month. The average monthly pension for enterprise retirees increased to 3,291 yuan. The number of nursing home beds per 1,000 elderly people reached 32.8 and it achieved the full coverage of home-based elderly care services. The multi-channel housing security system was built, and the rapid rise in housing prices was initially prevented. A total of 8,129 public rental houses were constructed and 727 people were allocated for renting. Construction was begun on 8,154 security housing units and 4,538 were completed.

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The ecological environment became more optimized. The pilot projects for the comprehensive treatment of small river basins were comprehensively promoted, and 163 sewage interception and drainage projects were launched. A total of 97 natural villages were included in the municipal sewage system, and the domestic sewage of 238 natural villages was treated in a decentralized manner. Xiamen was approved as a pilot city for the China Blue Bay Remediation Action Plan, it advanced the treatment of Maluan Bay and Wuyuan Bay, completed the dredging of 8.81 million cubic meters and became a national ecological city. Xiamen actively carried out the special treatment of dust, boiler and soot pollution. Its good air quality rate was 98.9% and it took the lead among 74 key cities in the country. It achieved afforestation and greening of 524 hectares, newly added 487 hectares of garden and green space, and won the honor of a national forest city. It was the first city in the province that applied the "Internet Plus" to hazardous waste regulation.

2 Main Problems Faced by the Development of the Xiamen SEZ

2.1 The Downward Pressure on the Economy was Relatively Serious

Taking the total retail sales of consumer goods as an example, since the total retail sales of consumer goods in Xiamen broke through 100 billion yuan in 2014, the average annual increase was only 10.5 billion yuan. In 2016, the total retail sales of consumer goods in Xiamen ranked the last among sub-provincial cities, with an increase of 9.8%. It ranked 10th among the sub-provincial cities, and both the total volume and growth rate lagged behind. Affected by the international economic situation, its import and export trade was relatively sluggish. In 2016, Xiamen's total volume of imports and exports fell by 1.4%, of which the total amount of exports decreased by 6.7%. The exports underwent a negative growth.

2.2 The Total Amount of New Growth Points was Small, the Industrial Investment was Insufficient, and the Willingness of Private Sectors to Invest was not Strong

The total amount of industrial investment was still small, and there were few large industrial investment projects, which accounted for a lower proportion of fixed asset investments than the average national and provincial level. For the secondary industry of Xiamen, the added value accounted for 41.2% of the GDP, but industrial investments accounted for only 18.4% of the fixed asset investments. The proportion of

industrial investments was low, the developmental momentum was insufficient and industrial transformation was an arduous task. The proportion of private investments was still low, and their growth rate was lower than the provincial average. Due to the current complex economic situation and poor economic efficiency of enterprises, the willingness and motivation of private capital to enter the market has been restrained. In some industries, there were barriers against the entry of private capital, and the financing difficulties of private enterprises have not been completely solved.

2.3 The R&D Intensity of Enterprises was Still Low, the Industries were Differentiated, and the Capability for R&D and Innovation of Enterprises Needed to be Strengthened

The coverage of enterprises engaged in R&D activities in Xiamen was narrow, and the intensity of the R&D of enterprises was still low. In 2016, although the coverage of R&D activities in Xiamen was slightly higher than that of the previous year, 84.1% of the enterprises above the designated size did not have R&D units, and more than 60% of those enterprises had no R&D input. The intensity of the R&D of enterprises above the designated size was 1.98%, which still lagged far behind Beijing and Shenzhen. The intensities of R&D in different industries were quite different. In 2016, the industries with an intensity of R&D exceeding 3% included pharmaceutics, special equipment, instruments and general equipment, whose intensities of R&D were 5.61%, 4.92%, 3.71% and 3.64%, respectively. However, the industries concerning timber, bamboo, cane, palm fiber and straw products, and wood processing still had no R&D input. In addition, in 2016, the proportion of R&D personnel of enterprises above the designated size in Xiamen accounted for 6.7% of the total, and the proportion of employees receiving university or higher education was 4.3%. Compared with regions with well-developed R&D capabilities, its talent accumulation was insufficient and there was still a large gap in talent supporting capabilities.

3 Policy Suggestions for Promoting the Development of the Xiamen SEZ

3.1 Multiple Policies are Being Adopted to Promote Supply and Demand and Improve Quality and Efficiency

Xiamen must accelerate the elimination of its backward production capacity and expand its effective supply and its medium and high-end supply. Integrated with the resource advantages of Xiamen, the emerging high-end markets are being devel-

oped. Giving full play to the policy advantages of the Xiamen Free Trade Zone, it can build large-scale high-end duty-free shops, and create an environment of more convenient and affordable consumption. It can stabilize the growth of foreign trade, increase its support for foreign trade enterprises, it can vigorously develop the trade in services and service outsourcing, encourage new foreign trade business models, introduce large-scale integrated foreign trade service platforms, and promote positive interaction between trade in services and trade in goods.

3.2 Xiamen can give Play to the Role of Policy Incentives and Guide the Expansion of Effective Industrial Investments

Focusing on national industrial policies, important plans, and key directions for investment, it may plan and generate projects, attract investments, introduce technology and talents, formulate supporting policies, and strengthen the effectiveness of its attraction of investments. It should create a good business environment in terms of policies, taxes, funds, services, employment, etc., implement policies and measures to encourage enterprises to expand production and foster leading enterprises, accelerate key industrial projects, enhance project scheduling and construction organization, promptly understand the production and operational status of enterprises, strengthen tracking and contact with key industrial enterprises, effectively help enterprises solve difficulties and problems, promote early completion and output of projects, expand industrial increments, and improve the industrial driving effects on the city.

3.3 Xiamen Should Vigorously Develop and Enhance the Capability for Innovation in Key Industries

It must adhere to innovation-driven development, learn from domestic and foreign experience, combine with its own reality, further increase investments in emerging industries including machinery and equipment, electronic information, instruments, as well as new sensors, smart manufacturing and IoT hardware, guide innovative investment in the field of new generation information technology and convergence technology, enhance the capability for innovation of the key parts and the whole industrial chain, and strengthen the construction of a R&D platform around leading industries and key areas. It can actively reach the heights of high-tech talents, formulate and implement policies that have a strong appeal to high-end talents, continuously improve the effective mechanism for talent introduction, development and incentives, fully mobilize the enthusiasm and creativity of technological personnel and create a better environment for work and the life of all types of talents in Xiamen, so that talents can play a key role in technological innovation.

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Chapter 11 Report on the Development of the Hainan Special Economic Zone



Weili Liu and Weihan Lin

Abstract According to the main economic characteristics of the development of the Hainan Special Economic Zone in 2016 and the analysis of the development of 18 cities and counties in the three major regions of Hainan Province through the construct of the coefficient of variation, it could be found that the overall economic development of Hainan in 2016 showed a stable and increasing trend, but there was unbalanced development among regions. The economic structure of Hainan was continuously optimized. The tertiary industry developed rapidly, but it was also the main reason for the differences in the regional development. Fixed asset investments, industrial production, and consumer goods markets maintained steady growth, but the coefficient of variation was greater than 1.6, indicating that the development of these cities and counties was unbalanced in these fields. Accordingly, Hainan Province should actively intensify reforms, promote industrial transformation and upgrading, and make full use of its strengths and overcome shortcomings, promote balanced economic development with innovation as the driving force and further improve the quality of economic development.

Keywords Hainan special economic zone \cdot Coefficient of variation \cdot Unbalanced development

In 2016, Hainan's economic development showed a good momentum of steady progress, actively implemented the central government's guideline for work on stabilizing growth, promoting reform, restructuring, benefiting people's livelihood and preventing risks, and it unswervingly pushed forward the supply-side reform, comprehensively implemented new developmental concepts, optimized the industrial structure constantly, intensified the reform of the economic system, focused on the shortages in the people's livelihood and attracted investments. Meanwhile, the imbalance of regional economic development, the low level of internationalization of the international tourism island, and lack of talents were still problems that Hainan

faced. Therefore, it should actively intensify the reform, promote transformation and upgrading, make full use of its strengths and overcome its shortcomings and continue to maintain long-term sustainable economic development.

1 Developmental Characteristics of the Hainan SEZ in 2016

1.1 Continuous Optimization of the Economic Structure and Steady Economic Development

According to the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan, in 2016, the gross domestic product (GDP) of Hainan reached 404.451 billion yuan, an increase of 7.5% over the previous year. The added value of the primary industry was 97.093 billion yuan, with an increase of 4.1%, and it accounted for 24.0% among the three types of industries. The added value of the secondary industry was 90.168 billion yuan, with an increase of 5.1%, and it accounted for 22.3% among the three types of industries. The added value of the tertiary industry was 217.19 billion yuan, with an increase of 10.1%, and it accounted for 53.7% among the three types of industries. It could be seen that the industrial structure of Hainan was constantly optimized, and the proportion of the tertiary industry continued to rise. Figure 1 shows that from 2009 to 2016, the GDP of Hainan Province showed an increasing trend and generally, it developed steadily. Figure 2 reveals the

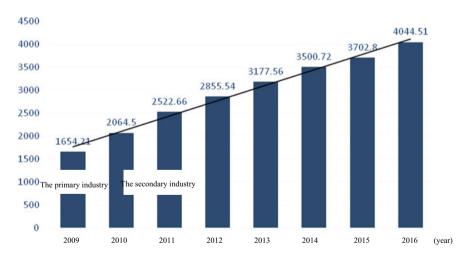


Fig. 1 Regional GDP of Hainan in these years (unit: 100 M yuan). *Data source* Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and the Statistical Yearbooks of Hainan Province in these years

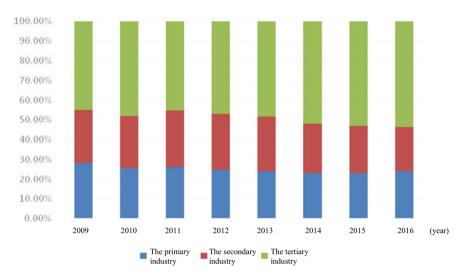


Fig. 2 The industrial structure of Hainan in these years (unit: %). Data source Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and the Statistical Yearbooks of Hainan Province in these years

industrial structure of Hainan in recent years, from 2009 to 2016, which can reflect the process of the optimization of the structure of the three types of industries.

Among the driving forces for economic development, the tertiary industry was the main driving force for Hainan's economic growth. The financial sector was of the greatest importance with an added value of 28.007 billion yuan, which increased by 15.8%. Tourism improved its quality while ensuring the speed of development. In 2016, the total revenue from tourism reached 67.21 billion yuan, which was an increase of 17.4% over the previous year; the total number of domestic and foreign tourists received by the province was 60,235,900, seeing an increase of 12.9% over the previous year. The real estate sector maintained stable development. In 2016, the added value of real estate sector of the province was 34.504 billion yuan, with an increase of 13.2% over the previous year. The annual sales area of the real estate was 15.0853 million square meters, with an increase of 43.4% over the previous year; and the sales revenue was 149.02 billion yuan, witnessing an increase of 51.6% over the previous year.

1.2 Increasing Fixed Asset Investments and Improving Quality

In 2016, the value of Hainan's fixed asset investments was 374.703 billion yuan, with an increase of 11.7% over the previous year. Among them, the value of the investments in real estate development was 178.76 billion yuan, with an increase

of 4.9% over the previous year. Figures 3 and 4 show the investments in the three types of industries. The value of the investments in the primary industry was 4.074 billion yuan, which decreased by 21.2% year on year; the value of the investments in the secondary industry was 28.941 billion yuan, which fell by 10.4% year on year; and the value of the investments in the tertiary industry was 341.688 billion yuan, which increased by 14.6%. Figure 5 reflects investments from the regional structure. The investments in the eastern, central and western regions were 276.159 billion yuan, 20.169 billion yuan and 78.42 billion yuan, respectively. The eastern region increased by 15.0%, the central region increased by 5.5%, and the western region increased by 2.8%.

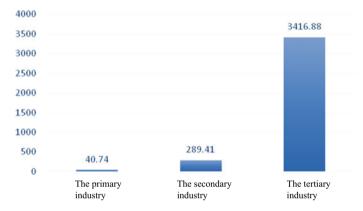
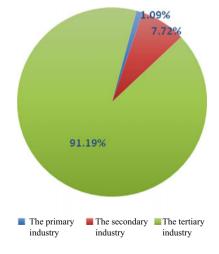


Fig. 3 Industrial investment of Hainan in 2016 (unit: 100 million yuan). *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

Fig. 4 The industrial structure of Hainan's fixed asset investments in 2016. Data source Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan



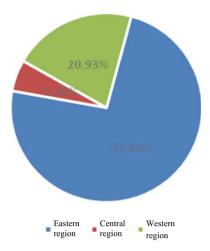


Fig. 5 The regional structure of Hainan's fixed asset investments in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

1.3 Steady Growth of Industrial Production

In 2016, the industrial added value of Hainan Province reached 47.922 billion yuan, an increase of 2.7% over the previous year. Among that amount, the added value of industrial enterprises above the designated size was 44.182 billion yuan. Divided by the light and heavy industries, the added value of the light industry was 13.833 billion yuan with an increase of 5.2% over the previous year, and the added value of the heavy industry was 30.349 billion yuan with an increase of 1.5% over the

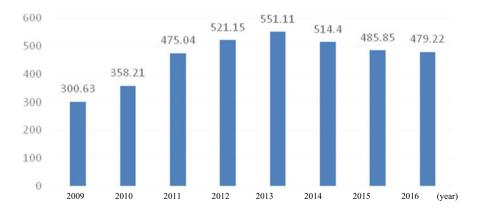


Fig. 6 The industrial added value of Hainan from 2009 to 2016 (unit: 100 million yuan). *Data source* Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and the Statistical Yearbooks of Hainan Province in these years

previous year. Figure 6 reflects the industrial added value of Hainan in recent years. It can be seen that its industrial added value was generally on a rising trend.

With respect to economic types, the added value of joint-stock enterprises was the highest at 25.206 billion yuan, which was 1.8% higher than 2015, followed by foreign-invested, as well as Hong Kong, Macao and Taiwan-invested enterprises, which had the added value of 12.92 billion yuan and increased by 2.8% over 2015, then followed by state-owned enterprises, which achieved an added value of 6.016 billion yuan and grew by 6.1% over 2015, and enterprises of other economic types increased by 20.9%. For the added values of the eight pillar industries of Hainan, chemical and pharmaceutical manufacturing grew rapidly by 7.7% and 7.2%, respectively. Other industries increased to varying degrees, while the growth of vehicle manufacturing was the slowest at only 0.2%.

1.4 Rapid Growth of Tourism and Consumer Goods Markets

In 2016, Hainan received a total of 60,235,900 domestic and foreign tourists, an increase of 12.9% over the previous year. The total revenue from tourism was 67.21 billion yuan, witnessing an increase of 17.4%. As the global economy began to recover, China's tourism market became gradually matured and stabilized, and was favored by more and more foreign tourists. In 2016, Hainan received 469,900 inbound tourists with an increase of 32.1% over 2015. Revenue from its international tourism reached US\$349.8886 million, which increased by 41.3% over 2015 (Fig. 7).

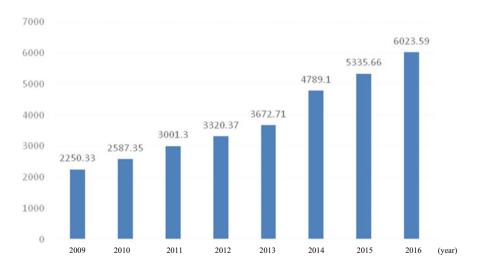


Fig. 7 Tourists received by Hainan from 2009 to 2016 (unit: 10,000 person•time). *Data source* Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and the Statistical Yearbooks of Hainan Province in these years

1.5 Stable Development of Foreign Trade

In 2016, the total volume of imports and exports, the total volume of exports and the total volume of imports were 74.84 billion yuan, 14.068 billion yuan and 60.772 billion yuan, which increased by -13.9%, -39.5% and -4.5% respectively over the previous year. There were three types of foreign trade, namely general trade, processing trade, and petty trade in the border areas. Among them, the general trade still played a dominant role and accounted for 40.42% of the total volume of import and export trade. Figure 8 reflects the distribution of the types of trade of Hainan's imports and exports. In 2016, affected by the global economic downturn, the total volume of imports and exports of the general trade of Hainan reached 30.26 billion yuan, which decreased by 18.88% from the previous year; the total volume of imports and exports of Hainan's processing trade was 17.68 billion yuan, which decreased by 22.78% from the previous year. In Fig. 9, a comparison is made on the developmental trend of imports and exports in foreign trade from 2009 to 2016. It can be seen from the comparison that, although the total volume of imports and exports declined in 2016, the overall trend remained relatively stable.

The imports and exports with Hong Kong, Japan, the USA, the EU (27 countries) and ASEAN were 0.885 billion yuan, 2.324 billion yuan, 1.681 billion yuan, 2.669 billion yuan, and 0.767 billion yuan, which increased by -61.47%, 64.0%, -7.06%, -65.54% and -40.66%, respectively. Haikou joined the customs clearance integration of four provinces in the "Pan-Pearl River Delta" region and constructed a port in Haikou for importing whole vehicles.

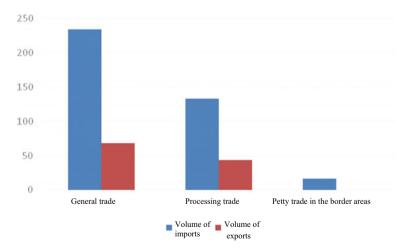


Fig. 8 Distribution of imports and exports of the foreign trade in Hainan in 2016 (unit: 100 million yuan). *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

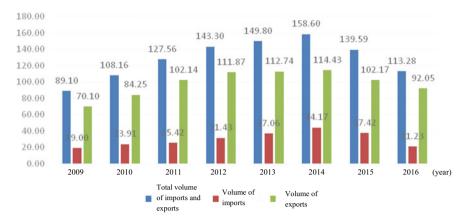


Fig. 9 The volume of imports and exports of Hainan's foreign trade from 2009 to 2016 (unit: US\$ 100 M). *Data source* Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and the Statistical Yearbooks of Hainan Province in these years

Comparing the exports of Hainan Province to various countries and regions, the most important trade area was the ASEAN area with the total value of exports at 2.669 billion yuan. Moreover, in recent years, the relationship of Hainan's export trade with Japan became increasingly closer, and the total volume of exports increased remarkably. In addition, Hainan's total exports to Hong Kong, the USA, the EU and the Middle East also accounted for large proportions. Figure 10 reflects the geographical distribution of exports in Hainan's foreign trade.

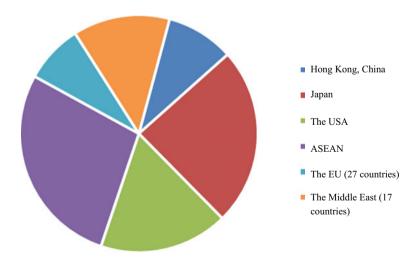


Fig. 10 Geographical distribution of exports in Hainan's foreign trade in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

2 The Regional Economic Developmental Differences and the Assessment of Hainan's Competitiveness in 2016

This paper selects 18 cities and counties of Hainan Province as the research objects for analysis and comparison, which fall into three regions: eastern, central and western. The eastern region consists of six cities and counties: Haikou City, Sanya City, Wenchang City, Qionghai City, Wanning City and Lingshui County; the central region is composed of six cities and counties: Wuzhishan City, Ding'an County, Tunchang County, Qiongzhong County, Baoting County and Baisha County; and the western region comprises six cities and counties: Danzhou City, Chengmai County, Lingao County, Dongfang City, Ledong County and Changjiang County.

1. Method of index system construction

This paper introduces the coefficient of variation to measure the differences among different cities and counties of Hainan. The coefficient of variation is the ratio of the standard deviation of raw data to the mean. Here, the standard deviation is the arithmetic square root of the mean of the squared deviation of the variable value in the sample and its mean. It can accurately reflect the discrete degree of regional economic indicators. The greater the coefficient of variation is, the more unbalanced the development is among the regions. In order to eliminate the influence due to the difference in the size of the base, the standard deviation is compared with the mean. The calculation formula for the coefficient of variation is:

$$CV = \frac{\delta}{\bar{x}}, \delta = \sqrt{\sum_{i=1}^{n} \frac{(x_i - \bar{x})^2}{n}}$$
 (1)

In Eq. (1) above, δ represents the standard deviation, \bar{x} denotes the sample mean, n is the number of samples and x_i is the sample value of i region.

2. General differences in the economic development of Hainan's cities and counties

In 2016, the GDP of the eastern and western regions of the Hainan Special Economic Zone reached 245.925 billion yuan and 126.564 billion yuan, respectively. Figure 11 reflects the proportions of GDP of the eastern, central and western regions in 2016, which accounted for 61%, 8% and 31% of the province. It can be found that the eastern region plays an important role in the GDP of Hainan, and the western region also plays a significant role, but there is still a big gap between the western region and the central and eastern regions. The GDP growth rates of the eastern, central and western regions in 2016 were 7.8%, 7.2% and 7.0%, respectively. The three regions kept a relatively stable economic growth.

From the perspective of GDP and GDP growth rates of various cities and counties of Hainan (Fig. 12), Haikou City had the largest GDP in 2016, followed by Sanya City. Regional GDPs of the cities and counties were extremely different, and their development was relatively unbalanced.

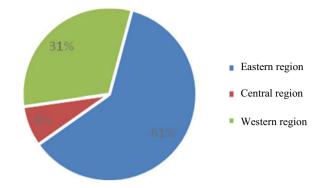


Fig. 11 Proportions of the GDP of the three regions in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

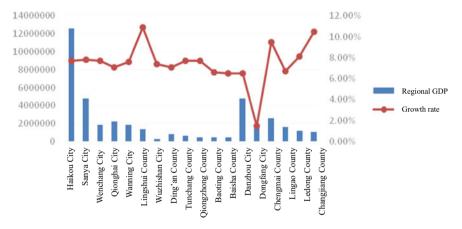


Fig. 12 Regional GDP and growth rates of cities and counties of Hainan in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan *Note* The regional GDP is expressed in units of 10 K yuan

From 2009 to 2016, the coefficient of variation of the GDP of the cities and counties of Hainan (Fig. 13) was significantly larger than 1, revealing big differences in economic development of these cities and counties. The coefficient of variation in 2016 did not change much from the previous two years. It fluctuated between 1.27 and 1.26 and slightly decreased. This indicated that the coefficient of variation of the GDP of the cities and counties of Hainan had a downward trend in general. The gaps in economic development of these cities and counties were gradually narrowing, but the differences and imbalances were still relatively significant and the sustained and balanced development needed to be strengthened.

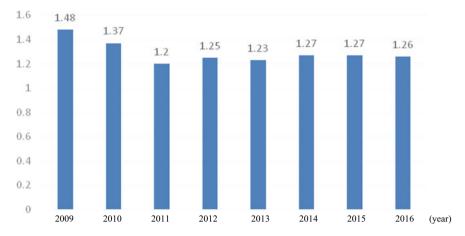


Fig. 13 Changes in the coefficient of variation of the GDP of cities and counties of Hainan from 2009 to 2016. *Data source* Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and the Statistical Yearbooks of Hainan Province in these years

3. General differences in the three types of industries of Hainan

The development of the three types of industries in Hainan Province determines the level of regional economic development of cities and counties to a certain extent. Therefore, the degree of development of the three major types of industries plays an important role in regional economic development. In view of several main indicators of economic development: GDP, per capita GDP, the primary industry, the secondary industry and the tertiary industry (Fig. 14), these cities and counties of Hainan have large differences in GDP, the secondary industry and the tertiary industry. In 2016, the

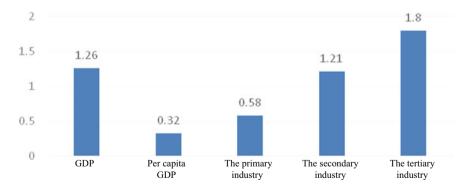


Fig. 14 The coefficient of variation of the main economic indicators of the cities and counties of Hainan in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

coefficient of variation of Hainan's primary industry and per capita GDP was 0.58, which was smaller than 1, revealing that the per capita GDP and the development of the primary industry in cities and counties of Hainan were relatively balanced, with little difference; and that of the secondary industry and the tertiary industry was greater than 1, indicating that the development of the secondary and tertiary industries in Hainan was unbalanced with great differences. In particular, the coefficient of variation of the tertiary industry was 1.8, much higher than 1.26, the coefficient of variation of the provincial GDP. This means that, to a certain extent, the difference in the development of the tertiary industry is the main reason for the unbalanced economic development in various cities and counties of Hainan.

4. General differences in the industrial development of cities and counties of Hainan

In 2016, the added value of industrial enterprises above the designated size reached 44.182 billion yuan in the whole province, seeing an increase of 2.6%. Twelve cities and counties exceeded the provincial average (Figs. 15 and 16). Among them, the growth rates of two counties were higher than 45%, namely Lingshui County, 45.8%, and Ledong County, 45%. The cities and counties with a growth rate above 10% included: Sanya City, 10.0%; Wanning City, 12.5%; Wuzhishan City, 23.0%; Lingao County, 26.0%; and Changjiang City, 18.6%. By regions, in 2016, the added value of industrial enterprises above the designated size in the eastern, western and central

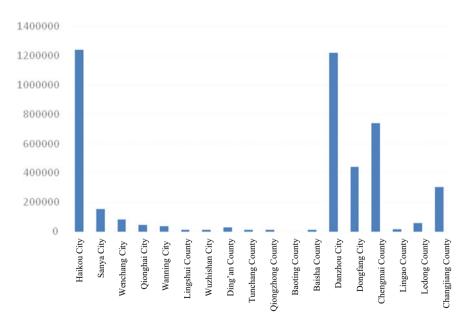


Fig. 15 The added value of industrial enterprises above the designated size in cities and counties of Hainan in 2016 (unit: 10 K yuan). *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

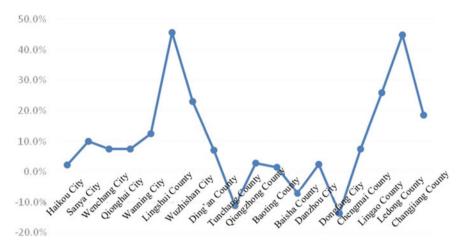


Fig. 16 Increase/decrease of the added value of industrial enterprises above the designated size in cities and counties of Hainan in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

regions increased by 3.1%, 4.4% and 2.5%, respectively. It can be seen that the growth rate of industrial enterprises above the designated size in the western region was faster than that of those in the eastern and central regions in 2016.

The coefficient of variation of the development of industrial enterprises above the designated size in cities and counties of Hainan (Fig. 17) showed a decreasing trend from 2009 to 2016. This indicates that the imbalance in the development of industrial

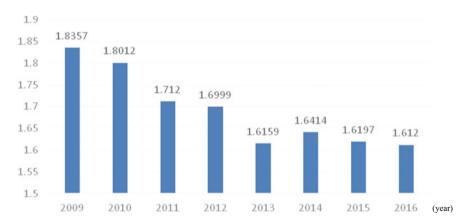


Fig. 17 Changes in the coefficient of variation of the industrial development of cities and counties of Hainan from 2009 to 2016. *Data source* Plotted according to data in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan and in the Statistical Yearbooks of Hainan Province in these years

enterprises above the designated size in cities and counties of Hainan is improving. However, the coefficient of variation was still relatively large, and bigger than 1.6. This means that the cities and counties of Hainan are still in a relatively unbalanced state in industrial development, and the large differences and imbalance have not been eliminated with the decreasing coefficient of variation. Therefore, there is still a long way to go to narrow differences in industrial development of the cities and counties of Hainan Province.

5. General differences in the fixed asset investments of cities and counties of Hainan

In 2016, the value of Hainan's fixed asset investments was 374.703 billion yuan, with an increase of 11.7% over the previous year (Fig. 18). The cities and counties with growth rates of the fixed asset investments exceeding the provincial average (Fig. 19) included: Haikou City, 25.7%; Lingshui City, 16.5%; Tunchang County, 15.6%; Qiongzhong County, 14.1%; Baoting County, 20.8%; and Danzhou City, 17.1%. By regions, the fixed asset investments in the eastern region increased by 15% year on year, while that in the central and western regions increased by 5.5% and 2.8%, respectively. This showed that differences existed in the fixed asset investment of cities and counties as well as central, eastern and western regions of Hainan. The coefficient of variation of the fixed asset investments in cities and counties of Hainan was 1.6243 in 2016, which further pointed out that the fixed asset investments were not balanced and there were big differences among the development of the cities and counties of Hainan.

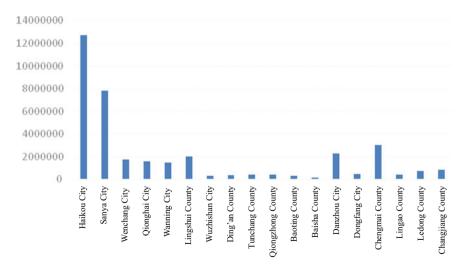


Fig. 18 Fixed asset investments of cities and districts of Hainan in 2016 (unit: 10 K yuan). *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

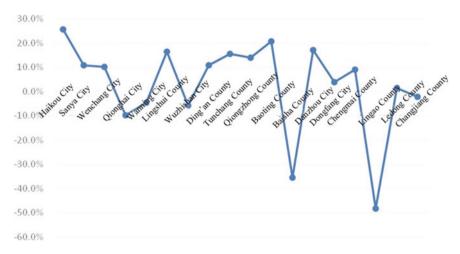


Fig. 19 Increase/decrease in the fixed asset investments of cities and districts of Hainan in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

6. General differences in the consumption of cities and counties of Hainan

In 2016, the total retail sales of consumer goods in Hainan Province was 145.37157 billion yuan, with an increase of 9.7% over the previous year (Fig. 20). The growth rates of 10 cities and counties exceeded the provincial average (Fig. 21): Haikou City, Lingshui County, Baisha County and Wenchang County, 9.8%; Qionghai City, Tunchang City, Dongfang City and Lingao County, 10%; Wanning City, 10.1%; and

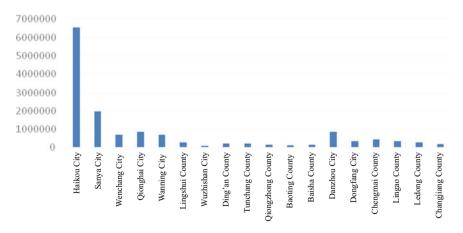


Fig. 20 Total retail sales of consumer goods in cities and counties of Hainan in 2016 (unit: 10000 yuan). *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

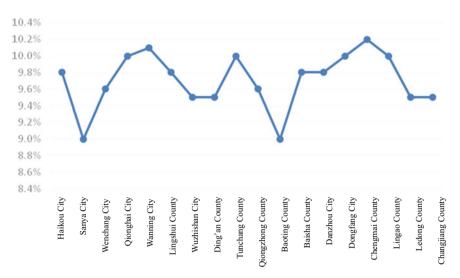


Fig. 21 Growth rates of the total retail sales of consumer goods in cities and counties of Hainan in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

Chengmai County, 10.2%. By regions, the growth rates of the total retail sales of consumer goods in the western and eastern regions were 9.7% and 9.8%, respectively, while that of the central region was 9.6% because Wuzhishan City, Ding'an County, Qiongzhong County and Baoting County were below the provincial average. In addition, compared with the coefficients of variation of industrial investments, fixed asset investments and the level of the economic development of the cities and counties of Hainan in 2016, the coefficient of variation of the total retail sales of consumer goods in 2016 was 1.8046, which was a large value. This means that there were large differences and an imbalance among cities and counties of Hainan.

7. General differences in the financial revenue and expenditure of cities and counties of Hainan

In 2016, the general public budget revenue of Hainan Province was 108.08138 billion yuan, with an increase of 6.5% over the previous year. The local general public budget revenue was 63.75031 billion yuan, seeing an increase of 8.8% over the previous year.

By regions, the public budget revenue of the eastern region was 29.10062 billion yuan, which increased by 8.2% over the previous year; that of the central region was 1.97848 billion yuan, witnessing a decrease of 5.2% from the previous year; and that of the western region was 10.66245 billion yuan, with an increase of 10.5% over the previous year. The cities and counties with a growth rate of local public budget revenue that was faster than the provincial average included: Haikou City, 11.2%; Sanya City, 8.2%; Lingshui City, 11%; Ding'an County, 12.5%; Baoding County, 11.5%; Danzhou City, 10.3%; Chengmai County, 15.8%; Ledong County, 19.8%; and Changjiang County, 12.8% (as shown in Table 1, Figs. 22 and 23).

City/county	Public financial revenue (10 K yuan)	Year-on-year increase/decrease (%)	Public financial expenditure (10 K yuan)	Year-on-year increase/decrease (%)
Haikou city	1155065	11.2	2061748	20.5
The city of Sanya	895772	8.2	1257662	6.2
Wenchang city	135588	6.5	472389	2.7
Qionghai city	154057	-9.7	437360	-2.7
Wanning city	155124	2.3	434596	-5.5
Lingshui city	414456	11	657638	37
Five Fingers Group city	31634	-15.1	164877	1.5
Ding An county	40409	12.5	235107	-8.3
Tuchang county	21297	-17.4	224280	21.4
Qiongzhong county	42946	1.3	346985	59.2
Baoting county	45532	11.5	173646	10.3
Baisha county	16030	-39.6	251952	21.9
Danzhou city	473585	10.3	1087682	-0.5
Dongfang city	146113	1	431229	0.1
Chengmai county	203743	15.8	510094	5.1
Lingao county	41243	-1.7	402356	24.7
Ledong county	101242	19.8	468459	10.5
Changjiang county	100319	12.8	299598	5.8

Table 1 Public financial budget revenue and expenditure and their growth rates in cities and counties of Hainan in 2016

Data source Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

In 2016, the local general public budget expenditure of Hainan Province was 137.83806 billion yuan, with an increase of 10.7% over the previous year. The seven cities and counties with a growth rate of local public budget expenditure that was faster than the provincial average included: Haikou City, 20.5%; Wuzhishan City, 37%; Tunchang County, 21.4%; Qiongzhong County, 59.2%; Baisha County, 21.9%; and Lingao County, 24.7% (as shown in Table 1, Figs. 22 and 23).

Figures 23 and 24 reflect the growth of the coefficient of variation of financial revenue and expenditure of Hainan in recent years. In general, the coefficient of variation of financial revenue in cities and counties of Hainan remained relatively stable from 2009 to 2016. However, the coefficient of variation has still been significantly larger than 1 in recent years, indicating that the cities and counties of Hainan still had big differences in financial revenue. Compared with the change of the coefficient of

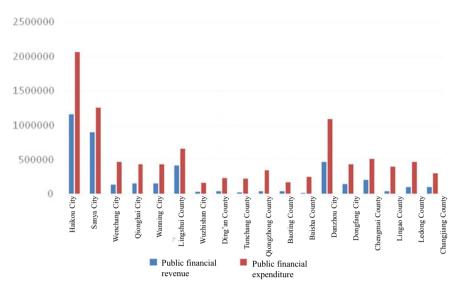


Fig. 22 Total financial revenue and expenditure of cities and counties of Hainan in 2016 (unit: 10 K yuan). *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

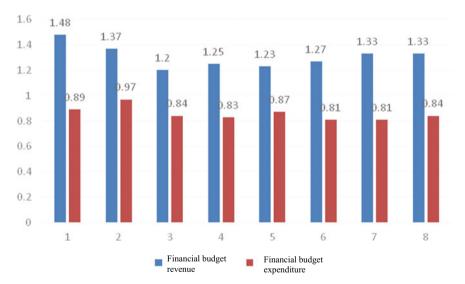


Fig. 23 Changes in the coefficient of variation of the financial revenue and expenditure of cities and counties of Hainan from 2009 to 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

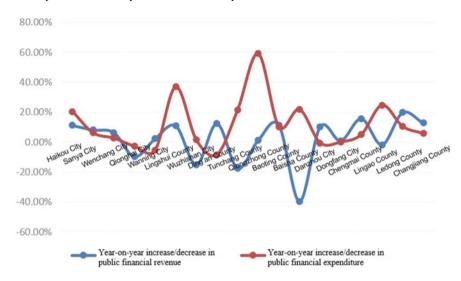


Fig. 24 Growth rates of the total amount of financial revenue and expenditure of cities and counties of Hainan in 2016. *Data source* Plotted according to data in the Monthly Statistics of Hainan in December 2016 and in the 2016 Statistical Communiqué on the National Economic and Social Development of Hainan

variation of Hainan's financial revenue, the coefficient of variation of financial expenditure in cities and counties of Hainan stabilized below 1 from 2009 to 2016. This means that the cities and counties of Hainan were relatively balanced with regard to their financial expenditure.

3 Overview and Suggestions for Economic Development of Hainan in 2016

3.1 Overview for the Economic Development of Hainan in 2016

1. Steady economic development and continual structural optimization

In 2016, faced with the severe and complicated international situation and the downward pressure on the domestic economy, Hainan continued to maintain a steady economic developmental trend, and all of the three types of industries achieved growth. The development of industry and agriculture was relatively stable, and the growth rate of the service sector was remarkable. In the tertiary industry, the modern service sectors, dominated by finance and tourism, had already become the important driving forces and highlights in Hainan's economic development. Also, the economic structure was further optimized. Under the impetus of the supply-side reform,

the emerging services were incubated and developed, and the process of industrial transformation and upgrading was in full swing. In 2016, the service sectors of the province accounted for 53.7% of the GDP, and the rate of their contribution to the overall economic growth reached 71.4%, which increased by 10.0% over the previous year.

2. Rapid growth of investments and improved consumption

In 2016, Hainan's fixed asset investments grew rapidly throughout the whole year and increased by 11.7% over the previous year. It showed a good trend of steady progress beyond the expectations. According to the investment categories, the non-real estate projects were the main driving force for supporting the growth of investments. Their annual amount of investment increased by 18.7%, and the rate of contribution to the total growth of investments was as high as 78.7%. Moreover, in 2016, the total retail sales of consumer goods in Hainan kept a steadily rising trend, the consumption situation improved, and the consumption patterns showed a diversified and popular trend. The growth rate of the mass catering service was impressive and 1.2% points faster than that of the total consumption.

3. Innovation-driven development

Driven by the supply-side structural reform, under the influence of the new idea of "mass entrepreneurship and innovation", in Hainan, the innovative development, coordinated development, green development, open development and shared development were in full swing. In 2016, propelled by the reform and innovation, 12 key industries in Hainan achieved rapid progress and contributed more than 90% to economic growth. At the same time, under the concept of opening up, tourism was comprehensively advanced, and foreign trade was also actively promoted; moreover, the people's livelihood was further improved, residents' employment remained stable, income increased, and the sharing and coordinated development progressed steadily.

4. Unbalanced regional economic development with big differences

For the three major regions of Hainan Province, due to various differences in natural and social development, the imbalance of economic development in these three regions is still very obvious, showing a pattern of "weak in the central region and strong in the eastern and western regions". The eastern region develops best, followed by the western region, but the central region shows the worst performance. The development of cities and counties of Hainan is also extremely unbalanced with big differences. Although the coefficient of variation of major economic development indicators such as regional GDP, fixed asset investments, and the three types of industries in the cities and counties have declined slightly in recent years, they are still greater than 1, indicating that the imbalance between cities and counties has not been effectively improved. The differences and imbalances among cities, cities and counties still exist. This is a stumbling block to the sustainable economic development of Hainan Province. It is also a hindrance to the implementation of

poverty alleviation work and the realization of a well-off society in Hainan. Therefore, narrowing the imbalance in economic development among the different cities and counties and between urban and rural areas is still a big challenge for the development of the Hainan Special Economic Zone, and it is also the top priority of future work.

3.2 Policy Suggestions for Promoting the Economic Development of Hainan

1. Protecting the cultural and ecological environment and improving the quality of the construction of an international island of tourism

Hainan Province has abundant resources and a solid foundation for the development of tourism. It is an essential path for tourism, as a pillar industry of Hainan, seeking new ideas, new developments and new breakthroughs to advance the new development of Hainan and improve the quality of the construction of an international island of tourism. First, the idea for ecological protection of "increasing the green and protecting the blue" is the premise and foundation for the construction of the Hainan International Island of Tourism. Only a good ecological and cultural environment can lay a foundation for the sustainable development of tourism in Hainan. Second, it must seize the opportunity, adhere to the developmental strategy of the Belt and Road and the "free trade zone", and promote the further opening up of and a higher level of development of Hainan. Advanced by many preferential conditions, such as departure tax refund, departure tax exemption and special policies of Yangpu, it will build a comprehensive, embracive and diverse international island of tourism and an ecological free island. Furthermore, as the core tourism area of Hainan, the eastern region should actively pursue the leisurely, individualized and high-end international tourism, integrate the tourism resources of the surrounding cities and counties, construct a tourism industry cluster, and drive the further development of other cities and counties forward.

2. Developing modern tropical agriculture and building new characteristic industries

The best choices for Hainan to achieve sustainable development and a breakthrough are developing modern tropical agriculture and building new characteristic industries based on its advantageous natural resources, unique geographical location and suitable climate and weather. First, to seize the opportunity of the "Internet era", enrich the information resources of industry and agriculture, improve the level of information technology, and create the comprehensive information application platform, information network service platform, detection and control system platform, etc., so that producers, distributors, consumers and managers can obtain timely and effective information and better develop their production and operational activities. Second, in the wave of "supply-side structural reform", to further optimize the product structure

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and improve the quality of industrial and agricultural products. On the one hand, it should continue to adjust the structure of agricultural products according to the needs of domestic and foreign markets, cultivate new varieties, give importance to the quality of products, and create the word-of-mouth modern tropical agricultural brand in Hainan; on the other hand, it must promote further reform and upgrading of the industries of Hainan, optimize the traditional industrial model, build the new type of distinctive industry, support innovative enterprises, and facilitate the sustainable development of industry in Hainan. Third, it should increase investments in science and technology and improve the degree of modernization, standardization and industrialization of agriculture and industry in Hainan. On the one hand, Hainan must support enterprises in establishing R&D centers, laboratories and bases for the transformation of scientific and technological achievements. On the other hand, the universities, scientific institutions and leading enterprises are concentrated to establish a batch of production, university and research integration alliances. Finally, it should pay attention to the construction and development of brands, give full play to the driving effect of leading brand enterprises, create more brand enterprises, incubate a number of brands with a domestic and an international reputation and form the brand effect of Hainan.

3. Giving importance to talent training and introduction mechanism and advancing the construction of high-end talent teams

The structure of talents is an important factor affecting urban development, and high-end talents are the powerful boosters for economic development. In view of the relatively backward development of education and the scarcity of high-end talents, the optimization of the talent training and introduction mechanism and the construction of high-end talent teams are of great significance for the economic development of Hainan. In this regard, Hainan should enhance the mechanism for the introduction of talents, build special funds for talent introduction and high-end talent project funds, improve the treatment of high-end talents, and attract more high-end talents to settle in Hainan. On the other hand, it should pay attention to the mechanism for the training of personnel and strengthen the training of talents according to the characteristics of industrial development, based on universities, research institutes and leading enterprises, so as to build the talent training bases in Hainan and develop various talents that meet the needs of Hainan's development. Meanwhile, it must increase talent exchanges with neighboring provinces and cities, and actively develop talent cooperation, training and exchange programs with economically developed provinces and cities as well as with colleges and universities.

4. Strengthening the management of the SEZs and promoting institutional innovation

As one of China's five major special economic zones, Hainan has many advantages compared with most of the other regions. Therefore, it should continuously strengthen the management of its SEZ, facilitate the institutional innovation, give play to the advantages of special economic zones, and increase the speed of economic development. First of all, as an important node of the Maritime Silk Road, Hainan should

actively make use of the policy advantages of special economic zones, create a good and open business environment, enhance the opening-up, spare no efforts in attracting foreign-funded enterprises and domestic large-scale enterprises, and radiate the developmental tentacles of Hainan to larger areas with the help of internal and external forces. Secondly, Hainan should constantly carry forward the culture and spirits of the SEZ. With the SEZ spirits of "being bold in pioneering, trying and leading", the enterprising atmosphere of the SEZ people should be aroused with the courage for innovation and hard work. At the same time, efforts should be made to foster the SEZ culture with Hainan characteristics. Furthermore, it should promote the institutional innovation of the SEZ, build a good environment for market operations, and improve the construction of comprehensive supporting facilities such as an infrastructure system, a financial market, a fiscal and taxation system, and talent education resources, so that the achievements of development can more and more fairly benefit all of the people of the province.

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Chapter 12 Report on the Development of the Shanghai Pudong New Area



Ping Zhang and Qichao Liu

Abstract In the past five years, under the joint efforts of the broad masses and cadres of the Pudong New Area, the New Area continued to promote innovation-driven development, economic transformation and upgrading, it successfully completed the objectives and tasks of the 12th Five-Year Plan, and prepared for the 13th Five-Year Plan from a high starting point. The year 2016 is the beginning year of the "13th Five-Year Plan". Faced with the macro background of a weak global economic recovery and increasing downward pressure on the domestic economy, the Pudong New Area fully implements the developmental philosophy of innovation, coordination, green, openness and sharing, and actively advances the supply-side structural reform and strives for steady economic development. The reform of the pilot free trade zones and the construction of the technological innovation center are being pushed forward vigorously, shortcomings in people's livelihood and ecological construction are being effectively overcome and thus it has achieved a good start for economic and social development during the "13th Five-Year Plan" and propels the "second-time founding" of Pudong onto a new journey.

Keywords Development and Opening-up \cdot Second-time founding \cdot Innovation \cdot National new area

"The starting point determines the entire journey and the beginning relates to the overall situation." The economic development in 2016, the first year of the 13th Five-Year Plan, is particularly critical to the social and economic development during the 13th Five-Year Plan. During the past year, the broad masses and cadres in the region worked together to overcome difficulties, to continue to intensify reform, improve the level of opening-up, and optimize the industrial structure, thus having achieved a good start for economic and social development. Based on the public data (because the 2017 Statistical Yearbook of the Pudong New Area has not been published yet, the data come mainly from the government work reports and they are supplemented by

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those from media reports, journals and magazines), this paper analyzes the economic development of the Pudong New Area in 2016 and proposes policy suggestions.

1 Trends and General Characteristics of Development

1.1 Steady and Healthy Economic Development and Expected Economic Operations

In 2016, the economy of the New Area maintained a steady and healthy growth. The regional GDP reached 873.184 billion yuan, which was one-third of the city's GDP and 144 times higher than that at the time of the establishment of the New Area. The regional GDP increased by 8.2% year on year, with an average annual growth rate of 9.3% in five years, which was higher than that of Shanghai. By the end of 2016, the resident population of the Pudong New Area was 5.501 million, the per capita GDP exceeded US\$24,000, and the per capita disposable income of residents was 55,776 yuan, with a year-on-year increase of 9.1%; and the per capita GDP and the per capita disposable income of residents reached the level of moderately developed countries. The structure of investments tended to be reasonable and the consumption remained high. The value of fixed asset investments was 182.574 billion yuan, the general public budget revenue reached 96.375 billion yuan, and the total annual sales of goods and the total retail sales of consumer goods were 3,236.1 billion yuan and 203.7 billion yuan, both of which increased by more than 8%. The industrial structure was further optimized. The value of the gross industrial output was 971.016 billion yuan, the added value of the tertiary industry accounted for 74.9% of the regional GDP, the added value of the financial sector accounted for 27.5% of the regional GDP, and the output value of strategic emerging industries accounted for 28.2% of the value of the gross industrial output. The output value of the "three big and three new" industries¹ accounted for 63.2% of the value of the gross industrial output of the New Area. The direct revenue of tourism reached 17 billion with a year-onyear increase of 17%. The level of opening-up was further enhanced. The actual value of foreign investments was US\$7.036 billion, which increased by 8.9% year on year. The annual total volume of imports and exports was 1,759.488 billion yuan, seeing an increase of 4.9% and accounting for 60% of that of the city. Among them, the imports and exports with countries along the Belt and Road reached 19% of the annual total amounts of imports and exports. The headquarters economy continued to develop. Fifteen regional headquarters of multinational corporations were established throughout the year, and 6 Asia-Pacific headquarters were added. The total number of recognized regional headquarters of multinational corporations reached 261.

^{1&}quot;Three big" industries mean electronic information product manufacturing, vehicle manufacturing and complete equipment manufacturing; "three new" industries include bio-pharmaceutics, aerospace and new energy.

1.2 Advancing Innovation-Driven Development and Further Economic Transformation and Upgrading

In 2016, the total number of financial institutions reached 963, including 63 new licensed ones, plus 849 new ones of various types, so a total of 7,563 institutions existed. In the whole year, the balance of deposits and loans of domestic and foreign currencies in domestic and foreign-funded banks located in the New Area increased by 11.2% and 0.5%, respectively. The securities market achieved a turnover of 284 trillion yuan, an increase of 6.6%. The international financial trading platform was advanced in an orderly manner. The international board of the gold exchange was officially launched, and the Shanghai Insurance Exchange was established. For providing financial services to the real economy, the loans of 8.306 billion yuan were granted to 1,303 enterprises, and 973 small and micro enterprises obtained loans of 2.089 billion yuan. Throughout the whole year, 29,942 patents were granted, invention patents accounted for about 50% of the patents granted, and invention patents per 10,000 people were about 44.7 pieces. There were 36 municipal-level public service platforms for science and technology in the New Area, accounting for about 30% of those in Shanghai. The shipping function continued to improve. The passenger throughput of Pudong International Airport was close to 66 million, and the cargo and mail throughput continually ranked 3rd in the world (Fig. 1).

1.3 Guarantee and Improvement of Social Welfare and People's Livelihood

In 2016, 26 schools were newly founded, including 5 junior high schools, 3 primary schools, and 18 kindergartens with 95 classes. In 2016, 150 village clinics were newly built, and the free calibration service of sphygmomanometers in 36 towns

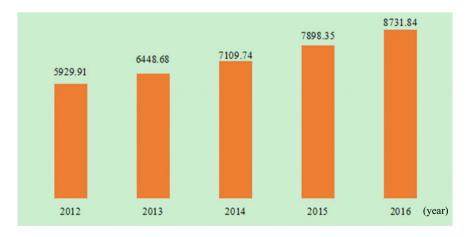


Fig. 1 The GDP of the Pudong New Area from 2012 to 2016 (unit 100 million yuan)

and sub-districts was completed. Twenty vegetable markets were standardized and 2 central vegetable markets and 5 fresh groceries were newly opened. More than 140,000 jobs were provided throughout the year, 42,000 people attended vocational skill training, 1,864 people successfully started a business and 1,180 people were re-employed. Throughout the whole year, 1.966 million people were helped, and 834 million yuan of relief funds were distributed. In 2016, 4 elderly care institutions were established with 1,200 beds, and home-based care services were provided for more than 58,000 elderly people. Moreover, in order to guarantee the cultural and sports activities of residents and facilitate green travel, the New Area built and rebuilt 8 public golf courses, constructed 8 public fitness trails in parks, public green spaces and large residential communities, and 786 public charging stations for electric vehicles were built in the parking lots around hospitals, schools, commercial buildings and residential quarters.

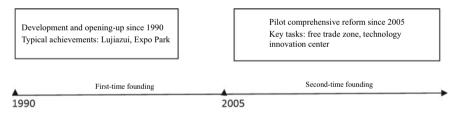
Pudong continued to deepen the comprehensive supporting reforms, and the demonstration effect of the reform of the pilot free trade zones became more apparent. The Pudong New Area further intensified the comprehensive supporting reform for fully expanding the construction of the Shanghai Pilot Free Trade Zone, promoting the construction of the Shanghai Center for Technology Innovation, comprehensively improving the governance capability of the government and enhancing social governance at the grassroots level. In 2016, the pilot reform of "separating certificates from business licenses" was launched, and 116 administrative licensing items were classified and reformed. The "Single Window" version 2.0 was completed and online, the expansion of free trade accounts was further promoted, and the cross-border use of the RMB was further increased. The "industry co-governance + statutory bodies" pilot was launched. In the three years since the establishment of the free trade zone, the "pilot programs" have made remarkable achievements. Over 100 policies have been implemented throughout the country, such as the "negative list of foreign investments, the 'single window' for enterprise access, customs clearance after entry, and centralized declarations for batch entry and exit". The experience of the Shanghai Pudong Free Trade Area was shared with Guangdong, Tianjin and Fujian. The experience of the first four pilot free trade zones was now being shared with the third batch of pilot free trade zones.

2 Metamorphosis of Pudong: Founding for Two Times

2.1 History of Metamorphosis: "Enterprising, Pioneering and Initiative"

The year 2016 is the 26th year of Pudong's development and opening-up. Twenty-six years ago, the development and opening-up of Pudong declared to the world that China would "carry that banner" and "take that road", and then started the first founding of Pudong. In those 15 years, Pudong made a series of remarkable

achievements in economic development, such as Lujiazui and the Expo Park. In 2005, Pudong became the first comprehensive reform pilot area, marking the beginning of Pudong's "second-time founding" with institutional innovation as its core. The requirements of "three focuses and four combinations" indicated that Pudong's reform and opening-up not only stayed on the surface of economic growth, but also institutionalized the results of the reform, so that "Pudong can break through, Shanghai can use and the country can borrow" and finally we achieved the goal of perfecting the socialist system. The China (Shanghai) Pilot Free Trade Zone, established in 2013, marked Pudong's entry into the "free trade era" and its embarkation on a new journey of "second-time founding". The construction of the pilot free trade zone and the Zhangjiang Comprehensive National Science Center, as well as their joint development were the most important tasks for the "second-time founding" of Pudong in the new century. After founding for two times, Pudong realized the metamorphosis from "one bed in Puxi is better than one room in Pudong" to "Shenzhen in the 1980s and Pudong in the 1990s". After 26 years, the Pudong New Area had given a remarkable answer to the world. The Pudong New Area in the new era positioned itself to center around the developmental strategy of Shanghai. During the period of the 13th Five-Year Plan, the Pudong New Area should "decide on orientation instead of quantity", display the "second-time founding spirits" (seizing every minute, gaining a strong foothold in the strong tide; advocating science, openness and inclusiveness), and strive to build itself as the pioneering area of scientific development, the core area of four centers, the pilot area of comprehensive reform, and an open and harmonious ecological area (Fig. 2).



Guideline for the work: "developing Pudong, revitalizing Shanghai, serving the whole country and facing the world"

Fig. 2 Timeline of the twice founding of Pudong

²This refers to the overall deployments of the central government on the pilot reform of the Pudong New Area, that is, focus on changing government functions, focus on transforming the mode of economic operations, and focus on changing the urban-rural dual economic and social structure; the combination of reform with development, the combination of solving local practical problems with conquering common problems, the combination of key breakthroughs and overall innovations, and the combination of economic reform and reform of other social aspects.

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2.2 Sizing up the Situation and Identifying a New Orientation for the Reform and Opening-up

In the early stage of Pudong's development and opening-up, it established a guideline for the work of "developing Pudong, revitalizing Shanghai, serving the whole country and facing the world", which indicated Pudong's orientation towards Shanghai and even towards the whole country. The 14th National Congress of the Communist Party of China proposed the developmental strategy of "led by Pudong, driving the construction of an international economic center, international financial center and international trade center in Shanghai", namely "one leader and three centers". Shanghai put forward a request for Pudong that "Shanghai should take one step ahead, but Pudong should take one more step ahead". In 1996, according to the goal that "Shanghai should become an international shipping center" as required by the State Council, the international shipping center was added and it became "one leader and four centers". That is, Shanghai should become "the leader of reform and opening-up, the pioneer of innovation and development", but Pudong should become the "leader of the leader and the pioneer of the pioneer".

2.3 From Back to Forward, Pudong Becomes the Leader of Reform and Opening-up

From the development and opening-up of Pudong in 1990 to the Pudong New Area being the first national-level comprehensive reform pilot area in 2005, during the 15 years of first-time founding, Pudong entrepreneurs implemented the guideline of work and were afraid of no hardships and hard work, thus making remarkable achievements in the world. The economic strength was continuously enhanced. The GDP of Pudong increased from 6 billion yuan in 1990 to 210.879 billion yuan in 2005, and the growth reached 34 times. In these 15 years, the gross industrial output value of Pudong increased from 17.685 billion yuan to 424.247 billion yuan in 2005, increasing by nearly 23 times. The investment and consumption potentials were unlocked, and the fixed asset investments and the total retail sales of consumer goods increased by 48 times and 24 times, respectively. The industrial structure was continuously optimized and the financial sector developed rapidly. The proportions of the added values of both the tertiary industry and the financial sector in the regional GDP doubled. International trade developed rapidly, and the total volume of imports and exports increased by nearly 30 times. In 1996, when Shanghai expanded its developmental strategy from "three centers" to "four centers", Pudong strengthened its shipping function accordingly and doubled the port cargo throughput, thus making its due contribution to building Shanghai as an international shipping center.

After 26 years of development and opening-up, Pudong's GDP grew from 6 billion yuan in 1990 to 873.184 billion yuan in 2016, witnessing an increase of nearly 145 times. The financial revenue increased from 1 billion yuan in 1990 to more than 300

billion yuan, and the local financial revenue increased from 0.5 billion yuan in 1990 to more than 100 billion yuan. In 2016, the growth rate of the total amount of the financial revenue of the Pudong New Area was significantly higher than that of local finance. It revealed that Pudong indeed had realized what had been established in the guideline of work, that is of "developing Pudong, revitalizing Shanghai, serving the whole country and facing the world" during the development and opening-up. Not only was its economic strength enhanced, but it had also made great contributions to the city and the country. In the course of development, Pudong gave importance both to quantity and quality. The planned area of the Pudong New Area continually increased and reached 1,201.41 square kilometers in 2016, with a concentrated urbanization area of 260 square kilometers. A total of nearly 100 million square meters of various types of buildings were built, and the rate of green coverage of the built-up areas increased from 5% in 1900 to 37% in 2005 and around 36% in 2016. The economy had been developed and the living environment had been improved (Table 1).

Table 1 Economic developmental data of the Pudong New Area for some years

•	_		•	
	1990	1997	2005	2016
Land area (km ²)	350	522.75	522.75	1210.41
Total population at the end of year	1339400	1534000	2791900	5501000
GDP (billion yuan)	6.0	60.822	210.879	873.184
Gross industrial output value (billion yuan)	17.685	134.901	424.247	971.016
Proportion of the added value of the tertiary industry	20.1%	37.2%	48.9%	74.9%
Proportion of the added value of the financial sector	5.1%	11.4%	11.8%	27.5%
Fixed asset investments (billion yuan)	1.415	50.436	69.361	182.574
Total retail sales of consumer goods (billion yuan)	1.428	16.223	35.369	203.7
Per capita GDP (yuan)	4498	39949	75532	158731
Per capita disposable income of urban residents (yuan)			19089	55776
Per capita disposable income of rural residents (yuan)			9779	
Total volume of imports and exports (billion USD)	2.992	9.901	89.475	1759.488
Rate of green coverage	5.5%	18.24%	37.80%	36%
Port cargo throughput (×10 ⁴ t)		7417	22470	32000
Container throughput (TEU)			2509.8	3500
Passenger throughput (person•time)			40410000	66000000
Cargo and mail throughput (×10 ⁴ t)			322	344

Note The rate of green coverage, port cargo throughput and container throughput in 2016 are estimated values

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3 Pudong Among the National New Areas

In April 2017, the news of the establishment of the Xiong'an New Area once again turned our attention to the "national new areas", the comprehensive functional areas that undertake a major strategy of development of the country. From the establishment of the Pudong New Area in 1992 to the end of 2016, the country had 18 national new areas, plus the Xiong'an New Area established in April 2017, so there were 19 national new areas, each of which had different strategic orientations and historical missions (Table 2).

Table 2 Overview of China's 19 national new areas

New area	Time of establishment	City	Planned area (km ²)	Status and missions
Pudong New Area	11 October 1992	Shanghai	1210	Pioneering area of scientific development, core area of the four centers, pilot area of comprehensive reform, and open and harmonious ecological area
Binhai New Area	26 May 2006	Tianjin	2270	Gateway to the opening-up of Northern China
Liangjiang New Area	May 05, 2010	Chongqing	1200	The central government designated five strategic orientations for the new area, including advanced manufacturing and a modern service center, etc.
Zhoushan Archipelago New Area	June 30, 2011	Zhoushan	1440	Pioneer area in leading the oceanic economic development of Zhejiang, comprehensive oceanic development pilot area, an important new growth engine for the Yangtze River Delta economic zones
Lanzhou New Area	20 August 2012	Lanzhou	1700	Promoting the economic development of Gansu Province and the neighboring areas, expanding western development and carrying out China's westward opening-up
Nansha New Area	06 September 2012	Guangzhou	803	Building a demonstration area for Guangdong-Hong Kong-Macao cooperation
Xixian New Area	06 January 2014	Xi'an and Xianyang	882	Building Xi'an into a modern city with cultural characteristics

(continued)

Table 2 (continued)

New area	Time of establishment	City	Planned area (km ²)	Status and missions
Guian New Area	06 January 2014	Guiyang and Anshun	1795	Exploring new paths of underdeveloped areas, accelerating institutional innovation
West Coast New Area	03 June 2014	Qingdao	2096	Dual missions of maritime power and reform and opening-up
Jinpu New Area	June 23, 2014	Dalian	2299	Further deepening cooperation with Northeast Asian countries in various fields
Tianfu New Area	02 October 2014	Chengdu and Meishan	1578	Gateway for inland opening, city suitable for business, work and residence, high-end industrial base, demonstration area for coordinated urban and rural development
Xiangjiang New Area	08 April 2015	Changsha	490	Construction of high-end manufacturing, R&D and forwarding base and innovation and entrepreneurial industry cluster area, integration of industries and city, gateway to the opening-up of the Yangtze River Economic Belt
Jiangbei New Area	June 27, 2015	Nanjing	2451	The establishment and construction of the Nanjing Jiangbei New Area is of great significance for advancing the construction of the Yangtze River Economic Belt and creating a new growth pole in the eastern coastal areas
Fuzhou New Area	30 August 2015	Fuzhou	1892	An area for deepening cross-strait exchanges, a door for further opening-up, a base of modern industries in Southeast China as well as a pilot area for reform and innovation and eco-civilization
Dianzhong New Area	07 September 2015	Kunming	482	An important fulcrum for radiation over Southeastern Asia, a key economic growth pole in Yunnan, and a new comprehensive pilot area of urbanization in western China

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Table 2 (continued)

New area	Time of establishment	City	Planned area (km ²)	Status and missions
Harbin New Area	16 December 2015	Harbi	493	An engine for carrying out comprehensive China-Russia cooperation, boosting economic development in Northeastern China and transforming old industrial bases
Changchun New Area	02/03, 2016	Changchun	499	Building into a demonstration area for innovative economic development, an important engine for the new round of revitalization in Northeastern China, a key platform for cooperation and development in the Tumen River region, and a pilot area for institutional reform
Ganjiang River New Area	June 14, 2016	Nanchang and Jiujiang	465	An important fulcrum for the rise of central China and the Yangtze River Economic Belt, leading area of innovation in the province, pioneer area of opening up, pilot area of reform, demonstration area for cooperation and an important growth pole of development
Xiong'an New Area	April 1, 2017	Baoding	2000	Carrier of non-capital functions of Beijing and modern new urban area guided by a new philosophy of development

Note The planned areas of the Zhoushan Archipelago New Area and the West Coast New Area refer only to the land area, excluding the planned sea area

3.1 Optimized Spatial Layout and Balanced Distribution of National New Areas

With regard to the jurisdiction, the new areas were established in both eastern coastal cities and central and northeastern cities; in terms of time, after the establishment of the first national level Pudong New Area in 1992, no more new areas were set up for 14 years. Afterwards, especially after 2014, the establishment of new areas is accelerating, such as 5 in 2014 and 2015 each and 2 in 2016. The new areas established after 2014 are mostly located in the central and western regions. According to the geographical distribution of new areas, they show a tendency to spread from the eastern to the central, western and northeastern regions. The eastern region has eight national new areas: the Xiong'an New Area, the Tianjin Binhai New Area,

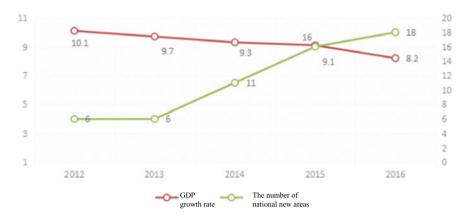


Fig. 3 The GDP growth rate of the Pudong New Area and the number of national new areas from 2012 to 2016

the Qingdao West Coast New Area, the Nanjing Jiangbei New Area, the Shanghai Pudong New Area, the Zhejiang Zhoushan Archipelago New Area, the Fuzhou New Area and the Guangzhou Nansha New Area; the western region has 6 national new areas: the Chongqing Liangjiang New Area, the Sichuan Tianfu New Area, the Yunnan Dianzhong New Area, the Shaanxi Xixian New Area, the Guizhou Guian New Area and the Gansu Lanzhou New Area; the central region has two national new areas: the Jiangxi Ganjiang River New Area and the Hunan Xiangjiang New Area; and the northeastern region has three national new areas: the Harbin New Area, the Changchun New Area and the Dalian Jinpu New Area. From the perspective of strategic orientations and missions, new areas are established to meet the needs of economic development, especially in order to integrate regional resources, promote regional development, renew the vitality and motivation of local economic development, and increase innovative competitive advantages. The significance of setting up new areas during the "12th Five-Year Plan" and in the future lies in focusing on the Two Centenary Goals and under the reality of the new normal economic development, looking for new developmental systems and mechanisms and promoting the reform and innovation of the system of governmental management. In the background of the sharp increase in the number of new areas, the unique policy advantages and functions of the Pudong New Area are bound to be affected (Fig. 3).

3.2 Efficient Economic Development of the Pudong New Area

According to statistics, in 2016, 18 national new areas, with around 0.2% of the country's land and population, produced a regional GDP of nearly 4 trillion yuan, which was 5.4% of the national GDP, thus becoming important growth poles for

facilitating social and economic development. It can be seen from Table 3 that the economic aggregate of the Binhai New Area, the Pudong New Area, the West Coast New Area and the Liangjiang New Area ranks the top four among the 19 national new areas. The Binhai New Area and the Pudong New Area are the top two areas. The Binhai New Area has a GDP of more than one trillion yuan, ranking first among all new areas and also the first national new area achieving a GDP of over one trillion yuan. Its per capita GDP is more than 330,000 yuan and reaches the level of developed countries and regions. Although the GDP of the Pudong New Area ranks in second place, its GDP per unit area is 722 million yuan, which is the highest among the national new areas. As far as the growth rate is concerned, except the Xiong'an New Area, all of them have achieved medium and high-speed development and most of them exceed the GDP growth rate of the provinces and cities where they are located. The Lanzhou New Area, the Guian New Area and the Nansha New Area have achieved the fastest growth. Due to the low GDP base of the Lanzhou New Area and the Guian New Area, there is no comparability; and the growth rate of the Xiong'an New Area is negative, but it is still in the planning and is not comparable.

Table 3 GDP and GDP growth rate of some national new areas

New Area	Regional GDP in 2016 (100 M yuan)	Regional GDP in 2015 (100 M yuan)	GDP growth rate in 2016 (%)
Binhai New Area	10002.31	9270.31	10.8
Pudong New Area	8731.84	7898.35	8.2
West Coast New Area	2871.07	2594.73	12.3
Liangjiang New Area	2261.00	2020.00	10.9
Jinpu New Area	2250.00	2166.80	7.0
Tianfu New Area	1958.00	1811.00	8.1
Jiangbei New Area	1839.63	1465.00	8.5
Xiangjiang New Area	1801.12	1602.53	11.0
Nansha New Area	1278.76	1133.07	13.8
Zhoushan Archipelago New Area	1228.51	1094.70	11.3
Changchun New Area	1035.00	912.00	13.5
Ganjiang River New Area	582.30	570.00	2.2
Dianzhong New Area	501.11	522.00	8.8
Guian New Area	240.00	170.60	40.6
Langzhou New Area	151.66	125.53	20.8
Xiong'an New Area	200.55	212.19	-5.5

3.3 South and North, Taking the Lead

Among the national new areas, the Binhai New Area and the Pudong New Area, as "south and north, taking the lead", are often compared. In terms of economic aggregate, the GDP of the Binhai New Area is 127.047 billion yuan more than that of the Pudong New Area, almost equal to the GDP of the Nansha New Area in 2016. The per capita GDP of the Binhai New Area is more than double that of the Pudong New Area. When observing the economic development of an area, we pay more attention to the economic structure, developmental quality and potential, not just the economic aggregate. Regarding the economic structure, in 2016, the added value of the tertiary industry in the Pudong New Area accounted for nearly 75% of the regional GDP and the output value of strategic emerging industries accounted for 28.2% of the value of the gross industrial output. The composition of the three types of industries in the Binhai New Area in 2016 was 0.1:59.4:40.5, the secondary industry accounted for nearly 60%, and the output values of high-tech and strategic emerging industries accounted for 18.8 and 22.6% of the value of the gross industrial output, respectively, which were at a relatively low proportion. The pressure on economic adjustment and transformation was also large. In contrast, the industrial structure of the Pudong New Area is more reasonable and higher-end. As for economic efficiency, the fixed asset investments of the Pudong New Area and the Binhai New Area in 2016 were 182.6 billion yuan and 460.9 billion yuan, respectively. In the past three years, the fixed asset investments in the Pudong New Area accounted for 24.8, 22.4 and 20.9% of the output value and that of the Binhai New Area was 66.0, 64.9 and 46.1%. That of other new areas was close to or greater than 1 except for the Nansha New Area, which was close to 66%. It can be found that except for the Pudong New Area, most new areas have not completely gotten rid of the investment-driven growth model. With regard to independent innovation, the total research and experimental development expenditures of the Pudong New Area was equivalent to 3.65% of the GDP, while that of the Binhai New Area was 2.7%, nearly one percentage point lower than the Pudong New Area. Accordingly, although the GDP of the Binhai New Area exceeded that of the Pudong New Area, Pudong was slightly better in terms of economic quality and efficiency. The main reason for the above differences lies in their different orientations. The Pudong New Area is oriented as a "pioneering area of scientific development, the core area of the four centers, a pilot area of comprehensive reform, and an open and harmonious ecological area", while the Binhai New Area is positioned as the "gateway to the opening-up of Northern China". Therefore, in addition to the shipping center, the Pudong New Area is positioned as the core area for the international finance in Shanghai, while the Binhai New Area is positioned as the manufacturing center of Northern China.

4 Policy Suggestions

Against the background of the "new normal", the Pudong New Area should accelerate the transformation of government functions with the pilot free trade zone, further enrich and enhance the connotation of the construction of the pilot free trade zone and the comprehensive reform pilot area, and strengthen the joint development of the pilot free trade zone and the "four centers", the center for technology innovation, and national strategies concerning the Belt and Road and the Yangtze River Economic Belt. With the intensification of the supply-side structural reform as the driving force, it should accelerate the transformation of economic functions from speed and size to quality and efficiency, and ensure sustained, stable and healthy economic and social development.

4.1 Driving Reform Forward by Opening up and Further Expanding the Strategy of Pilot Free Trade Zones

The Pudong New Area should further comprehensively and thoroughly promote the construction of the pilot free trade zone, further expand the pilot of "separating certificates from business licenses" and bring about innovations to the "single window" function. It must further bring about innovations to the regulation system of "firstline liberalization, second-line safety and high-efficiency management, and freedom in the area". Customs and state inspection departments should further bring about innovations to the customs clearance procedures such as "customs declaration and inspection after entry" and "ten inspections and releases" so that the foreign trade process becomes further streamlined. It should improve the capability for financial services to the real economy, fully implement the financial reforms of "51 points" and "40 points", take the lead in piloting and innovating the application of various financial policies, strengthen the regulation of the financial sector and improve the processes of risk warning, investigation and disposal. It should further intensify the comprehensive reform in key areas and perfect the governance system of the government. The construction of "Pudong New Area's comprehensive regulation platform during and after the event" and the "Pudong New Area Public Credit Information Service Platform" should be further enhanced to promote the open sharing of credit information by the government and the public. It should further deepen and improve the lists of government powers and responsibilities and fully remove administrative matters that restrict the vitality of market entities, so that the operation of the government's administrative powers is open and transparent.

4.2 Driving Development by Innovation and Further Focusing on the Construction of the Core Functional Area of the Center for Technology Innovation

The Pudong New Area should further optimize the comprehensive environment for scientific and technological innovation and accelerate the transformation of Zhangjiang from a technology park to a science city. It should promote the construction of a comprehensive scientific research and test base with Zhangjiang Science City as the core and the Lingang area as the main supporting area, and give full play to the advantages of "the connection of the free trade area with the independent innovation area". The pattern and function of the parks should be fully enhanced and the organic integration of science and technology, industry, population and space should be advanced, thus implementing the "double special policy" of Lingang, building the functional platforms for scientific research support and collaborative innovation, and impelling the development of smart manufacturing. It should construct a comprehensive service system for science and technology and encourage private enterprises to set up R&D centers. The innovation to the science and technology management system should be expanded by improving the government-led, market-oriented technology investment and financing system, and actively exploring the establishment of a five-in-one financial technology investment system for "investments, loans, insurance, awards and subsidies". The comprehensive talent service should be further optimized and the pilot system of overseas talents entering and exiting the country as well as the "joint handling of multiple certificates" should be implemented. It should promulgate a new round of talent policy of the Pudong New Area, and construct a batch of international scientists' apartments, innovative entrepreneurial communities, and international communities.

4.3 Driving Rural Areas by Urban Areas and Further Promoting the Integrated Development of Urban and Rural Areas

The social capitals are driven by government investments. Through vigorously advancing the key projects of infrastructure, social undertakings, and people's livelihood, the Pudong New Area can effectively improve people's livelihood, continually narrow the gap of development between urban and rural areas, further promote balanced and coordinated development of urban and rural areas, and push forward the reconstruction of 15 "villages in the city". It should accelerate the construction of transportation infrastructure, improve the suburban system of the treatment of rainwater, and enhance the ability of flood control, drainage and pollution treatment in rural areas. The allocation of public resources should be optimized, the school district and group-based school-running mode needs to be expanded and the balanced layout of community health service institutions should be accelerated. The adjustment of

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the agricultural industrial structure should be expanded to promote the development of modern urban agriculture, and the metropolis-type of rural tourism should be actively developed on the carriers of Disney and ancient towns. It should improve the social security and governance system, enhance employment services, increase the operating, property and wage income of farmers, and optimize the structure of their income. The multipartite participation of community governance should be strengthened and the system of qualified suppliers of elderly care services should be advanced.

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Chapter 13 Report on the Development of the Tianjin Binhai New Area



Tong Li

Abstract The year 2016 is the beginning year of China's "13th Five-Year Plan". The Tianjin Binhai New Area earnestly implemented the coordinated developmental strategy of Beijing-Tianjin-Hebei, actively adapted to the new normal of economic development, positively participated in the Belt and Road Initiative, and accelerated the construction of the pilot free trade zone. It undertook the mission of accepting the transfer of non-capital functions of Beijing, embraced the coordinated development in industrial innovation, traffic integration, protection of the ecological environment and other fields with Beijing and Hebei, and has achieved a series of major breakthroughs. This paper analyzes the overall developmental characteristics of the Tianjin Binhai New Area in 2016 and the developmental orientation and advantages of the seven functional zones, it highlights the leading role of the eight pillar industries, analyzes the challenges faced by the New Area in industrial transformation, basic public services, and prevention and control of ecological environmental pollution and puts forward some policy suggestions.

Keywords Tianjin binhai new area · Beijing-Tianjin-Hebei coordinated development · Functional zones · Superior industries

The year 2016 is the first year of China's "13th Five-Year Plan". The Tianjin Binhai New Area conscientiously adopted the national strategy of Beijing-Tianjin-Hebei Coordinated Development, continued to advance the depth and breadth of reform and opening up, enhanced the momentum of development, closely centered around the functional orientation of the Binhai New Area and continuously achieved breakthroughs and new development. In 2016, the national strategy of Beijing-Tianjin-Hebei Coordinated Development continued to be an advanced type of development. The New Area actively adapted to the new normal of economic development, implemented the coordinated developmental strategy during the whole process of its development, positively participated in the Belt and Road Initiative and accelerated the construction of the pilot free trade zone. It undertook the mission of accepting the

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transfer of non-capital functions of Beijing, fully docked and cooperated with Beijing and Hebei and achieved a series of major breakthroughs in industrial innovation, transportation integration, ecological environmental protection and other fields. The construction of key projects in Tianjin Binhai, such as the Zhongguancun Science Park, the Tianjin Future Science and Technology City, the Beijing-Binhai Intercity Railway, and port resource optimization of Tianjin and Hebei, it took important steps, and the joint cooperation in regional air and water pollution prevention achieved good results. The Beijing-Tianjin-Hebei regional integration customs clearance mode, searail intermodal transportation and air-rail intermodal transportation services extended to the hinterland of Beijing and Hebei and the radiation capacity was significantly enhanced. The structural reform of the supply side was enhanced to stabilize growth, adjust structure and promote transformation, thus significantly improving the quality and efficiency of development. The Binhai New Area maintained a rapid pace of growth in terms of industrial structure, social undertakings and people's livelihood, and had made a good start for the 13th Five-Year Plan.

Based on the economic data of the Binhai New Area in 2016, this paper analyzes the important indicators affecting the development of the national economy, makes an analysis of the problems and challenges in the economic development of the Tianjin Binhai New Area in 2016 and puts forward some corresponding policy suggestions.

1 Overall Situation and Developmental Characteristics of 2016

In 2016, the Binhai New Area took the initiative to adapt to the new normal of economic and social development. By virtue of Beijing-Tianjin-Hebei Coordinated Development, it actively integrated into the construction of the Belt and Road and seized the rare opportunity of the Tianjin Pilot Free Trade Zone to accelerate the construction of infrastructure and innovations to institutional mechanisms and realize steady economic growth. After surpassing 900 billion yuan in 2015, the GDP of the Binhai New Area in 2016 exceeded one trillion yuan for the first time, reaching 1,000.231 billion yuan, seeing an increase of 10.8% over the previous year at comparable prices, and increasing from 54.5% of Tianjin in 2010 to 55.92% in 2016. The proportion was slightly reduced, but still at a relatively high level. The polarization effect of the Binhai New Area as the driving force for economic growth of northern China continues to be strengthened (Fig. 1).

The New Area actively responded to the request of the Central Committee of the CPC, seized the opportunity of transferring the non-capital functions of Beijing, introduced key enterprises with high technology content and a large scale of investments, comprehensively promoted cooperation with central enterprises in Beijing and further optimized the industrial structure of the New Area. From the perspective of the structure of the three types of industries, the total value of agricultural output was 3.047 billion yuan, with an increase of 2.4%, and the level of agricultural

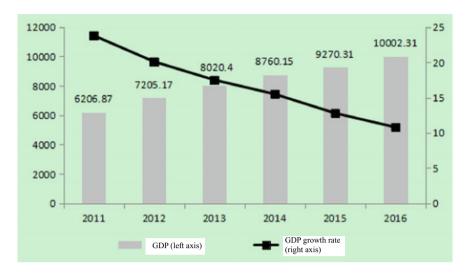


Fig. 1 Changes in the GDP and growth rates of the Binhai New Area from 2011 to 2016

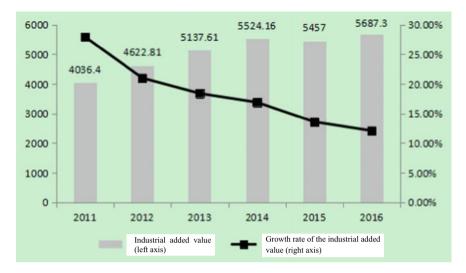
science and technology continued to improve. The area had 9 municipal-level agricultural science parks and 7 district-level agricultural industry demonstration zones. The output of agricultural and sideline products such as grains, milk, poultry and eggs increased by more than 20%. It continued to advance towards the construction goals of "powerful agriculture, rural beauty and wealthy farmers".

The industrial sector continued to play a leading role in leading enterprises and superior industries and maintained a steady growth during the process of restructuring and transformation. The total output value of industrial enterprises above the designated size reached 1.56 trillion yuan, a slight increase compared with the previous year. The industrial added value was 568.73 billion yuan, witnessing an increase of 12.1% at comparable prices. As can be seen from Fig. 2, the gross industrial added value rebounded and showed signs of stabilization. The entire New Area planned to promote key projects to drive industrial restructuring. In the year, there were 378 newly launched projects such as FAW-Volkswagen North China Base, Toyota New Factory and Wanda Plaza. A total of 212 projects were completed, 120 projects had a total investment of more than 1 billion yuan, and the completed investment amount was 94.7 billion yuan.

In 2016, the added value of the tertiary industry in the Binhai New Area accounted for 40.5% of the GDP, with a year-on-year increase of 3.1%, and 7% points higher than 2014. Focusing on serving advanced manufacturing, increasing support for productive services, and relying on innovative financial business patterns for serving the real economy, the Binhai New Area gradually established a financial service system that serves the development of the real economy. In 2016, the financial sector of the New Area achieved an added value of 60.14 billion yuan, accounting for 6%

¹The Tianjin Binhai New Area Statistics Bureau (2016).

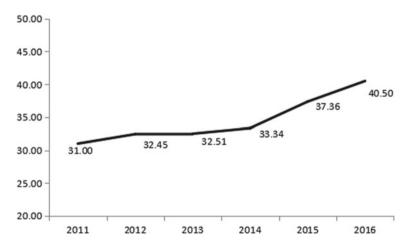
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 $\textbf{Fig. 2} \quad \text{Changes in the industrial added value and growth rates of the Binhai New Area from 2011 to 2016$

of its GDP. It almost doubled compared with 2013, and the trend of serving the real economy has become more obvious (Fig. 3).

In 2016, the general public budget revenue of the Binhai New Area increased from 43.541 billion yuan in 2010 to 133.805 billion yuan, which means an increase of 13.1% and 1.5 times that of 2013. The proportion of the public budget revenue in the GDP continued to increase (Fig. 4). Among them, the tax revenue was 75.844



 ${f Fig.~3}$ Proportions of added value of the tertiary industry of the Binhai New Area from 2011 to 2016

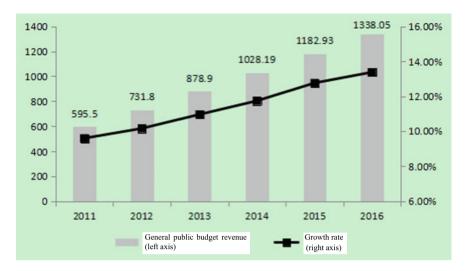


Fig. 4 Changes in the general public budget revenue and the proportions of the Binhai New Area from 2011 to 2016

billion yuan, with an increase of 14.1%; and the non-tax revenue was 57.97 billion yuan, with an increase of 11.8%.

In 2016, the per capita disposable income of urban residents in the New Area was 42,869 yuan, witnessing an increase of 9.2%, which was 0.9% points less than the previous year. The per capita disposable income of rural residents was 20,719 yuan, with an increase of 8.8%, which was 0.2% points less than the previous year. The total retail sales of consumer goods was 122.857 billion yuan, with an increase of 3.7%. In 2016, the value of the fixed asset investments was 460.9 billion yuan, which was 9.6% more than the previous year, but the year-on-year growth rate decreased by 4.4% points. Among them, the value of the investments in the tertiary industry was 400.346 billion yuan, which was 24.8% more than the previous year and accounted for 86.9% of the total investments of the entire New Area. Its proportion increased by 15.3% points as compared with the previous year. While the total value of investments dropped significantly, the fixed asset investments in the tertiary industry increased substantially, and the characteristics of restructuring were obvious. It can be seen from Fig. 5 that the proportion of fixed asset investments in the tertiary industry accounts for more than half of the total investments, manufacturing investments account for only 7%, real estate development investments account for 11%, and the fixed asset investments show a clear trend of transition to the service industry.

In 2016, there were 26,286 high-tech SMEs with an increase of 4,462 in quantity; and 1,632 national level high-tech enterprises with an increase of 512 in quantity. A total of 429 R&D centers above the city level, 48 maker spaces, and 28 industrial technology innovation alliances had been established, including 19 national level

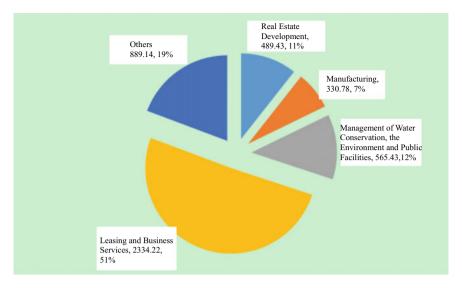


Fig. 5 Structure of the fixed asset investments of the Binhai New Area in 2016

maker spaces. Together with 6 national level technology industrialization bases, the innovation capability of the New Area was significantly improved.²

1.1 Optimizing the Industrial Structure by Means of Beijing-Tianjin-Hebei Coordinated Development and the Transfer of Non-capital Functions of Beijing

After the *Outline of the Plan for Coordinated Development for the Beijing-Tianjin-Hebei Region* has escalated to become an important national strategy for more than a year, the region has made substantial progress in key areas such as industrial upgrading, transportation integration, and ecological environmental protection. By the end of 2016, the Binhai New Area had introduced 1,021 key projects from Beijing and Hebei with a total investment value of 135.4 billion yuan. In October 2016, the municipal governments of Beijing and Tianjin signed agreements to speed up the construction of the Binhai-Zhongguancun Science Park, explore and make breakthroughs in areas of space, administrative management, talent introduction and innovation policies and actively divert high-tech enterprises from Zhongguancun in the fields of mobile internet, cultural creativity, biomedicine, integrated circuits and high-end manufacturing. Taking the opportunity of comprehensive cooperation between Beijing and Tianjin, centering on eight pillar industries and major science and technology projects, the Binhai New Area attracts the upstream and downstream enterprises and

²The Tianjin Binhai New Area Statistics Bureau (2016).

superior enterprises in the same industries to settle in, and promotes the integrated regional economic development of Beijing, Tianjin and Hebei. The New Area will increase investments in supporting the development of high-tech enterprises, building of incubation carriers and service platforms, cooperation on science and technology and the conversion of research results, and the construction of an innovative and entrepreneurial environment, attract high-tech SMEs from Zhongguancun, and offer all-around services of taxation, fund support, financing and loans, house leases and employee household registration for those enterprises settling in.³

By seizing the opportunities of resource transfer from the capital and the Beijing-Tianjin-Hebei Coordinated Development, the Binhai New Area accelerates the construction of another important science and technology project, the Tianjin Future Science and Technology City. The project initially plans to occupy a land area of 145 square kilometers and it plans also to undertake the projects that convert the results of technology R&D from Beijing and build a high-end manufacturing base. In the next ten years, the Tianjin Future Science and Technology City will strive to construct strategic heights that gather high-level technological talents at home and abroad and become a global innovative and entrepreneurial center and a high-tech industrial base. It promotes the clustering of human resources and R&D institutions, facilitates the transformation of scientific and technological achievements, and provides support in subsidies for the investment in infrastructures, housing and interest subsidies, R&D subsidies, corporate income tax reduction, awards for national key laboratory construction, as well as funds and policies for the transformation of national level key technological achievements. In the future, it will become an important platform to which Beijing can transfer its non-capital functions and the most convenient high-tech clustering area for the outbound movement of technological innovative enterprises from Beijing.

In addition to the field of science and technology, transportation integration is also an important guarantee for Beijing-Tianjin-Hebei Coordinated Development. In 2016, the Beijing-Binhai Intercity Railway proceeded to its construction period. As an important intercity express railway on the Bohai Economic Rim and the Beijing-Tianjin-Hebei region, its completion will definitely drive the development of related industries, improve the transportation and investment environment along the route, reduce the space-time distance, advance the spatial optimization and quality improvement of the Beijing-Tianjin-Hebei city cluster, give full play to their respective comparative advantages, rationally allocate resources, promote industrial integration and regional coordinated economic growth, facilitate industrial upgrading and structural adjustment, propel the prosperity of economic node cities in the region and integrated regional economic development and play the radiation role of the regional economy. In the meantime, the opening of the inter-city railway has also enhanced the clustering effect of zones of economic development and industrial parks along the route, which are of vital importance to the integrated development of Beijing-Tianjin-Hebei.

The protection of the ecological environment is also a top priority of the Beijing-Tianjin-Hebei Coordinated Development. For more than one year, it has promoted the

³Yan (2016).

joint prevention and control of the ecological environment. With green leadership as the guiding ideology, it made breakthroughs in building up ecological integration and achieved effective collaboration in prevention and control of air and water pollution in the region. At the end of 2015, the National Development and Reform Commission and the Ministry of Ecology and the Environment of China issued the Plans for the Protection of the Ecological Environment in Beijing-Tianjin-Hebei Coordinated Development, which clearly stated the objectives, tasks, realization paths and institutional mechanisms for the protection of the ecological environment in Beijing, Tianjin and Hebei. Although the objectives have been clarified, due to big differences among the three regions regarding economic development, industrial structure, the level of environmental management and public service support, the staged environmental quality objectives set by each region are not completely consistent, and real ecological integration cannot be achieved under the existing institutional mechanisms. Therefore, the building up of ecological integration is a long-term process which must be viewed from the point by which the ecological environment is the basic guarantee of economic development and social progress. It must do its utmost to solve the biggest bottleneck and constraint faced in the development of Beijing, Tianjin and Hebei, and achieve the ultimate goals of promoting economic development and enhancing people's well-being.

1.2 Precise Orientations and Complementary Advantages of Seven Functional Zones, and Adjusting the Structure and Promoting the Transformation to a Higher Level by Using Capital Resources

On November 20, 2016, the orientations of the seven functional zones for undertaking the transfer of non-capital functions from Beijing were released during the "Special Promotion Meeting on the Full Implementation of the Beijing-Tianjin-Hebei Coordinated Development Strategy" of the Binhai New Area, thus laying a solid foundation for project transfer.

By the end of 2016, the **Tianjin Development Area** had introduced nearly 430 enterprises from Beijing with the agreed investment of more than 60 billion yuan. Based on large projects, in 2016, a number of projects with a total amount of investment of over 1 billion yuan each settled in the development area, such as the Beijing-Binhai Intercity Railway, the Gome Financial Headquarters, DiDi Chuxing, JD.COM. In the meantime, it strengthened its cooperation with Beijing on projects regarding technology innovation, actively introduced more than 200 "mass entrepreneurship and innovation" projects from Beijing and 5 maker spaces and strived to build an ecosystem of technological innovation and entrepreneurship. In the next few years, the Tianjin Development Area will continue to dock with the resources of Beijing and Hebei, especially those of high-tech industries and "mass entrepreneurship and innovation", establish higher-level and more segmented coop-

eration in the fields of science and technology, and attract investments around specialization and precision and form a comprehensive, multi-field docking system.

The **Tianjin Free Trade Zone** has unique endowments of port resources and geographical advantages in undertaking non-capital function projects from Beijing. By the end of 2016, the Tianjin Free Trade Zone had introduced 313 projects from Beijing and Hebei, including 10 projects of the global top 500 companies such as COSCO Logistics and Standard Chartered Bank Technology Operation Center. It focuses on constructing e-commerce and international logistics, it fully takes advantage of Beijing's being the capital to carry out in-depth cooperation and speed up the construction of large customs clearance bases; it also attracts superior enterprises from Beijing and Hebei, starts cross-customs cooperation between the port bonded area and the Beijing Tianzhu Free Trade Zone and implements the integration of customs clearance in different places as early as possible.

The **Binhai High-tech Area** is positioned as a center for innovations to high-tech industries, which makes full use of capital resources to construct an independent innovation demonstration zone, it takes the industrial cluster and industrial chain as the main clues, drives the development of upstream and downstream enterprises as guided by the leading enterprises in each industry, forms a complete ecological industrial chain on a certain scale and produces the agglomeration and clustering effects. Further, it will expand investments in the public sector, cultivate high-end talents in various industries, vigorously introduce high-end academic talents and scientific and technological innovation talents to settle in and start businesses, and it will continuously enhance the leading role of high-tech industries in the area with a focus on the construction of the Tianjin Future Science and Technology City.

The **Dongjiang Free Trade Port**, located in the Tianjin Pilot Free Trade Zone, fully utilizes the advantages of the free trade zone and actively serves pioneering in the transformation and upgrading of industrial structure, system and mechanisms of Beijing-Tianjin-Hebei. Its financial leasing business continues to maintain a leading position in the country. The aviation leasing, international ship leasing and offshore equipment leasing businesses continue to grow, and efforts are being made to build a core functional zone of an international shipping center in northern China. While the leading industries are developing steadily, emerging industries are also continuing to grow rapidly, and this accelerates the pace of deploying emerging leasing businesses such as medical, new energy and vehicles. In 2016, a total of nearly 600 projects of more than 100 million yuan and over 30 projects of more than 1 billion yuan were introduced. More than 40 state-owned enterprises and their holding companies have set up over 80 functional headquarter bases with the registered capital of 60 billion yuan in the port area. Beijing-Tianjin-Hebei enterprises can enjoy the integrated customs clearance treatment in the port area.

The **Sino-Singapore Eco-City** was jointly constructed by the governments of China and Singapore. Over the past nine years, it has sorted out more than one thousand Beijing-Tianjin-Hebei enterprises in the leading industries such as real estate, the internet and animation and precisely, it attracted 400 key enterprises for investment. In 2016, the Eco-City achieved a regional GDP of 18 billion yuan, with a year-on-year increase of over 30%. It strengthened cooperation between Beijing and

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Tianjin in industrial development, technological innovation and park construction. By 2016, it had attracted 436 Beijing enterprises to settle in it, which accounted for over 40% of the total and had the registered capital of 14.4 billion yuan, about 50% of the total registered capitals in the same period.

The Central Business District (CBD) has also intensified its efforts in attracting the high-quality resources that have transferred from Beijing. Nearly 30% of investment projects in 2016 came from Beijing, with a total registered capital of more than 100 billion yuan. The Beijing-Tianjin-Hebei cross-border e-commerce industry alliance, mass entrepreneurship alliance and industrial structure adjustment and guidance fund were established as the carrier platform to promote the integration and sharing of resources. In September 2016, the CBD formally launched the 2.0 version of the "Mass Entrepreneurship and Innovation Connect" service platform, which allowed for the handling of administrative approval matters at any time by using a smart phone and enjoying the all-day service of the exclusive keepers and experts. In the future, the CBD will precisely attract investments around the construction of the clustering area of enterprise headquarters and shape the functional zone supporting services as soon as possible.

The **Tianjin Harbor Economic Area** focuses on the four leading industries of high-end equipment manufacturing, grain, oil and food processing, port logistics and modern chemicals, and gives importance to cultivating three emerging industries: marine economy, smart manufacturing and productive services. By the end of 2016, more than 30 related projects had been introduced, with an agreed investment of 30 billion yuan. It has exchanged with over 40 central and headquarter enterprises in Beijing, and established a long-term contact mechanism with the Ministry of Industry and Information Technology. The project of the China Academy of Aerospace Aerodynamics was signed, and the CNOOC Marine Oil Engineering Harbor Offshore Equipment Manufacturing Base, the Minmetals (China Metallurgical) Group Harbor Offshore Equipment Base, and the China Communications Construction Group Northern China Equipment and Production Base have started construction.

1.3 Taking Advantage of Orientations of Seven Functional Zones and Highlighting the Leading Role of Eight Superior Industries in Economic Development

During the restructuring and transformation, the Government of the Binhai New Area promulgated and implemented a series of policies. In 2016, it issued the *Guiding Opinions on Promoting the Development of Emerging Industries in the Binhai New Area* and the *Notice of Functional Zones, Sub-districts and Towns on Further Implementing the Requirements of the Municipal CPC Committee and Government*

⁴For the orientation of seven functional zones, please refer to "Seven Functional Zones in Tianjin Binhai New Area, Multiple Achievements of Economic Development", http://www.enorth.com.cn/, August 4, 2016.

for Intensifying the Reform of State-owned Enterprises, which require all sub-districts and towns in the functional zones to intensify the reform of state-owned enterprises, put forward overall ideas and specific measures for implementing the reform tasks, especially the clear arrangements for the clearing of zombie enterprises and inefficient assets, and make sound work plans. Each functional zone should combine their own locational advantages and functional orientations, strive to build up the core competitiveness, form a good situation of free development and jointly promote the comprehensive economic and social development of the new area.

In the transformation of the industrial structure, the government of the Binhai New Area clearly puts forward two developmental directions of advanced manufacturing and modern service sectors, and identifies 33 key developmental areas of the Binhai New Area, including eight superior industries, namely vehicle and equipment manufacturing, petroleum and chemicals, electronic information, grain, oil and textiles, aerospace, new energy, new materials, bio-pharmaceutics, as well as popular and emerging fields such as robots, 3D printing equipment, high-performance databases, big data, modern logistics, e-commerce, leisure tourism and cultural creativity. This has pointed out the directions for the economic and industrial restructuring of the Binhai New Area during the 13th Five-Year Plan.

In 2016, the gross output value of the eight superior industries in the Binhai New Area was 1,411.512 billion yuan, which accounted for 90.5% of the industrial enterprises above the designated size in the area, and the proportion increased by 2.7% points over the previous year. Among the eight superior industries, the biopharmaceutical industry grew by 11.9%, the grain, oil and textile industry increased by 11.7%, the aerospace industry grew by 11.1%, and the new energy industry increased by 8.7%.

Key projects in the Tianjin Development Area are always leading the industrial development of the Binhai New Area. In 2016, the Tianjin Development Area introduced major projects, such as FAW-Volkswagen, FAW Toyota, the Sino-Saudi New Materials Park and Xiuzheng Pharmaceutical, which will become an important support for the economic development of the New Area during the period of the 13th Five-Year Plan. In 2016, the Tianjin Development Area invested a total of 14 billion yuan in technology innovation. There were 15 incubator bases, 59 national and municipal R&D institutions, 60 centers for enterprise technology, and 58 foreigninvested R&D centers. In 2016, the regional GDP was 304.98 billion yuan, making it the first development area at the national level with a GDP of more than 300 billion yuan in China. The Tianjin Free Trade Zone seized the opportunity of a crossborder e-commerce pilot city to vigorously develop e-commerce, and formulated the developmental plans and supporting policies. Currently, more than 100 e-commerce projects have been clustered. In the first half of 2016 alone, there were more than 500 parallel importers importing 14,000 parallel vehicles, which increased by 17.7 times with the value of US\$ 720 million. The Binhai High-tech Area actively docked with "Made in China 2025", laid out industrial innovation platforms and launched the construction of power battery innovation centers for new energy vehicles. In the next five years, the Binhai High-tech Area will carry out patent analysis around the new energy industry and form industrial clusters, innovation clusters and patent clusters 206 T. Li

with obvious competitive advantages. In February 2016, the Tianjin High-tech Area became the first national patent navigation pilot zone in Tianjin which can play an important role in promoting the integration of patents and industrial development, optimizing the integration of patent resources, improving the capability for patent applications, highlighting the navigation effect of patents on industrial development, and advancing industrial transformation and upgrading.⁵ The Dongjiang Free Trade Port carried out pilot work with financial leasing as the main innovative form. Among the first batch of pilot enterprises for domestic financing leasing, 4 of them settled in the Dongjiang Free Trade Port. In 2016, the cross-border operational leasing, the use of foreign currency to pay rental fees, general aircraft asset evaluation, which are innovative and leading businesses in the country, settled in the port area. The policies and innovative measures on the leasing business development, as stipulated in the "30 Points of Financial Reform", were quickly implemented in the port area.⁶ CBD took "two areas, two constructions and two innovations" as the core developmental ideas, spared no efforts in building the new heights of institutional innovation and the engine for transformation and upgrading. A large number of high-quality projects were settled for operations, and the clustering of projects and innovation elements achieved historic breakthroughs. The effect of "mass entrepreneurship and innovation" was increasingly prominent. More than 2,000 enterprises of this kind settled there in the year and accounted for 70%. Over 20 maker spaces were officially launched for operation. The entire area had clustered 1,100 financial institutions, with the total registered capital of more than 260 billion yuan and the managed assets of over 2 trillion yuan.⁷

1.4 Continuously Expanding System and Institutional Innovations and Leading the Reform in Various Fields by the Pilot Free Trade Zone and Internet+

In 2016, the government of the Binhai New Area made full use of the advantages of the free trade zone to accelerate the reform and innovation of the Tianjin Free Trade Zone, and 151 institutional innovation initiatives were implemented. In 2016, the new area had 13,570 new market entities with a registered capital of over 530 billion yuan, which had increased by more than 50%; it sped up the pace of opening-up, newly approved 890 foreign-invested enterprises, and actually utilized more than 1,000 domestic-funded projects. CBD accelerated the construction of the "Mass Entrepreneurship and Innovation Special Zone", optimized and enhanced the functions of the business district, and took the lead in terms of system and mechanism,

⁵Wang (2016).

⁶"Regional Leap-forward Development Driven by the Construction of the Tianjin Pilot Free Trade Zone", *People's Daily*, August 19, 2016.

⁷"2016: GDP of the CBD Broke through 30 Billion Yuan", Functional Zone Information Disclosure Column on the official website of the Tianjin Binhai New Area People's Government.

talent introduction, and use of international funds. The Dongjiang Free Trade Port had innovative breakthroughs in finance leasing, cross-border, parallel vehicle imports and overseas engineering export bases. In December 2016, the Tianjin Municipal Government devolved to the Binhai New Area 16 municipal-level administrative licensing items and 6 other municipal-level administrative matters, and relevant municipal authorities set up windows for handling 10 administrative licensing items in the Binhai New Area Administrative Service Center. The decentralized municipallevel administrative licensing items involved 11 units including Municipal Development and Reform Commission and Municipal Construction Committee, so as to enhance the powers of the Binhai New Area in reform. At the end of 2016, the Binhai New Area promulgated the Guidelines of the Binhai New Area for Stimulating Cadres to Boldly Assume Responsibility and Implementing Fault Tolerance in the Reform and Opening up, and Implementing Innovation (Trial), which began to explore the "fault-tolerance mechanism" and encourage the cadres at all levels of the government to enhance their confidence and determination in trying and making bold reforms.

At the end of 2016, the first phase system of the "Electronic Citizen Center" was put into trial operation. This is an important measure to implementing the "Internet+ government services" and improving the handling efficiency of the public and enterprises. Based on the list of departmental rights and responsibilities, it achieves online processing of science, education, culture, health, social security and civil affairs and forms an online and offline integrated Internet+ government service system.⁸

In 2016, the government of the Binhai New Area formulated the *National Planning Outline for Beijing-Tianjin-Hebei Coordinated Development and the Opinions on the Division of Work Involving the Binhai New Area in the Implementation Plan of Tianjin*, which implemented specific work to each department. It had successfully held the first Joint Conference of the Directors of the Beijing-Tianjin-Hebei Provincial Coordination Offices, sped up the implementation of policies and has already achieved remarkable results. In the field of "mass entrepreneurship and innovation", CBD became a national "Mass Entrepreneurship and Innovation Demonstration Base", signed strategic cooperation agreements with CRRC Capital, Alibaba Cloud + U-Commune, GACK, and carried out the in-depth cooperation in the fields of finance, the internet, cultural and creative industries. Over 70 large central enterprises and prestigious private enterprises established more than 100 institutions of various types.

2 Challenges for Development in 2016

In 2016, the GDP of the Binhai New Area exceeded one trillion yuan for the first time and maintained a double-digit growth rate, which was still higher than the national

⁸See the Binhai New Area People's Government, "Work Plan for Accelerating the Sorting of Electronic Citizen Center Service Items".

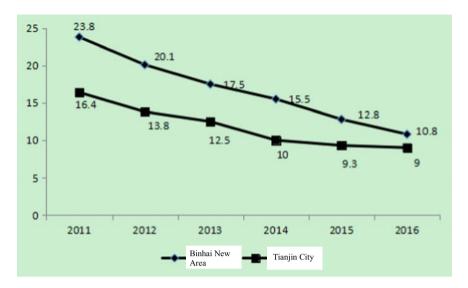


Fig. 6 Comparison of the growth rates of the GDP of Tianjin and of the Binhai New Area from 2011 to 2016

and Tianjin averages, but showed a downward trend. Compared with the previous year, this trend continued to expand. As shown in Fig. 6, Tianjin's GDP growth rate decreased by 0.3% points from the previous year, and the growth rate of the Binhai New Area decreased by 2% points. Of course, this coincides with the rapid increase of fixed asset investments in the Binhai New Area in the early stage, which gradually returned to the normal level in the later period. It is an inevitable process experienced during the painful period of industrial restructuring, but this process that only needs to end as soon as possible for continuing its leading role in the rapid economic growth of Tianjin.

2.1 Failure to Meet the Expected GDP Target and Realize the "Three-Step" Strategy

The expected GDP target in the "three-step" strategy released by the Binhai New Area in 2015 could not be met, that is, that its GDP would reach 1 trillion yuan in 2015 and 1.3 trillion yuan in 2017. According to the "three-step" strategy specified for the second step, in 2017, the regional GDP would reach 1.3 trillion yuan, the public financial revenue exceeded 150 billion yuan, the per capita disposable income of urban and rural residents doubled in comparison with 2010, the core area was basically constructed and the goal of a well-off society was realized in advance. The third step was that in 2020, the regional GDP would reach 1.8 trillion yuan and would strive for 2 trillion yuan, and the public financial revenue exceeded 200 billion yuan,

and the functional orientations of the country to the new area were basically attained. From the economic data of 2016, this expected goal could not be achieved during the process when the GDP growth rate decreased year by year. Of course, under the new normal, the stable and good quality growth is the goal of economic transformation. The Binhai New Area should seize this opportunity of transformation, combine the goals of economic growth with industrial transformation, and maintain a continuous growth of the economic aggregate while realizing industrial transformation. The two goals are not contradictory, but from the current trend, the situation is not optimistic.

2.2 High Pressure of Industrial Transformation and Low Proportion of Productive Services

The GDP has not reached the set goal, which is related to the international economic environment and to the elimination of a backward capacity for production in China, but it is also inseparable from the adjustment of the industrial structure of the New Area itself. Specifically, as shown in Fig. 7, the economic structure of the New Area is still in the process of adjustment. The proportion of the tertiary industry has increased by 3.1% points compared with the previous year, reaching 40.5%, accounting for more than 40% for the first time, but horizontally compared with the tertiary industry accounting for 75% in the Pudong New Area, it still lags far behind. In the *Guiding*

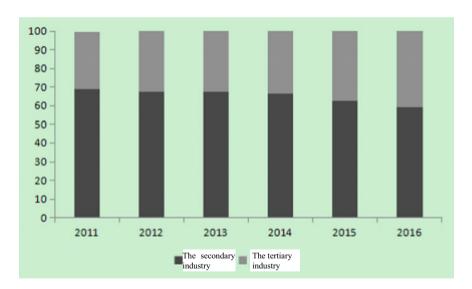


Fig. 7 Comparison of the structure of the secondary and tertiary industries of the Tianjin Binhai New Area from 2011 to 2016

⁹Liu et al. (2015).

Opinions for Promoting the Development of Emerging Industries in the Binhai New Area, it clearly indicates modern services as the main direction of future development. This shows that the New Area has recognized the importance of modern services, especially the important role of productive services in economic transformation. However, this transformation process is under great pressure. It still needs to increase the proportion of modern services, continuously enhance the important position of productive services, continually optimize the industrial structure, and better serve the real economy and the people's well-being.

2.3 Insufficient Development of Private Enterprises in Eight Superior Industries and a Further Requirement of Enhancement of the Reform of State-Owned Enterprises

In 2016, a total of 20,970 private enterprises were newly established in the Binhai New Area with the registered capital of 673.897 billion yuan, which witnessed a yearon-year increase of 10.53% and 79.92% respectively. The growth trend was good, but compared with the state-owned and state-controlled enterprises, their market share and scale were still insufficient. By the end of 2016, although the number of stateowned and state-controlled enterprises was only 10,592, they had a registered capital of 1,058.117 billion yuan, which had a year-on-year increase of 15.51% and 6.99% respectively. Their market size was still higher than that of private enterprises. The eight superior industries that the Binhai New Area focused on had already become the mainstays driving its industrial development. In the process of reforming the stateowned enterprises, private enterprises should increase integration efforts, actively participate in the upstream and downstream services and layout guidance of the eight superior industries, and help entrepreneurs integrate into the leading industries, enter the segmented industrial field and form the full industrial chain of leading industries in the New Area. Moreover, the Binhai New Area should vigorously develop the mixedownership economy and encourage private capital to enter industries and fields such as energy, infrastructure, municipal utilities, education and culture, health care and finance, and increase the scope of entry for private capital.

2.4 Imbalanced Development of Seven Functional Zones and Basic Public Services to Be Improved

There are still big gaps between the core area and the north and south wings, among functional zones, among functional zones and sub-districts and towns, and between urban areas and rural areas. In 2016, the seven functional zones adhered to the proper orientations, insisted on the transformation and upgrading of industrial structure

guided by technological innovation and gradually formed their respective priorities of development. However, due to historical reasons, there were still some practical problems such as imbalanced development and a big income gap. Also, in the public service field, the Binhai New Area had many shortcomings. In 2016, the rail transit lines B1 and Z4 commenced construction, the Z2 line was launched, and the Tianjin-Binhai Light Rail Line 9 was re-opened for operations. These temporarily alleviated the traffic difficulty of people in the downtown and in the Binhai New Area of Tianjin. However, this reflected the backward situation of public services in the New Area, particularly the construction of public transportation.

2.5 Severe Challenges of the Ecological Environment and Pollution Prevention and Control, and Contradictions Between Environmental Protection and Economic Growth

The balance between economic growth and environmental protection is a global dilemma. For the Binhai New Area, where the secondary industry occupies an absolutely dominant position, this dilemma will last in the long run. In particular, the large proportion of industries with high pollution and high energy consumption such as petroleum, chemicals and metallurgy can directly generate industrial waste and cause environmental pollution. Under the guidance of the concept of ecological integration of Beijing, Tianjin and Hebei, the profound cooperation of the three regions in the key areas of ecological control, such as air pollution, water pollution and solid waste pollution, and the monitoring of the ecological environment is an important opportunity to solve the contrast between industrial development and environmental protection. In terms of industrial layout and technological innovation, we must eliminate the capacity of backward production, introduce advanced technology and achieve an organic integration of economic growth and environmental protection.

3 Prospects for Development and Policy Suggestions

As the gateway to the opening-up of Northern China, the Binhai New Area carries out the missions of serving the Bohai Economic Rim, radiating the "Three Norths" and facing Northeastern Asia, thus having great developmental potential. It plays an irreplaceable role in Beijing-Tianjin-Hebei Coordinated Development. The Binhai New Area will develop into the high-level modern manufacturing and R&D transformation base and northern international shipping and logistics centers and become the navigational route of Beijing and Hebei.

First of all, the Binhai New Area should find its own position in the functional orientation of Tianjin's "one base and three districts", play a leading role in economic

development at a higher level, and be an important engine for Beijing-Tianjin-Hebei Coordinated Development. This can provide a new round of opportunities for the economic development of the Binhai New Area and serve the national strategy of Beijing-Tianjin-Hebei Coordinated Development. The Binhai New Area itself has traditional manufacturing advantages. How to utilize the platform for the innovation to science and technology as the carrier and support for the implementation of innovation, and make full use of the innovation dynamics on the platform of Beijing-Tianjin-Hebei Coordinated Development in the process of the transformation and upgrading of traditional manufacturing are the key issues that need to be coordinated and resolved. Only after solving the supporting work, such as technology, talents, and results transformation, well can it embark on a sustainable path towards development that relies on the Beijing-Tianjin-Hebei platform to promote resource integration and impel the comprehensive coordination of traditional superior industries.

Second, to actively participate in the Belt and Road Initiative, establish a bridge-head for Northeastern Asia and propel the development of shipping and international logistics in the "Three North" region. It will take full advantage of the leading role of the only pilot free trade zone in Northern China and the relatively loose policy environment, adequately research the Polar Silk Road Initiative proposed by China and Russia, explore the feasibility of Tianjin Port to play an active role in it and find new breakthroughs and platforms for the development of shipping and international logistics in the Binhai New Area.

Third, to further clarify the respective development orientations of the seven functional zones, and make full use of their complementary advantages, and advantages of the coordinated development of industrial integration and policy linkage, rather than scrambling for policies, resources, talents and enterprises. By virtue of the historical opportunities of scientific and technological innovation and Beijing-Tianjin-Hebei Coordinated Development, it should continuously enlarge and strengthen the eight superior industries, extend the industrial chain and functional layout, promote the simultaneous development of the private sector and state-owned enterprises, intensify the reform of state-owned enterprises, fully unleash the enthusiasm of private capitals for participating in the reform of state-owned enterprise and increase the proportion of mixed ownership.

Fourth, to further advance the work of streamlining procedures and delegating powers as well as "strengthening regulation and optimizing services", for improving the quality and efficiency of the services. Based on the decentralization of municipal-level administrative approval items in 2016, it should continue to do well in implementation and connection, and dynamic management of administrative licensing matters. While undertaking the administrative licensing powers, it should assume the responsibility for regulations, do well in the review and management and achieve coverage of the full process of approval and regulation. The Binhai New Area should speed up the innovation of systems and mechanisms, boldly take the lead in piloting, fully facilitate the reform of "multiple integration, multi-certification combination" and actively improve the efficiency of the construction of the "Internet+ government services".

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