

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 (2017)

Blue Book of China's Special Economic  
Zones



 Springer

The Springer logo, which consists of a stylized chess knight (horse) facing left, positioned to the left of the word 'Springer'.

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

## **Project Director**

Xie Shouguang, President, Social Sciences Academic Press

## **Series Editors**

Li Yang, Chinese Academy of Social Sciences, Beijing, China

Li Peilin, Chinese Academy of Social Sciences, Beijing, China

## **Academic Advisors**

Cai Fang, Gao Peiyong, Li Lin, Li Qiang, Ma Huaide, Pan Jiahua, Pei Changhong,  
Qi Ye, Wang Lei, Wang Ming, Zhang Yuyan, Zheng Yongnian, Zhou Hong

Drawing on a large body of empirical studies done over the last two decades, this Series provides its readers with in-depth analyses of the past and present and forecasts for the future course of China's development. It contains the latest research results made by members of the Chinese Academy of Social Sciences. This series is an invaluable companion to every researcher who is trying to gain a deeper understanding of the development model, path and experience unique to China. Thanks to the adoption of Socialism with Chinese characteristics, and the implementation of comprehensive reform and opening-up, China has made tremendous achievements in areas such as political reform, economic development, and social construction, and is making great strides towards the realization of the Chinese dream of national rejuvenation. In addition to presenting a detailed account of many of these achievements, the authors also discuss what lessons other countries can learn from China's experience.

More information about this series at <http://www.springer.com/series/13571>

Yitao Tao · Yiming Yuan  
Editors

# Annual Report on The Development of China's Special Economic Zones (2017)

Blue Book of China's Special Economic  
Zones



 Springer

The Springer logo consists of a stylized white chess knight (horse) facing left, positioned above a horizontal line. To the right of this icon, the word 'Springer' is written in a serif font.

*Editors*

Yitao Tao  
China Center for Special Economic Zones  
Shenzhen University  
Shenzhen, Guangdong, China

Yiming Yuan  
China Center for Special Economic Zones  
Shenzhen University  
Shenzhen, Guangdong, China

ISSN 2363-6866

ISSN 2363-6874 (electronic)

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

ISBN 978-981-13-6704-5

ISBN 978-981-13-6705-2 (eBook)

<https://doi.org/10.1007/978-981-13-6705-2>

Jointly published with Social Sciences Academic Press

The print edition is not for sale in China. Customers from China please order the print book from: Social Sciences Academic Press.

Library of Congress Control Number: 2019933718

© Social Sciences Academic Press and Springer Nature Singapore Pte Ltd. 2019

This work is subject to copyright. All rights are reserved by the Publishers, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publishers, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publishers nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publishers remain neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.

The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

# Editorial Committee

Directors: Wu Zhong, Yitao Tao

Members (in an order of the numbers of the strokes of Chinese characters of their family names)

Wu Zhong, Lin Qi, Yu Youkang, Hao Shouyi, Zhong Ruoyu, Zhao Kangtai, Yitao Tao, Yiming Yuan

Editor-in-Chief: Yitao Tao

Executive Editor-in-Chief: Yiming Yuan

Executive Deputy Editor-in-Chief: Zhong Ruoyu, Wu Fenglan

Editor-in-Chief Assistant: Zhou Yikun

# **Preface: From Special Zones to Free Trade Zones: Special Missions of China's Free Trade Zones**

The birth of the Shenzhen Special Economic Zone dates back to 35 years ago and was an earth-shaking great event in the history of new China—it marked the end of an era and the beginning of another era, while the establishment of the Shanghai Pilot Free Trade Zone in September 2013, was an important milestone which can be comparable to the birth of the special economic zones in the history of new China's reform and opening up—it marked the deepening of Chinese society's reform and opening up as well as the transformation from an outward-looking economy to an open economy and the beginning of a new round of a more profound institutional opening up; it meant the profound undertaking of the construction and improvement of the socialist market economic system under the legal system with a focus on clarifying government powers.

After the successful pilot operation of the Shanghai Pilot Free Trade Zone, in April 2015, the State Council officially approved the Guangdong Pilot Free Trade Zone, the Fujian Pilot Free Trade Zone, and the Tianjin Pilot Free Trade Zone. The Guangdong Pilot Free Trade Zone includes Guangzhou's Nansha Free Trade Zone, Shenzhen's Qianhai and Shekou Free Trade Zone, and Zhuhai's Hengqin Free Trade Zone. Like the 5 + 2 traditional special economic zones (Shenzhen, Zhuhai, Shantou, Xiamen, Hainan, Pudong of Shanghai, Binhai of Tianjin) which have led the direction of China's reform and opening up with their practice in first-ever implementation of pilot programs, today's free trade zones, as the new form of China's special economic zones under the new historical conditions, will continue to undertake the time mission of intensifying the reform in Chinese society and moving toward institutional opening up by means of the practice in first-ever implementation of pilot programs and the new functions bestowed on them by the times.

**(I) China's special economic zones are not a simple economic concept; likewise, China's free trade zones are not a pure economic concept, but they are the product of economic globalization and regional economic integration as well as an intensified form of the reform of Chinese society. Even in a deeper sense, like the special economic zones, the reform mission undertaken by the free trade zones is much heavier than their pure economic mission. Of course, the success of reform and the achievements of opening up cannot be made**

**without sustainable economic development; however, fundamentally, sustainable economic development is not the cause for reform; on the contrary, it is the result of reform. However, we must not replace reform with development. This is because there is a very long and arduous way to go before the task of reform in Chinese society is completed.**

Conceptually, China's free trade zones refer to multifunctional special economic zones which are established outside the customs districts within the national boundary; they take preferential taxation and special customs supervision policies as their main means and mainly aim at achieving trade liberalization and facilitation. They center on fostering an international commercial environment which conforms to international practices and is internationally competitive for both domestic and foreign capital. However, China's current free trade zones are neither really the concept of the internationally accepted FTA nor completely the concept of a FTZ; they are the concept of free trade zone with Chinese characteristics which functionally exceeds FTZ and is different from FTA in terms of rules.

The free trade area (FTA) originates from the WTO rules concerning a free trade area, and this term first appeared in the text of the *General Agreement on Tariffs and Trade 1947*. Paragraph 8 (b) of Article XXIV of this agreement gives a special explanation of the concepts of customs union and a free trade area: A free trade area should be understood as a group of two or more customs territories in which duties and other restrictive regulations of commerce are eliminated substantially on all trade among the constituent territories on products originating in those territories. Its characteristics are as follows: It is established by multiple sovereign countries or territories and is a bloc consisting of two or more economies; regionally, it involves two or more customs territories; with respect to the internationally accepted practices, the WTO rules are observed; the core policies stress a trade openness and the removal of tariff barriers among the members of the trade area and the preservation of the respective independent foreign trade policies; with regard to the legal basis, bilateral or multilateral agreements are complied with. At present, the typical FTAs in the world are the European Union, the North American Free Trade Area, and the ASEAN–China Free Trade Area.

The term “free trade zone (FTZ)” originates from the rules relating to free zones. According to the *Kyoto Convention* signed by the World Customs Organization in 1973, the FTZ is a part of a contracting party, and any cargo which enters this area is considered as being outside of the customs area in terms of import duty. Its characteristics are as follows: It is established by a single sovereign country or territory, and its establishment is an act of a single sovereign country or territory; regionally, it is a small area within a customs area; in terms of the internationally accepted practices, the rules of the WCO are observed; the core policies focus on customs bonds and a policy of tax exemption supplemented by such investment policies as income tax preference; from the perspective of a legal basis, legislation is made within a sovereign country and there can be no restriction from a multilateral agreement. Both FTA and FTZ are designed to reduce international trade costs and to promote the development of foreign trade and international commerce. Their essence lies more, or mainly, in an economic community or an economic region.



Economic development is the realistic logical starting point for reform in Chinese society and also the entry point for China's institutional change. Thirty years ago, under Deng Xiaoping's strategic guidance regarding development as being the absolute principle, the special economic zones not only successfully experimented a path of institutional change, from widespread poverty to common prosperity, under the slogan of letting some people get rich first, but they also impressively accomplished their mission of transforming, from a planned economy to a market economy. The function of reform is always the most fundamental mission of China's special economic zones, while the intensification of reform is certainly the most fundamental mission of China's current free trade zones.

Like the special economic zones, each of China's free trade zones is a community of mission—reform—and development—promoting economic globalization and trade liberalization, and it is an experimental field for the system, mechanism, and institutional innovations. For example, the overall tasks of the Shanghai Pilot Free Trade Zone are as follows: The experimental field undertakes the important missions of speeding up the transformation of government functions, actively exploring innovations to the management mode, promoting trade and investment facilitation in China in the new period, probing new paths and gathering new experience for deepening the reform, and expanding opening up across China. The overall tasks of the Tianjin Pilot Free Trade Zone are as follows: Focus on national strategies, promote reform, development, and transformation with opening up, center on institutional innovations, give play to the decisive role of the market in resource allocation, explore new paths for transforming the governmental functions and new modes for expanding opening up, probe new paths and gather new experience for comprehensively intensifying the reform and expanding opening up in China, and give scope to the active roles of setting an example, driving development forward and serving the whole country. The Guangdong Pilot Free Trade Zone is strategically positioned as follows: Act as the frontrunner in reform and opening up, a forerunner in innovative development, center on institutional innovations, carry out such national strategies as the Belt and Road construction, and become the first to tap the reform potential and tackle reform difficulties in building the new system of an open economy, exploring the new mode of economic cooperation among Guangdong Province, Hong Kong and Macao, fostering a business environment under rule of law. It is necessary to vigorously experiment with the management mode of the pre-establishment of a national treatment and a negative list for foreign investments, strengthen innovations in the administrative management system, improve the efficiency of administrative management, and increase the capability and level of the in-process and of postmortem supervision. The overall tasks of the Fujian Pilot Free Trade Zone are as follows: Focus on national strategies, insist on strengthening economic cooperation between the two sides of the Taiwan Strait, system and mechanism innovations, exploring new modes for further intensifying economic cooperation between the two sides of the Taiwan Strait and expanding new routes for strengthening exchange and cooperation with the countries and territories along the twenty-first-century Maritime Silk Road.

In my opinion, the special economic zones cannot be thought too highly of in terms of the logical starting point of China's reform, opening up and the formation of the China Path. This is because China's reform and opening up cannot be carried out without the special economic zones; the market economy cannot be established and formed without the special economic zones; the renewal and revolution of the line of thought cannot be possible without the special economic zones; the creative power of every citizen in Chinese society cannot be demonstrated without the special economic zones; the world-shaking China Miracle cannot be created without the special economic zones; the internal driving force for transforming the pattern of economic development cannot be available without the special economic zones; the realistic basis for the Scientific Outlook on Development, the social material, and spiritual base for putting forward the Chinese Dream cannot be available without the special economic zones; the China Path for letting hundreds of millions of people get rich cannot take shape without the special economic zones. The special economic zone is a breakthrough in China's reform and also a shortcut for modernizing Chinese society through an unbalanced development. Therefore, we should proceed from the whole process of China's reform and opening up to study and understand the irreplaceable historical role of the special economic zones, their unique role in driving China's reform and opening up forward and the significance of their mission for modernizing Chinese society.

In my view, the special economic zone is not a temporary economic phenomenon, the product of a stage, and an expedient policy; on the contrary, it is the experimental field for an all-round reform in China and an effective choice of a path for finishing social transformation and institutional change; it serves as a shortcut for accelerating the modernization of a large country with unbalanced economic development. Given the whole process of China's reform, from the perspective of China's reform and opening up, the missions of the special economic zones are far from being accomplished. This is proved by the successful experience of the early special economic zones, represented by Shenzhen, and the birth of the emerging special economic zones, represented by Kashgar, Huoerguosi, and Tumenjiang; this is further proved by the formation of today's free trade zones. As the upgraded special economic zones for undertaking the mission of a more profound reform, China's free trade zones will certainly continue to practically and theoretically enrich the essence and connotation of the China Path by first-ever implementation of pilot programs and the actions of the "first mover".

**(II) Enabling first-ever implementation of pilot programs and exploring routes and paths to provide successful experience, which can be taken for reference and copied, for the reform in Chinese society is the unique choice of a path for institutional change in Chinese society. The correctness of such a unique choice of path has been proved by the success of China's reform and opening up during the 35 years it has been going on, the China Miracle created by billions of Chinese people, the successful experience, and lasting vitality of China's special economic zones. Therefore, given the significance of the choice of path for China's reform and opening up, as if the first-ever implementation**

**of pilot programs was the important function of China's special economic zones, first-ever implementation of pilot programs is the Chinese characteristic which differentiates China's current free trade zones from FTAs and FTZs.**

The special economic zones are official top-down institutional arrangements. As the special economic zones set an example through their first-ever implementation of pilot programs, they have greatly reduced the institutional resistance to institutional change subject to the dominant position of the traditional ideology, they have lowered the ideological and social costs for institutional innovations, and they have successfully avoided more risks from reform, so that the performance of the institutional change can be quickly delivered within a short period of time and can effectively produce a demonstration effect across China. Therefore, fundamentally, the first-ever implementation of pilot programs is a process of making innovations and learning from the advanced countries; first-ever implementation of pilot programs occurs not only in the economic system and mechanism, but also in deeper institutional changes involving various facets of society, including the political system, the legal environment, the modernization of the government's governance system, mechanism and capacity, and its cultural ideology. This is the inherent quality of China's special economic zones and the more challenging new mission bestowed on China's free trade zones by the new era.

In a sense, the free trade zones are the special economic zones assigned with new missions under the new historical conditions and against a background of development. The first-ever implementation of pilot programs provides the reform in Chinese society with the experience which can be taken for reference and applied so that pushing forward the reform in Chinese society is still the historical mission of the free trade zones. For example, China requires the Shanghai Pilot Free Trade Zone to focus on national strategies, further emancipate the mind, persist in first-ever implementation of pilot programs, stimulate reform and development with opening up, become the first to build a system of rules for cross-border investment and trade that is consistent with international and legal requirements, so that the experimental field serves as an important vehicle for China's further integration into economic globalization. Specifically, under the condition that risks are controllable, it is possible to create first-ever conditions for RMB capital account convertibility, interest rate liberalization on the financial market, and RMB cross-border use within the experimental field; the measures are taken to promote the development of the transit cargo consolidation business and allow the non-five-star flagships owned or controlled by Chinese-funded companies for the first time to engage in coastal feeder transportation between domestic coastal ports and the Port of Shanghai through foreign trade import and export containers. The Guangdong Pilot Free Trade Zone is required to make bold experiments and first-ever implementation of pilot programs on the basis of institutional construction involving expansion of opening up; it must also speed up the development of a system of rules for high-standard investment and trade. The Tianjin Pilot Free Trade Zone is required to encourage first-ever RMB cross-border use, promote first-ever cross-border investment and financing facilitation and capital account convertibility, and serve as the first mover to work with well-known domestic and foreign equity investment

institutions to establish venture capital investment funds. The Fujian Pilot Free Trade Zone is required to push forward first-ever financial cooperation across the Taiwan Strait.

First-ever implementation of pilot programs is the function of China's special economic zones and is a unique route of China Path; it is certainly the unique function and mission of China's free trade zones. In this sense, special zones and free trade zones are a part and embodiment of the China Path; they are the extensions of the China Path in tune with the times. Stephen Halper, Advanced Research Fellow at the University of Cambridge, once said that when it came to the China Path, it mainly referred to the development of and a series of reforms in China over the past three decades. In my opinion, although the China Path is a very broad and rich concept, given the internal logic of China's reform and opening up, the China Path can be described as a path with Chinese characteristics for achieving modernization which starts with the establishment of special economic zones, bases the route on first-ever implementation of pilot programs, and aims at carrying out reform, opening up and establishing a socialist market economy under rule of law in the direction of all-round social reform and development. Special zones and free trade zones are different institutional arrangements in different historical periods and jointly constitute the choice of a path with Chinese characteristics for achieving modernization.

**(III) The establishment of special economic zones 35 years ago was designed to finish the transformation from a planned economy to the a market economy, establish a socialist market economic system, and bring about the change from self-seclusion to opening up, so as to derive internal impetus from innovative social institutional arrangements and promote the transformation of government functions, while the establishment of China's current free trade zones aims at further improving the market economic system, transforming it from an outward-looking economy to an open economy, so that the Chinese society is impelled to move from policy-based opening-up to institutional opening-up, and our government transforms from an omnipotent government to a service-oriented government, from a service-oriented government to an authorization-oriented government, and government functions are really based on institutional arrangements rather than philosophy; thus, the arduous mission of a comprehensively intensified reform in Chinese society is gradually accomplished.**

Both special economic zones and free trade zones are the products of imposed top-down institutional change; all of them are a part of the overall national strategy and undertake different missions in different historical periods of reform and opening up in Chinese society. Meanwhile, promoting reform with opening up is the logical starting point shared by them. Like the 5 + 2 traditional special economic zones which have stimulated regional development, China's current free trade zones are performing the important function of reshaping and improving the regional landscape of China's economic development; all of them were and continue to be the strong supporting points and engines for coordinated regional development. For example, the Guangdong Pilot Free Trade Zone is designed to

enhance long-term economic cooperation between the Chinese Mainland and Hong Kong, Macao, to shape the Pan-Pearl River Delta Economic Circle with mutual benefit, reciprocity, and shared prosperity and build an important hub for the twenty-first-century Maritime Silk Road. The Tianjin Pilot Free Trade Zone will become the locomotive for integrated, coordinated development among Beijing, Tianjin, and Hebei Province. The Fujian Pilot Free Trade Zone focuses on cooperation across the Taiwan Strait while developing new paths for reinforcing exchange with the countries and territories along the twenty-first-century Maritime Silk Road. Meanwhile, if the traditional special economic zones have certainly performed the functions of transforming government functions, reforming the government, and carrying out experiments, China's current free trade zones are continuing the arduous experimentation, which have a vital bearing on the reform in Chinese society, at a more profound level. The government's cognitive ability is undoubtedly critical in the imposed institutional change in which the government's power also needs the government's power to deprive.

The Chinese society is undergoing imposed top-down institutional change. The government, especially the Central Government, is the initiator, leader, or the most direct advocate of this imposed top-down institutional change, and it has been first "reformed" in the institutional change. If the Central Government did not make decisions and grant authorizations, the practice of reform and opening up would be impossible; for example, the birth of special zones and free trade zones resulted from the special policies given to local governments by the Central Government and the overall strategic developmental arrangement made by the Central Government.

The 35-year practice of China's reform and opening up proves that the government undoubtedly plays a huge role in the imposed institutional change in a country in transition, and it can even be concluded that if the government does not provide a strong top-down political impetus, it would be impossible to finish the transformation from a planned economy to a market economy and bring about the universal establishment of today's market economy and the prosperity of a social economy. In particular, the Central Government and the entire strong national system can efficiently concentrate resources to do great things in the absence of, or with limited, resources and lead the direction of the social and economic development through efficient decision-making. However, the functions and roles of the government are different under the following two circumstances: The market economic system is established through imposed institutional change, and the market economy is improved after the market economic system has been basically established. Under the former circumstance, it may be more necessary for the government to intervene heavily in order to drive the formation of the market economy so as to speed up the transformation from a planned economy to a market economy, while under the latter circumstance, the government is required to, subject to respecting the market law and mechanism, correct the market failure and serve the market rather than control and lead it. As a result, a powerful country and a developed market are certainly desirable; however, it is essential to properly

handle the relations between the state and the market or the government and the market in the process of building a powerful country and a developed market.

The institutional change in Chinese society is being made in a pragmatic way. Nevertheless, it will not be like induced institutional change which naturally arises from merely potential profit-making opportunities. This is because induced institutional change often alters the distribution of interests among the original social groups; it even results in some people—especially government officials as reformists and executors—suffering from loss of interests and some people obtaining interests. Therefore, in principle, a protective government can make enormous contributions to developing and supporting the internal institutions in a developing market economy. During limited transformation, the functions and roles of some irrational and local governments can produce the effect of a scale economy. However, the failure of governmental policies can also reduce or hinder the benefits and process of institutional change, thus increasing the costs of social reform. In a general sense, both maintenance of an ineffective institutional arrangement and the inability of a country to take actions to eliminate institutional imbalance are policy failures.

The style of a government determines institutional arrangements, while the civilization of a government is the precondition and guarantee for an institutional civilization. Meanwhile, the cognitive ability of a government also determines the reform costs and effectiveness to some extent. Therefore, reshaping the government, transforming governmental functions, and enhancing the cognitive ability and governance capacity of government officials are the internal logical requirement for intensifying the reform, modernizing the government's governance system, mechanism, and governance capacity. The American economist Walter Oken said that the interdependence between political order and economic order forced us to address them at the same time; they were an integral part of the whole order; an effective government cannot be available without competition order; competition order cannot be built without such a government. Shifting from philosophy to institutional arrangement during the transformation of governmental functions is a process of building a government under rule of law. The connotation of a government under rule of law is that the government governs the country according to laws and is also bound by laws. China's free trade zones are undertaking this more profound and arduous reform mission following the traditional special economic zones.

Becoming prosperous and powerful is the aspiration and goal shared by almost all of the people all over the world. Although many goals are shared by the people, there are diverse ways of achieving those goals and a universally applicable developmental path and mode do not exist. The experience from various countries can be taken for reference and shared, but the suitable one is the best, most useful, and most fruitful one. It is not necessary for China to develop the line of thought in which only unlimited economic growth can give rise to health; China can rationally

adjust its direction and change from unlimited output growth to social well-being for the people. In this regard, we may suffer from the conflicts between the ideal and reality, but the prospect is certainly bright. China's free trade zones, full of vitality, show a splendid future to us.

Yitao Tao  
Deputy Secretary of the Party Committee  
Secretary of the Discipline Inspection Commission  
of Shenzhen University; Director and Professor  
of the China Center for Special Economic Zone Research  
The Ministry of Education's Key Base for Humanities and Social Science  
Shenzhen, China

# Acknowledgements

This report was initiated and funded by the *Annual Report on the Development of China's Special Economic Zones* which is the Cultivation Program on the Report of the Philosophy and Social Science Development under the Ministry of Education and funded by the Shenzhen Publicity Culture Fund. Meanwhile, this report is also specially supported by Guangdong Theory-Armed Forces • the Ministry of Education's Key Research Base for Humanities and Social Science in Guangdong Province under the Publicity Department of the Guangdong Provincial Party Committee!



# Contents

## Part I General Report

- 1 Annual Report on the Development of China's Special Economic Zones** ..... 3  
Yitao Tao and Meng Li

## Part II Special Research Reports

- 2 Report on the Green Transformative Development of Industries in China's Special Economic Zones** ..... 21  
Yiming Yuan, Zhenkun Yan and Xuan Li
- 3 Report on the Resource Efficiency and Sustainable Development of China's Special Economic Zones** ..... 55  
Ruoyu Zhong, Wen Tang and Zhigui Guang
- 4 Report on the Innovative Development of China's Special Economic Zones** ..... 73  
Kai Zhang and Songbin Wu
- 5 Report on the Development of the Rule of Law in China's Special Economic Zones** ..... 105  
Keting Zhang and Li Guo
- 6 Report on the Development of Social Security in China's Special Economic Zones** ..... 123  
Xingmin Gao and Qin Guo
- 7 Report on the Development of the Financial Industry in China's Special Economic Zones** ..... 167  
Guo Maojia
- 8 Report on the Development of the Cultural Industry in China's Special Economic Zones** ..... 225  
Zhong Yaqin and Zhong Jiemin

**Part III Report on the Dynamic Survey of the Development  
of Special Zone**

<b>9 Report on the Construction and Development of Special Economic Zones in Latin America</b> .....	243
Haiping Luo and Jinlin Peng	

**Part I**  
**General Report**

# Chapter 1

## Annual Report on the Development of China's Special Economic Zones



Yitao Tao and Meng Li

This report is the continuation of the previous *Annual Report on the Development of China's Special Economic Zones*. The available statistical data of the year 2016 are analyzed to show the latest developments of China's special economic zones. In order to continue the previous annual report, this report adopts basically the same framework of writing and data analysis indicators used in the previous annual report.

### 1.1 Basic Background of the Development of the Special Economic Zones in 2016

At present, China's economy is undergoing the supply-side reform under the new normal. The institutional dividend under the old normal has obviously faded away; social and economic development has been subject to unprecedented bottlenecks on various fronts, the previous inherent developmental pattern needs to be transformed and it is necessary to seek new engines for sustainable future growth.

In this regard, on the one hand, it is imperative to carry out further innovations and reforms at various levels, including economic development, systems and institutions; on the other hand, it is essential to make benign interaction among the various levels possible. Actions should be taken to effectively help the country advance with the times at the levels of system and institutions and further get access to the international community. In particular, continuous innovations in the special economic zones on the above aspects will certainly provide valuable experience and important guidance for the China Path.

---

Y. Tao (✉)

Center for Special Economic Zone Research, Shenzhen University, Shenzhen, China

M. Li

Department of Statistics, College of Economics, Shenzhen University, Shenzhen, China

In 2016, China's special economic zones were generally under stable operations. However, we must be keenly aware that the special economic zones are still facing some significant problems which may affect the overall social and economic development. Specifically, first, the growth of currency and credit supply is relatively rapid compared with the rate of development of the real economy. Second, the pressure from the disequilibrium of foreign trade and balance of payments has increased year by year, and the contradictions from the disequilibrium of the balance of payments has become more acute. Third, the excessively rapid and sharp rise in housing prices is prominent in some special economic zones so that massive resources are attracted from the real economy and directed to the virtual economy; moreover, the capability for innovative development is continuously weakened; if this persists for a long time, a drastic financial and economic fluctuation will certainly occur. Moreover, the utilization rate of low energy consumption and the increasing environmental pressure are still salient.

Currently, the above problems reflect not only the composition of economic activities and profound changes of the economic system since the reform and opening up, but also the characteristics of a new stage of the social and economic development in the special economic zones.

## **1.2 Progress and Review of the Special Economic Zones**

Overall, in 2016, global trade continued to decline sharply, the world's economy struggled in an arduous and tortuous way, China's economy experienced a supply-side reform under the new normal. In response to this situation, Chinese President Xi Jinping pointed out that an innovative, extensive cooperation mode would be adopted to build the Silk Road Economic Belt; China would engage in extensive regional cooperation in order to reproduce the splendor of the Silk Road and ultimately achieve the great Chinese dream of national rejuvenation. The Central Government places great hope in the special economic zones.

This section describes the latest progress of the special economic zones in 2016, lays a good and solid theoretical and practical foundation for further reform in those zones and identifies a new direction for a further social and economic development in China.

### ***1.2.1 The Special Economic Zones Have Continuously Intensified the Reform on Many Fronts of China's Social and Economic Development***

#### **1. Progress of the special economic zones in the primary, secondary and tertiary industries, and innovations**

Regarding the structure of the primary, secondary and tertiary industries, the proportion of the secondary industry decreased, while that of the tertiary industry increased

and that of the primary industry changed slightly in five major special economic zones in 2015; the proportion of the tertiary industry in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan in 2015 increased by 1.5, 1.2, 0.7, 2.3 and 1.4 percentage points, respectively, compared with 2014; accordingly, the proportion of the secondary industry declined to some extent in each of the above special economic zones.

In 2015, the proportion of the tertiary industry in Shenzhen and Xiamen exceeded 50%, while that of the primary industry in both special economic zones was lower than 1%, which suggests an industrial evolution at a relatively high level. The proportion of the secondary industry in Zhuhai and Shantou reached about 50%, while that of the primary industry in both special economic zones was lower than 10%, indicating a stage of industrial evolution involving an intensification of industrialization. The proportion of the tertiary industry in Hainan exceeded 50%, while that of the primary industry was basically the same as that of the secondary industry in Hainan, which was closely related to the unique resource and environmental endowment conditions in Hainan, where a path of evolution of the structure of industry suitable for Hainan was experimented in line with Hainan's advantages (see Fig. 1.1).

Regarding the internal transformation of industries in the special economic zones, the industrial added value from the enterprises above the designated size in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan was 678.5, 90.8, 87.25, 125.41 and 44.9 billion yuan, respectively in 2015, up 7.7, 9.6, 7.1, 7.9 and 5.1% compared with 2014. The growth rate of the industrial added value from the enterprises above the designated size in each of the five major special economic zones in 2015 was lower than that in 2014, as shown in Fig. 1.2. The industrial added value from the enterprises above the designated size in Shenzhen was 7.5, 7.8, 5.4 and 15.1 times that in Zhuhai, Shantou, Xiamen and Hainan, respectively. This shows that the industrial development in the special economic zones was intensifying, and its growth rate was declining slightly.

The advanced manufacturing industry is the kind of manufacturing industry that is resource-saving, environmentally-friendly and efficient; it is an important path for transformation and upgrading of the manufacturing industry and green indus-

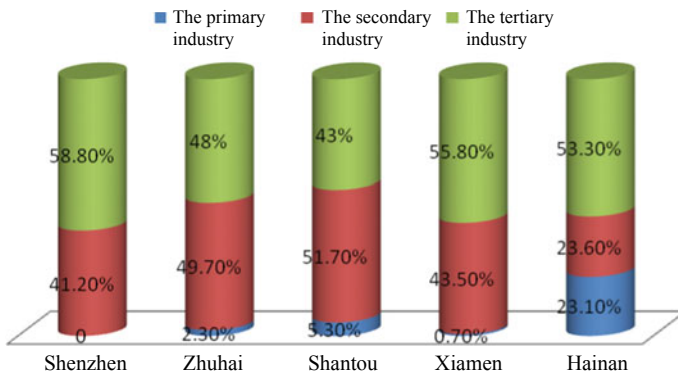
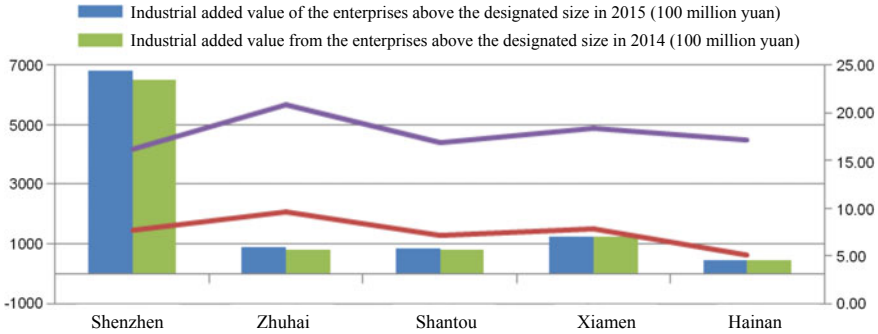
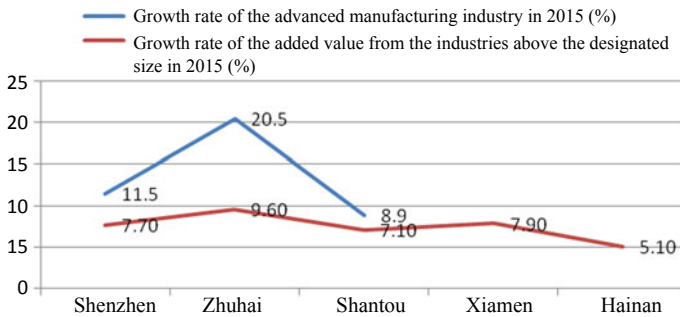


Fig. 1.1 Comparison of the three-industry structure in five major special economic zones in 2015



**Fig. 1.2** Industrial added value and growth rate of the enterprises above the designated size in five major special economic zones in 2014 and 2015

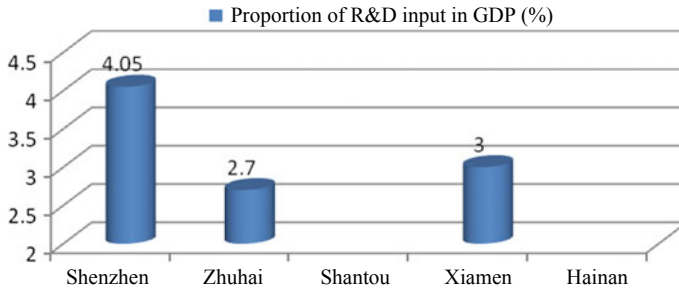


**Fig. 1.3** Growth rate of the added value from the industries above the designated size, growth rate of the advanced manufacturing industry in five major special economic zones in 2015

trial transformation. The advanced manufacturing industry in Shenzhen, Zhuhai and Shantou grew by 11.5, 20.5 and 8.9%, respectively in 2015, apparently higher than the growth rates of the added value from the industrial enterprises above the designated size in 2015, as shown in Fig. 1.3. This suggests that the industries of the special economic zones are transforming and developing towards advanced manufacturing industries that are resource-saving and environmentally-friendly.

Regarding the innovation impetus in the special economic zones, the proportion of all R&D input in GDP in the special economic zones was obviously higher than the level of the national average in 2015, as shown in Fig. 1.4. In particular, the proportion of all R&D input in GDP reached 4.05% in Shenzhen, equivalent to that in South Korea which ranked No. 2 in this regard and much higher than that in other special economic zones.

In 2015, the number of scientific research achievements surged in the special economic zones; the number of domestic patent applications and domestic authorized patents increased by more than 28% in Shenzhen and Hainan, while that in Shantou grew by 8 and 18.3%, respectively, as shown in Fig. 1.4. Furthermore, the number of



**Fig. 1.4** Proportion of R&D input in GDP in five major special economic zones in 2015

PCT international patent applications in Shenzhen reached 13,300, ranking Shenzhen No. 1 across China for 12 consecutive years and exceeding their number in the UK and France.

## 2. Progress of the special economic zones regarding level of the cultural factor

In 2015, as a new economic form, Internet Plus would speed up the explosive development of new-type industries and emerging business types, and arouse the vitality of innovations within the traditional industries in market competition; it would also provide new opportunities for the future development of the cultural industry.

In the Government Work Report 2015, Shenzhen vowed to reinforce its coordination among innovations, the business start-up, venture capital investments and makers, and build a modern international innovative city. Shenzhen has made new progress and breakthroughs in quickening the building of a strategic hub involving the Belt and Road, the development of the cultural industry and the integration of culture into the international community. According to the statistical data of the Shenzhen Culture, Sports and Tourism Administration, the budget revenue of the departments under the Shenzhen Culture, Sports and Tourism Administration was 722,560,100 yuan in 2015, up 26,710,100 yuan or 3.84% compared with 2014, including 642,931,600 yuan in fiscal budget appropriation, 11,174,500 yuan in the revenue of public institutions, 12,970,300 yuan of gap between revenue and expenditure covered by public institution funds and 55,483,700 yuan carried forward from the previous year. The budget expenditure of the departments under the Shenzhen Culture, Sports and Tourism Administration was 722,560,100 yuan in 2015, up 26,710,100 yuan or 3.84% compared with 2014.<sup>1</sup> In 2015, as an important national tourist city, Shenzhen delivered an excellent performance in the tourism industry and was awarded the title “the first Model City of National Civilized Tourism Volunteer Service”. Thirty-eight out of the top 100 travel agencies in the whole province are located in Shenzhen, and 4 travel agencies in Shenzhen are listed among the top 100

<sup>1</sup>The Shenzhen Culture, Sports and Tourism Administration: Department Budget of the Shenzhen Culture, Sports and Tourism Administration 2015, Shenzhen Government Online ([www.sz.gov.cn](http://www.sz.gov.cn)). [http://www.sz.gov.cn/szzt2010/zdlyzl/zjxx/bm/201507/t20150703\\_3098479.htm](http://www.sz.gov.cn/szzt2010/zdlyzl/zjxx/bm/201507/t20150703_3098479.htm), 2015-07-03.



travel agencies in the nation. In 2015, according to the overall requirement of building new platforms, new bright spots and comprehensively enhancing the work quality in Shenzhen's cultural, sports and tourism work, Shenzhen further pushed forward the development of the tourism industry into the large, standardized, characteristic one based on e-commerce, it strengthened the supervision of the market order, actively innovated its management means, optimized the environment for the development of tourism, and delivered staged performances.<sup>2</sup>

The 13th Five-Year Plan of Zhuhai for the Cultural Industry calls for carrying out the core strategy of innovation-driven development with the main goal of building an international innovative city. The number of hi-tech enterprises increased by 64 in Zhuhai in 2015, up 18.5% from the previous period. In 2015, a modern industrial system with high-end manufacturing industries, new and high-tech industries, high-end service industries and a characteristic marine economy was basically completed, and Zhuhai witnessed the gradual formation of a number of leading innovative enterprises with international competitiveness, including Kingsoft Online Games, Legend Animation, Zhwyd, Sky Animation, and Locomotive Design. According to the data from the Zhuhai Bureau of Statistics, Zhuhai's GDP was 202,498 million yuan in 2015, up 10.0%; the number of inbound tourists reached 4,711,300 person-times, up 2.3%; the total amount of revenue from tourism was 27,732 million yuan, up 5.9%.<sup>3</sup> As shown by these data, Zhuhai maintained a good momentum of economic development in 2015. Zhuhai enjoys abundant cultural deposits and a good foundation for high and new technology industries. The 13th Five-Year Plan of Zhuhai for the Cultural Industry has enabled Zhuhai to embark more quickly on the characteristic path of innovation-driven development.

In 2015, Xiamen saw a rapid development of the cultural industry. According to *An Analysis of the Development of Xiamen's Cultural and Related Industries 2015*, released on the official website of the Xiamen Bureau of Statistics, Xiamen ranked No. 1 in Fujian Province in terms of growth rate of the main operating revenue from the cultural industry, up 9.5 percentage points compared with the average level of the province; the main operating revenue was 77,239 million yuan; 149,300 people were employed; the total assets amounted to 82,043 million yuan; the proportion of the scale of the main operating revenue in the provincial scale reached 18.1% in 2015, up 1.3 percentage points compared with the previous year; it continued to rank No. 3 in Fujian Province in the total quantity and remained at the first level of the regional pattern of the cultural industry in Fujian Province.<sup>4</sup> Xiamen's cultural industry generally presents the following characteristics: the regional distribution is

---

<sup>2</sup>Tan Fengxi, *Innovating Industrial Management, Promoting Transformation and Upgrading—the Municipal Culture, Sports and Tourism Administration Convened the Working Conference on Travel Agency Quality Supervision 2016*, *Shenzhen Special Zone Daily*, January 18, 2016.

<sup>3</sup>Zhuhai Bureau of Statistics, *Statistical Communiqué of Zhuhai's National Economic and Social Development 2015*, Zhuhai Statistical Information Online. [http://www.stats-zh.gov.cn/tjzl/tjgb/201603/t20160330\\_325988.htm](http://www.stats-zh.gov.cn/tjzl/tjgb/201603/t20160330_325988.htm), 2016-03-30.

<sup>4</sup>The Xiamen Bureau of Statistics, *An Analysis of the Development of Xiamen's Cultural and Related Industries 2015*, Xiamen Statistical Information Online. [http://www.stats-xm.gov.cn/tjzl/tjfx/201607/t20160726\\_28512.htm](http://www.stats-xm.gov.cn/tjzl/tjfx/201607/t20160726_28512.htm), 2016-07-26.

highly concentrated; the cultural enterprises above the designated size show continued industrial development; the citizens' level of cultural consumption has increased to some degree; public cultural services have been continuously enhanced. Moreover, large leading enterprises are available only in small quantities; the cultural enterprises above the designated size are suffering from great loss; the performance of some sectors has declined.

In 2015, under the theme of cooperation, innovation and service, the Overseas Chinese Economic and Cultural Cooperation Experimental Zone offered a cultural exchange platform for overseas Chinese and an important vehicle for Guangdong Province to boost its open economy in an all-round way. At present, reforms and innovations are being rapidly promoted, and breakthroughs have been made in key industrial projects in the Experimental Zone. Shantou Work Base under the HOME Program has been successfully initiated; the introduction of talents and the management mechanism have been constantly improved.<sup>5</sup>

In 2015, as the Implementation Plan of Hainan Province for Promoting the Integrative Development of the Creative Culture and Design Service and Related Industries (2015–2020) explicitly states that Hainan will turn the cultural industry into a pillar of Hainan's service industry, the cultural enterprises above the designated size in Hainan delivered 18.54 billion yuan in operating revenue, up 2.0% compared with the previous year; there was a good momentum of development and a good effect of scale economy; the cultural legal entities above the designated size became the backbone of Hainan's cultural industry.<sup>6</sup>

### 3. Progress of the special economic zones regarding the level of ecological resource factors

#### (1) Comparison of resource input and its composition among five major special economic zones in 2015

In 2015, the decreasing order of the special zones in the total direct material input (DMI) was Hainan (54,784,000 t), Shenzhen (18,098,000 t), Shantou (14,602,000 t), Xiamen (11,743,000 t) and Zhuhai (12,466,000 t); the per capita DMI which characterizes the level of per capita material resource input excludes the total population and clearly reflects the resource consumption necessary for economic development in the special zones. The decreasing order of the special zones in the per capita resource input was Zhuhai (7.63 t/person), Hainan (6.29 t/person), Xiamen (3.04 t/person), Shantou (2.63 t/person) and Shenzhen (1.59 t/person) (Table 1.1).

<sup>5</sup>The Financial Office of Guangdong Province, The Overseas Chinese Economic and Cultural Cooperation Experimental Zone Becomes Part of the Belt and Road and Serves as an Important Vehicle for Guangdong's Open Economy, Guangdong Financial Online. <http://gdjrb.gov.cn/index.php/article/index/id/3882.html,2015-12-08>.

<sup>6</sup>The Hainan Bureau of Statistics, The Structure of the Cultural Industry Is Optimized, Transformation and Upgrading are Accelerated—An Analysis of the Development of Hainan's Cultural Industry 2015, Hainan Bureau of Statistics. [http://www.stats.hainan.gov.cn/tjsj/tjfx/jdfx/201609/t20160914\\_2117357.html,2015-09-13](http://www.stats.hainan.gov.cn/tjsj/tjfx/jdfx/201609/t20160914_2117357.html,2015-09-13).

**Table 1.1** Comparison of the DMI, per capita DMI and other indicators among the special zones in 2015

	DMI (10,000 t)	Per capita DMI (t/person)	Resource produc- tivity (yuan/t)	GDP (100 mil- lion yuan)	Year-end perma- nent resident popula- tion (10,000 people)	Per capita GDP (10,000 yuan)	Per capita GDP (USD)
Hainan	5458.4	6.29	4592.4	2506.7	867.2	2.89	4453
Shenzhen	1809.8	1.59	75,996.1	13,753.5	1137.9	12.09	18,629
Shantou	1460.2	2.63	12,044.5	1758.8	554.2	3.17	4884
Zhuhai	1246.6	7.63	14,599.2	1819.9	163.4	11.14	17,164
Xiamen	1174.3	3.04	27,887.6	3274.8	386.0	8.48	13,066

*Source* The material flow analysis framework in this research and relevant data

**Table 1.2** Comparison of the composition of the DMI among the special zones in 2015

	DMI (10,000 t)	1. Fossil fuels (%)	2. Metallic minerals (%)	3. Non- metallic minerals (%)	4. Biomass (%)	Per capita DMI (t/person)
Hainan	5458.39	34.0	10.0	39.4	16.6	6.29
Shenzhen	1860.8	45.85	18.34	16.25	19.56	1.59
Shantou	1460.2	50.6	15.8	16.7	17.0	2.63
Zhuhai	1246.6	48.75	33.65	12.67	4.93	7.63
Xiamen	1174.3	31.05	42.88	14.51	10.56	3.04

*Source* The material flow analysis framework in this research and relevant data

According to the composition of the DMI in the special economic zones in 2015 (shown in Table 1.2), the proportions of fossil fuel, metallic and non-metallic minerals were relatively large in the special zones; for example, fossil fuels accounted for more than half, metallic minerals made up a relatively high proportion in Zhuhai and Xiamen; the reality showed that both special economic zones were experiencing rapid industrial development and a heavy consumption of materials and resources. In Hainan, there were large proportions of fossil fuels, non-metallic minerals and biomass, while metal consumption was less, suggesting a low material consumption and exports in Hainan.

## (2) Comparison of the efficiency of resource utilization among five major special economic zones in 2015

In 2015, Shenzhen witnessed the highest resource productivity (76,000 yuan/t), followed by Xiamen (27,800 yuan/t), Zhuhai (14,600 yuan/t), Shantou (12,000 yuan/t) and Hainan (4600 yuan/t) (Table 1.3).

**Table 1.3** Resource productivity in the special zones, 2012–2015 (*Unit* yuan/t)

Year	Hainan	Shantou	Zhuhai	Xiamen	Shenzhen
2012	4039.6	11269.6	12653.6	23047.0	54938.8
2013	4095.6	10331.1	13259.5	23225.3	62721.2
2014	4326.1	11403.3	14282.8	26613.5	73341.1
2015	4592.4	12044.5	14599.5	27887.6	75996.1

*Source* The material flow analysis results in this research

As shown by the annual indicator, currently the economic growth in the special economic zones still highly depends on resource consumption. In 2015, the resource productivity greatly varied within the special zones—Shenzhen's resource productivity reached 75,996.1 yuan/t, much higher than that in other special economic zones, suggesting a very large space for improving the resource efficiency there.

On the one hand, the economic development has heavily relied on resource consumption and environmental pollution for a long time. In the future, subject to particular social, economic and natural conditions, the special economic zones should aim at an overall optimization of the ecological, economic and social benefits, and gradually achieve an environmental and ecological transformation of the economic system in the economic activities at various levels and links in the whole national economy and industries. On the other hand, China is still at the middle stage of industrialization and it has been impossible to sustain a relatively high growth of factor inputs for a long time, so the special economic zones must realize the importance of improving the factor productivity for long-term continued economic growth and strive to improve the overall efficiency of the economic development.

### ***1.2.2 The New Zones Undertake the Mission of Implementing the National Strategies***

According to public data from the National Development and Reform Commission, in the future, the National Development and Reform Commission will focus on speeding up the construction of functional zones, including pilot free trade zones and the Silk Road Economic Belt and pushing forward the first-ever implementation of pilot programs in relevant fields, offering valuable experience for intensifying the reform.

#### **1. New progress in the Qianhai Pilot Free Trade Zone**

In 2016, the first year for implementing the 13th Five-Year Plan, Qianhai focused on the highlights of the work concerning Qianhai specified in Shenzhen's 13th Five-Year Plan, institutional innovation, the concentrated development of the modern service industries and Shenzhen-Hong Kong cooperation. It also pressed ahead with development and construction, and made the following new progress.

- (1) **Institutional innovation:** Institutional innovation is the core of Qianhai's development and opening up. Institutional innovation is carried out to provide the enterprises in Qianhai with a safe business environment in order to facilitate investment and trade, reduce the operating costs of enterprises and enhance their efficiency. In the past several years, Qianhai carried out continuous innovations in the financial system, legal construction and management mechanism and made staged achievements, and preliminarily built the financial system with the aim of developing national pilot demonstration windows for the opening up of the financial industry, the legal system which centers on a diversified mechanism for the settlement of commercial disputes, the foreign investment management system dominated by the negative list + pre-establishment national treatment, and the in-process and post-mortem system of supervision highlighted by the transformation of the government functions.
- (2) **New progress in the concentrated development of the modern service industries:** Concentrated development of the modern service industries is Qianhai's important industrial positioning. With regard to industrial development, thanks to the advantages from national strategies, policy advantages and location advantage, Qianhai has been home to industrial clusters dominated by four major modern productive service industries, including finance, modern logistics, information services, science and technology services & other professional services. In 2016, the number of enterprises in Qianhai soared. So far, 110,191 enterprises are located in Qianhai, with a total registered capital of 5458.63 billion yuan, up 121.8% compared with the previous year—they include 3719 Hong Kong-funded enterprises, up 90.1%, with a total registered capital of 417,511 million yuan; 47,256 financial enterprises, up 84.1%, with a total registered capital of 3,830,069 million yuan, accounting for 42.89%; 21,218 modern logistics enterprises, with a total registered capital of 423,714 million yuan, up 205.6%, accounting for 19.26%; 11,036 information service enterprises, with a total registered capital of 205,067 million yuan, up 82.1%, accounting for 10.02%; 29,131 enterprises specializing in science and technology services & other professional services, with a total registered capital of 915,066 million yuan, up 164.7%, accounting for 26.44%; 1550 enterprises specializing in manufacturing, real estate, construction and mining, with a total registered capital of 32,780 million yuan, accounting for 1.41%. In 2016 (as of August), Qianhai delivered tax revenue of 13,241 million yuan, up 114.02%.
- (3) **New progress in close cooperation with Hong Kong:** Four years ago, General Secretary Xi Jinping called on Qianhai to rely on Hong Kong to serve the Chinese Mainland and engage with the outside world. Relying on Hong Kong and promoting Shenzhen-Hong Kong cooperation is exactly the important focus which differentiates the Qianhai Zone from the other new zones. The cooperation mechanism of the Qianhai Shenzhen-Hong Kong Youth Innovation and Entrepreneur Hub continued to be implemented for industrial cooperation. With respect to Shenzhen-Hong Kong talent cooperation, in order to deepen the talent cooperation between Shenzhen and Hong Kong, attract more professionals from Hong Kong to participate in Qianhai's development and construction

and actively push forward the mutual recognition of professional qualifications, access mechanisms, a pilot work was carried out with regard to Hong Kong's certified tax agents, accountants, housing managers and Shenzhen-Hong Kong partnership and jointly operated law firms. In 2016, the *Work Arrangements Concerning the Implementation of Hong Kong's Project Construction Mode in Qianhai* was released opening up the path for Hong Kong's professionals, including planners, architects and surveyors to practice in Qianhai. Regarding the legal aspect of this construction, Qianhai continued to promote legal cooperation with Hong Kong. After the first law firm under partnership and joint operation between the Chinese Mainland and Hong Kong settled in Qianhai, 7 out of 9 Guangdong-Hong Kong partnership and jointly operated law firms have been established with state approval and have settled in Qianhai to provide domestic and foreign enterprises with cross-border legal service.

## 2. New progress in the bay area economy

In the past 30 years, the theories and practice of the models of the regional development based on knowledge economy have attracted wide attention from the industrial and academic circles and the government for a long time. The industrial cluster stresses the interdependence between single enterprises and the economic system in the whole geographical area and is one of the most widely-used models for developing the regional industrial economy. In recent years, with the rapid development of the bay area economic belts, including San Francisco and Tokyo, the bay area economic model has been increasingly discussed. Internationally, the bay area economy mainly occurs in a number of seaport clusters and town clusters along coastal ports; it presents these economic characteristics: relying on geographical clusters, emphasizing an open, innovative and international development and a livable environment.

China is stepping up its efforts to build the Silk Road Economic Belt and the 21st Century Maritime Silk Road ("the Belt and Road"); the Shenzhen Special Economic Zone is the window of China's reform and opening up and, located in the Guangdong-Hong Kong-Macao Bay Area and in a strategic position for the Maritime Silk Road, it engages in close exchange and cooperation with the countries along the Belt and Road, so it should continue to play the role of forerunner in development, reform and opening up—become the first to implement the requirements specified by the Central Government and Guangdong Province, energetically adapt to the new normal of economic development, promote the cooperation in the Guangdong-Hong Kong-Macao Bay Area. This is the action actively taken by the Shenzhen Special Economic Zone to serve the Belt and Road put forward by China, to coordinate with Guangdong's marine economic strategy and also with the choice actively made to seek a higher quality of development under the new economic development situation.

Both industrial cluster and the bay area economy stress the regional agglomeration spillover of industrial organizations and continuous improvement of their operation for strengthening cooperation and benign competition, improving innovation capability and industrial efficiency. The unique geographical advantage from its proximity to Hong Kong and Macao is conducive to the establishment of the Shenzhen Special Economic Zone, while the close economic cooperation with Pearl

River Delta groups of cities enables its continued development. It only took 35 years for Shenzhen to develop from a small fishing village into an international metropolis and gradually demonstrate the characteristics of the bay area development model. The *Government Work Report* delivered by the Mayor of Shenzhen, Xu Qin, focuses on the bay area economy and stresses efforts to build industrial clusters at Qianhai Bay, Shenzhen Bay, Dapeng Bay and Daya Bay. As a result, the building of the bay area economy based on industrial clusters becomes the developmental model vigorously encouraged by the Shenzhen Municipal Government; a number of guiding policy documents are carried out—according to *Shenzhen's Action Plan for Implementing Eastward Strategy (2016–2020)*, by 2020, eastern Shenzhen will become home to industrial clusters, including new-generation information technology, new energy, intelligent equipment, life health and port logistics; according to the *Several Opinions on Vigorously Developing the Bay Area Economy and Building the Bridgehead of the 21st Century Maritime Silk Road*, by 2020, the bay area economic form and layout will basically take shape in Shenzhen; by 2030, Shenzhen will become a world-class bay area city.

### **1.3 New Challenges and Opportunities for the Development of the Special Economic Zones**

World trade is declining and the world economy is weakly recovering. Meanwhile, domestic long-term deep-seated contradictions are becoming acute, and the real economy is still under downward pressure. The 13th Five-Year Plan will place more emphasis on Internet Plus, the Belt and Road strategy and new opportunities for the internationalization of the RMB. In the medium and short term, it is essential to study the people's current main concerns:

#### ***1.3.1 The Special Economic Zones Should Activate New Driving Forces and Intensify Transformation***

##### **1. New driving forces from supply-side reform**

In 2016, the first year for implementing the 13th Five-Year Plan of the special economic zones, five major tasks involving supply-side reform, including cutting overcapacity and excess inventory, deleveraging, reducing costs, and strengthening the points of weakness, were carried out and a significant effect was produced. Accordingly, on the one hand, the development of the special economic zones apparently improved with an obvious reduction of loss in traditional industries, including coal, steel and nonferrous industries, and an increase in their profit-making capability; on the other hand, the business relating to green bonds, low-carbon securities investment funds and asset securitization fit for supply-side reform increased markedly.

## 2. **New driving forces arising out of an increasing contribution from the growth of the new economy**

In 2016, the traditional economy in the special zones was still growing less, but the development of emerging industries gained momentum and the emerging industries increased their contributions to the economic growth of the special zones—there was an apparent increase in the development of the emerging industries such as information technology, electronics and communication equipment manufacturing, aerospace manufacturing, cloud computing, big data, virtual reality, artificial intelligence, 3D technology, robotics, new energy, new materials, medical services, biotechnology and life sciences, medical devices, the Internet, medical education, old-age care, sports, culture and entertainment, education.

Currently, the special economic zones should not only foster new driving forces, but also transform and upgrade the old driving forces in order to achieve coordinated development of the new and old driving forces.

### *1.3.2 New Challenges and Opportunities*

In the next several years, China's economic situation will remain less optimistic, exports and domestic consumption will continue to be restricted. Industrial innovation will be an urgent matter. Attention will further focus on economic structural reforms and the government's economic deregulation.

1. Internet Plus will be able to greatly reduce intermediation, monopolization and information asymmetry as well as enterprise costs. Accordingly, it will leave the following service space to the special zones: First, it will increase the need for the construction of smart cities. The corresponding intelligent services will be provided in the process of making public services—including urban medical treatment, health and environmental protection—more intelligent. Second, it will generate more need for intelligent production. The traditional enterprises in the special zones will be upgraded and transformed into smart factories.
2. The Belt and Road strategy will be converted from the initial idea into concrete projects and achievements. Accordingly, this will bring about a new need for international infrastructures and cooperation on production capacity, it will boost intensive and fine construction; it is very likely that the special zones will obtain the first-mover advantage.
3. The internationalization of the RMB will present new opportunities. The RMB was officially included in the SDR currency basket on October 1, 2016. The special zones will be more closely integrated into the division of labor in the global industrial chain so as to build more extensive and deeper economic and trade contacts with other countries.



## **1.4 The Developmental Path During the Next Year and Cautions**

### ***1.4.1 The Shift of the Special Zones from a Real Economy to a Virtual Economy and the Efficiency of Resource Allocation***

This year, the average growth rates of the bank loan scale and the financial asset scale in the special zones has been 15.4 and 40%, respectively, but that of the economic growth in the special zones has been only 9%, suggesting that the growth of the virtual economy surpassed that of the real economy, or the growth of the virtual economy was separated from that of the real economy to some extent. Thus, how to introduce more financial resources into the real economy is an important issue for the economic development of the special zones in the future.

Therefore, there is an urgent need to speed up the transformation and upgrading of the traditional industries in the special economic zones, pushing forward information-based, intensive and fine construction, and maintaining a high degree of coordination with the development of other real industries. The special economic zones have produced apparent driving and demonstration effects on China's economy; they still have large room for future development.

### ***1.4.2 Ongoing Gradual Implementation of the Theory of Supply-Side Reform in Future Reforms in the Special Zones***

Supply-side reform is the most important strategy for China's economic reform. The key to the success of the reform lies in guiding capital, talents and demand to the emerging industries and the new fields consistent with the upgrading of consumption. There are many weak spots to be bolstered in China's real economy. The current urgent task is reindustrialization or industrial upgrading rather than deindustrialization.

The most deep-seated risk in the shift from the real economy to the virtual economy is that, on the supply side in the real industries, nobody is willing to carry out reforms and there are no resources available for reforms, as a result, the grand strategy of supply-side reform becomes illusory.

Recently, Liu Shijin, senior advisor, former Deputy Director of the Development Research Center of the State Council, published an article in the *People's Daily* to express the following opinions: "We should ensure that more resources flow to the activities of innovation; although the proportion of the service industry has exceeded that of the manufacturing industry, the manufacturing industry remains the core of national competitiveness... it is very easy for the real estate market and financial mar-

ket in the service industry to generate an economic bubble, attract massive resources from the real economy to the virtual economy, thus weakening the capability for innovative development, even leading to great financial and economic fluctuation and severely disrupting the environment of economic and social development. We must keep sharp vigilance, promptly inhibit various forms of economic bubbles, and make every effort to guide resources to the fields conducive to technical innovations and to the improvement of factor productivity.”

## References

China Statistical Abstract 2015.

National Bureau of Statistics. *China statistical yearbook 2000–2015*.

National Bureau of Statistics. (2005). *China compendium of statistics 1949–2004*. Xinhua Publishing House.

National, provincial, regional and municipal statistical communiqués 2015.

Relevant data from the official website of the National Bureau of Statistics ([www.stats.gov.cn](http://www.stats.gov.cn)).

Relevant policies from the official website of the Chinese Government ([www.gov.cn](http://www.gov.cn)).

Relevant plans, policies and communiqués from the official website of the Ministry of Land and Resources ([www.mlr.gov.cn](http://www.mlr.gov.cn)).

Relevant plans, policies and communiqués from the official website of the State Environmental Protection Administration ([www.mep.gov.cn](http://www.mep.gov.cn)).

Relevant plans and policies from the official website of the National Development and Reform Commission ([www.ndrc.gov.cn](http://www.ndrc.gov.cn)).

Tao, Y. (2012). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.

Tao, Y. (2013). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.

Tao, Y. (2014). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.

Tao, Y. (2015). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.

**Part II**  
**Special Research Reports**

# Chapter 2

## Report on the Green Transformative Development of Industries in China's Special Economic Zones



Yiming Yuan, Zhenkun Yan and Xuan Li

In order to promote the ecological civilization construction of industries, carry out the spirit of the Fifth Plenary Session of the 18th Central Committee of the Communist Party of China and the five major development philosophies, including innovation, coordination, greenness, openness and sharing, it is necessary to resolutely boost green development and push forward industrial transformation and upgrading. As China is entering the era of green transformation and development, the five major special economic zones are actively putting in practice the important path of green development, transformative development, innovative development, harmonious development which have produced preliminary effects.

### 2.1 Basic Trends of the Green Upgrading of Industries in the Special Economic Zones

#### 2.1.1 *Build a Modern Industrial System, Promote the Green Transformation of Industries*

Building a modern industrial system, continuously optimizing the industrial structure, speeding up industrialization, increasing the proportion of the tertiary

---

This paper is the result of “A Study of Industrial Transformation and Social Distribution in the Special Economic Zones”, a major program of the Ministry of Education’s Research Base for Humanities & Social Science (program number: 15JJDZONGHE032) and “A Study of Industrial Transformation in the Special Economic Zones”, a program for the year 2016 at the China Center for Special Economic Zone Research, Shenzhen University.

---

Y. Yuan (✉) · Z. Yan · X. Li  
Center for Special Economic Zone Research, Shenzhen University, Shenzhen, China

industry, decreasing the proportion of the industries with high energy consumption and high carbon emissions in the GDP is one of the main ways of achieving the green transformation of industries.

### 1. Shenzhen

Shenzhen's GDP was 1750.3 billion yuan in 2015, up 8.9%—the tertiary industry rapidly developed—its annual added value was 1,029,180 million yuan, up 10.2%, accounting for 58.8% of Shenzhen's GDP, up 1.5 percentage points compared with the previous year; the modern service industries delivered added value amounting to 713,447 million yuan, up 11.6%, accounting for 69.32% of the tertiary industry, up 1.72 percentage points; the real estate industry grew the most rapidly among the modern service industries, its annual added value was 162,777 million yuan, up 16.8%; the financial industry witnessed a relatively rapid growth, its annual added value was 254,282 million yuan, up 15.9%; as one of the four pillar industries, including the financial industry, cultural industry, and new and high-tech industry in Shenzhen, the logistics industry delivered an annual added value amounting to 178,270 million yuan, up 9.4%. The development of the service industry is one of the comprehensive indicators which reflect the comprehensive strength and the degree of a city's modernization. Compared with industry, the modern service industries consume fewer resources and energy and emit less pollution; they are environmentally friendly, thus accelerating the development of the modern service industries is the inevitable choice for achieving the green transformation of industries. The sustained growth of Shenzhen's modern service industries is conducive to promoting a profound integration of industrialization and informatization, sharpening the competitive edge of industrial enterprises, and expediting the development of the Internet and consumption platform so as to push forward the green transformation of industries.

Shenzhen's secondary industry brought about added value amounting to 720,553 million yuan in 2015, up 7.3%, accounting for 41.2% of Shenzhen's GDP, down 1.5 percentage points—the high-technology manufacturing industry in the secondary industry delivered added value amounting to 449,136 million yuan, up 9.7%, with its growth rate being 2 percentage points higher than that of the industries above the designated size in Shenzhen, accounting for 66.2% of the added value of the industries above the designated size in Shenzhen, up 3 percentage points. The advanced manufacturing industry generated added value amounting to 516,557 million yuan, up 11.5%, 3.8 percentage points higher than the growth rate of the industries above the designated size in Shenzhen, accounting for 76.13% of the added value from the industries above the designated size, up 1.93 percentage points. Currently, Shenzhen's intelligent equipment manufacturing industry is delivering an annual output value equivalent to about 500 billion yuan; it provides support for intelligent industrial manufacturing and has become the frontrunner in China. Shenzhen's marine industry realized an added value at an average annual growth rate of 20%, Shenzhen has become the national pilot city for developing the marine industry. In 2015, not only large enterprises including Huawei, ZTE Corporation, BYD, China Star Optoelectronics Technology and major projects grew rapidly, but also small and medium-sized enterprises such as DJI-Innovations (drone), BGI (the world-leading

genomics center), Ubtech (Alpha humanoid robot) and Royole (the world's thinnest (0.01 mm) flexible screen) swiftly rose; a large number of new-type enterprises led the direction of the emerging industries and sub-industries and stimulated the manufacturing industry to move towards the high end. Moreover, Shenzhen focused on developing seven major strategic emerging industries, including biology, the Internet, new energy, new generation information technology, new materials, cultural creativity, energy conservation and environmental protection; their annual added value increased by 12.4, 19.3, 10.1, 19.1, 11.3, 13.1 and 12%, respectively compared with the previous year, apparently higher than the growth rate of the industries above the designated size in Shenzhen and have become the new growth point of a low-carbon economy. The vigorous development of the advanced manufacturing industry and the strategic emerging industries helped continuously optimize Shenzhen's industrial structure, constantly improved the economic quality and promoted the green transformation of industries.

## 2. Zhuhai

In 2015, Zhuhai's GDP was 202,498 million yuan, up 10.0%, the highest growth rate in Guangdong Province—the secondary industry delivered added value amounting to 100,601 million yuan, up 10.2%, the highest growth rate in the five major special economic zones; the tertiary industry generated added value equivalent to 97,234 million yuan, up 10.0%, accounting for 48% of Zhuhai's GDP, up 1.2 percentage points. The industrial structure was optimized and upgraded. The high-end manufacturing industry, new and high-tech industry, high-end service industry, characteristic marine economy and ecological agriculture continuously developed; Zhuhai saw the formation of a new industrial system with a high technological content, high added value, low energy consumption and low pollution, and energetically pushed ahead with the green transformative development of industries. In 2015, the advanced manufacturing industry and the high-technology manufacturing industry grew by 20.5 and 18.6%, respectively, much higher than the growth rate (9.6%) of the industries above the designated size in Zhuhai. The modern service industries delivered added value amounting to 56,286 million yuan, up 10.1%, accounting for 57.89% of the tertiary industry, up 0.29 percentage points. The financial, convention and exhibition, headquarters economy industries, developed rapidly—the added value from the financial industry grew by 14.8%; the number of exhibitions, exhibition areas and the number of participants grew by 167, 183 and 105%, respectively; with strong support from preferential policies and fiscal funds, the potential of the headquarters economy was changed into actual developmental strength, many enterprises were headquartered in Zhuhai, especially in the Hengqin New Area. With the implementation of “Blue Zhuhai, Scientific Rise” strategy, the marine economy was identified as an important pole of Zhuhai's industrial system covering the high-end manufacturing industry, new and high-tech industry, high-end service industry, characteristic marine economy and ecological agriculture; the annual output value from the marine industry hit 70 billion yuan, up 27%, accounting for about 34% of Zhuhai's GDP, which made outstanding contributions to Zhuhai's economic growth. Doumen Ecological Agricultural Park includes 14 national and provincial agricultural standardized

demonstration bases and 18 bases for the production of agricultural products; it is listed among the second batch of the national food safety demonstration zones and the fifth batch of national agricultural science and technology parks, the first national demonstration zone for modern urban agriculture and the first national estuarine fishery demonstration zone.

### 3. Shantou

In 2015, Shantou's GDP was 185,001 million yuan, up 8.4%, 1.5 and 0.4 percentage points higher than the national GDP and Guangdong's GDP, respectively; Zhuhai's economy developed steadily and rapidly—the secondary industry delivered added value amounting to 95,669 million yuan, up 7.4%; the tertiary industry generated added value equivalent to 79,601 million yuan, up 10.4%; the growth rate of Zhuhai's tertiary industry was the highest among the five special economic zones; the three-industry structure was adjusted to 5.3:51.7:43.0; the proportion of the added value from the service industry increased by 1 percentage point compared with the previous year, and the industrial structure continued its process of optimization. The modern service industries delivered an annual added value amounting to 31,788 million yuan, up 12.6%, accounting for 39.9% of the tertiary industry, up 0.9 percentage points. As the Internet finance policy was implemented and capital market was brisk, the added value from the financial industry grew by 13.8%, 3.4 percentage points higher than the growth rate of the added value from the tertiary industry. With the impetus from 4G mobile phones, the Internet, relevant industries and other emerging business types, the added value from the information transmission, computer services and software industries grew by 13.2%, 2.8 percentage points higher than the growth rate of the added value from the tertiary industry. With the rapid development of industrial production and the service industry and the swift growth of modern logistics, the express business volume ranked No. 6 in Guangdong Province.<sup>1</sup> The annual industrial added value was 87,248 million yuan, up 7.1%—the advanced manufacturing industry delivered an added value amounting to 9662 million yuan, up 8.9%; the high-technology manufacturing industry brought about an added value amounting to 3.6 billion yuan, up 6.6%.

### 4. Xiamen

In 2015, Xiamen's industrial structure was continuously optimized; Xiamen's three-industry structure was adjusted to 0.7:43.5:55.8, the annual added value from the secondary industry was 150,899 million yuan, up 7.9%; the tertiary industry delivered an added value amounting to 193,308 million yuan, up 6.5%; the proportion of the added value from the service industry increased by 2.3 percentage points, the service industry became the most important pillar for economic growth. In 2015, the Xiamen Ocean Gate Container Terminal was put into operation; it is the first fourth-generation automatic terminal in China; it has greatly enhanced the international shipping capacity. In 2015, the annual port cargo throughput reached 210

---

<sup>1</sup>An Analysis of City-wide Economic Operations in 2015, Shantou Statistical Information Online.

million tons, up 2.5%; the container throughput reached 9,183,000 TEUs, up 7.1%. E-commerce retail sales became a new point of growth; the annual total retail sales of consumer goods amounted to 116.84 billion yuan, up 8.9%. The tourism, conference and exhibition industry also continued to maintain a good momentum of development. Xiamen was listed among the first batch of China's model cities for leisure tourism. The annual tourism income totaled 83.24 billion yuan, up 15.3%. A total of 1.35 million people participated in meetings, up 57.6%. Xiamen was given the Asia Outstanding Exhibition Award. The industries grew rapidly. The total output value from the industries above the designated size in Xiamen was 503.08 billion yuan in 2015, up 8.1%, while the added value was 125,406 million yuan, up 7.9%. The advanced manufacturing industry developed in a concentrated way; in 2015, the new and high-tech enterprises delivered an output value amounting to 331.59 billion yuan, accounting for 65.9% of the total output value from the industries above the designated size. The panel display industry chain generated an output value amounting to 115.3 billion yuan; it was the first industrial chain of manufacturing which hit 100 billion yuan in Xiamen. The computer and communications equipment industrial chain delivered an output value equivalent to 70.92 billion yuan. A number of enterprises, including Taiwan United Microelectronics Corporation and Tsinghua Unigroup, settled in Xiamen, making Xiamen the national base for the integrated circuit industry. The biological and new medical industrial chain delivered an output value amounting to 9.47 billion yuan. Haicang Biopharmaceutical Park has become the characteristic industrial base under the China Torch Program. The Torch High-tech Zone is the only industrial cluster for pilot photoelectric display in China.

## 5. Hainan

In 2015, Hainan's GDP was 370.28 billion yuan, up 7.8%—the added value from the secondary industry was 87,513 million yuan, up 6.5%; the added value from the tertiary industry was 197,181 million yuan, up 9.6%; the three-industry structure was adjusted to 23.1:23.6:53.3; the industrial structure was further optimized; the proportion of the added value from the service industry increased by 1.4 percentage points from the previous period; the added value from the service industry accounted for more than half of the GDP and increased its contributions to economic growth. The development of the modern service industries was an important way to promote the transformation and upgrading of the service industry. In 2015, there was a rapid growth in the financial, information transmission, software and information technology service, tourism and express industries. The added value from the financial industry was 24,701 million yuan in 2015, up 19.6%; the information transmission industry and the software and information technology service industry reversed the decrease which had occurred in the previous year and delivered an operating revenue amounting to 12.09 billion yuan in 2015, up 11.9%, accounting for 14.6% of the service industries above the designated size in Guangdong Province, up 1.9 percentage points. Travel agencies, relevant service industries, park and scenic spot management, literary and artistic creation, performance and amusement parks generated an operating revenue equivalent to 6.23 billion yuan in 2015, up 12.4%, accounting for 7.5% of the service industries above the designated size in Guangdong Province.



With the driving effect from fast-growing e-commerce, the express industry delivered an operating revenue amounting to 360 million yuan in 2015, up 57.4%. Hainan's industries developed late, so leveraging Hainan's resource advantages to develop the emerging strategic marine industries is an important way to speed up industrialization and high-end development of industries.

### ***2.1.2 Derive Driving Forces from Scientific and Technological Innovation, Enhance the Capability for Green Transformation***

The transformative development of industries must rely on the support from strong green science and technology. It is necessary to intensify scientific and technological innovation, improve the capability for scientific and technological innovation and the efficiency of resource utilization, transform the extensive economic pattern of development into an intensive economic pattern of development in order to fundamentally change the driving forces for economic development and enhance the capability for the green transformation of industries.

#### **1. Shenzhen**

Shenzhen's R&D input accounted for 4.05% of the GDP in 2015, up 0.03 percentage points compared with the previous year. In 2015, only Huawei dedicated more than 100 billion yuan to research, development and market services. There were more than 1,353,000 professionals and technicians, up 5.6%, including 415,000 professionals and technicians at and above the intermediate technical title, up 4.4%. Shenzhen filed 13,300 PCT (Patent Cooperation Treaty) international patent applications in 2015, up 1700, accounting for 46% of the PCT international patent applications across the country, ranking Shenzhen No. 1 in China for 12 consecutive years; Shenzhen surpassed a number of countries, including the UK and France to be at the forefront of the world in innovation capability for 4G technology, metamaterial, gene sequencing, new energy automobiles, 3D displays and drones. There were 105,400 domestic patent applications and 72,100 domestic patent authorizations in 2015, up 28.2 and 34.3%, respectively. As of late 2015, Shenzhen was home to 1283 innovation vehicles, including key national, provincial and municipal laboratories, engineering laboratories, engineering (technology) research centers and enterprise technology centers. Thanks to the strong impetus provided by the vehicles of innovation Shenzhen was given 4 technical invention awards and 9 scientific and technological progress awards in the appraisal and selection of national, scientific and technological awards, 34 awards including 5 first awards, 16 second awards and 13 third awards in the appraisal and selection of scientific and technological awards in Guangdong Province. With the support from innovation carriers, incubation carriers and investment funds, Shenzhen is gradually fostering an innovation and entrepreneurial environment with a virtuous cycle. Shenzhen has made a flying-geese innovative

business arrangement for the common development of small, medium-sized and large enterprises, and has reached the national advanced level in the capability for original innovation and core technology innovation, Shenzhen is actively promoting the green transformation and upgrading of industries.

With scientific and technological innovation, many enterprises have grown into global leaders of the industry; for example, as the largest telecommunication equipment provider in the world, Huawei delivered an annual global sales revenue amounting to 395 billion yuan, up 37%. As the largest gene sequencing institution in the world, BGI applies a number of frontier scientific research achievements in such fields as medical health, agricultural breeding and resource conservation, and is pushing forward the transformation of genetic scientific and technological achievements; it was given two provincial awards for natural science in 2015. DJI-Innovations has become the leading global small-drone enterprise in several years and enjoys more than 50% of the global market share. TP-Link has ranked No.1 in the world on the wireless device market for five consecutive years.

## 2. Zhuhai

In 2015, Zhuhai's R&D input accounted for 2.7% of the GDP; it ranked No. 2 in Guangdong Province, only second to Shenzhen. The coverage rate of research and development institutions at the industrial enterprises above the designated size reached 20%, and ranked No. 1 in Guangdong Province. There were 2711 invention patent applications per one million people per year and every 10,000 people owned 22.5 invention patents. Zhuhai ranked No. 2 in Guangdong Province in both indicators. New and high-tech enterprises accounted for 40% of the total industrial enterprises above the designated size; the output value of new and high-tech products made up 55% of the total output value of the enterprises above the designated size, Zhuhai ranked No. 3 in Guangdong Province in both indicators. In 2015, Zhuhai unveiled the *Three-Year Action Plan of Zhuhai for Innovation-driven Development (2015–2017)*, *Several Policies and Measures of Zhuhai for Accelerating Scientific and Technological Innovation* and 18 core policies for innovation-driven development gradually shaped the innovation ecology of Blue Zhuhai. In 2015, significant innovation achievements were made; Livzon Pharmaceutical's project for research, development and commercialization of the original new drug Ilaprazole was granted the national second award for scientific and technological progress; nine projects, including Gree Electric Appliances' two-stage permanent-magnetic synchronous frequency-convertible centrifugal chiller, Livzon Pharmaceutical's research and commercialization of major generic and key technologies in the upgrading of the injection products for traditional Chinese medicine were given scientific and technological awards of Guangdong Province, among which three projects were granted the first award of Guangdong Province for science and technology, ranking Zhuhai No. 3 in Guangdong Province in the number of the first awards, only second to Guangzhou and Shenzhen. As of late 2015, there were 16 recognized innovative research and development institutions, including Zhuhai Innovation Center of Tsinghua University and Zhuhai Modern Industry Research Institute of South China University of Technology, and Gree Research Institute was chosen as the key national laboratory. Innovations

were also made to the operational mechanisms for the public testing service platform similar to South Software Product Testing Center; a government-led operational mechanism consistent with market needs was built; full scope was given to the role of public innovation service platforms in exerting influence on others and the innovation capability of small and medium-sized enterprises was improved.

The effect of putting scientific research achievements in practice was very significant. In 2015, a number of innovative enterprises made improvement in both output value and technology; take Oceanalpha as an example, as an enterprise established by the youngest expert under China's Recruitment Program of Global Experts six years ago, it achieved an explosive growth of output value and extended industrial development to the upstream—research and development of new materials, the downstream—testing and technical service, and it represented the explosive growth of innovative enterprises and improvement in both output value and technology. Meizu delivered an output value which hit 20 billion yuan, up more than 300%. CNOOC Deep Sea Development Co., Ltd. generated 10 billion yuan in output value, up more than 100%. A host of enterprises, including Hailong Biological, Enpower, CNR and Emerson, grew by more than 50%.

### 3. Shantou

In 2015, with the driving effect of municipal science and technology programs, Shantou's social R&D input significantly improved; an amount of 30,354 million yuan was invested in industrial technical renovation, up 61.7%. A total of 9827 patent applications were newly filed, up 8.0%; 7651 patent authorizations were granted, up 18.3%. There were 14 state-owned independent research and development institutions, scientific research information and literature institutions at and above the county level; 46 scientific and technological awards and 5 provincial awards for scientific and technological progress were given. As of late 2015, Shantou had established a cooperative relationship with more than 40 colleges and universities, including Wuhan University, and more than 20 scientific research institutes; it had built a number of industry-university-research demonstration bases, including a functional film research and development base, green packaging, digital printing and an alliance for industrial technical innovation; it had provided policy and capital support in order to cultivate a group of national and provincial innovative enterprises; it was home to 150 enterprises provincially identified as new and high-tech enterprises, all of which reached national new and high-tech enterprise standards, up 13.6%. A total of 92% of the 25 listed enterprises in Zhuhai were technology enterprises; the business incubation center of the hi-tech zone was successfully identified as the national incubator for technology enterprises.

### 4. Xiamen

In 2015, Xiamen's R&D input was 10,342 million yuan, accounting for 3% of the GDP; the full-time equivalent of research and development personnel per 10,000 workers was 128 man-years; Xiamen ranked No. 1 in Fujian Province in both indicators. As of late 2015, there were 14.38 effective invention patents per 10,000 people,

3.1 times the average number in Fujian Province; in this regard, Xiamen ranked No. 1 in Fujian Province. Xiamen actively promoted popular entrepreneurship and innovation; there were 1000 new and high-tech enterprises in Xiamen, accounting for about 50% of the new and high-tech enterprises in Fujian Province. In 2015, the new and high-tech industries delivered an annual added value amounting to 113,782 million yuan, accounting for 75.4% of the added value from the secondary industry; the new and high-tech enterprises above the designated size brought about an added value equivalent to 33.57 billion yuan, up 34.2%; it ranked No. 1 in Fujian Province in total quantity, proportion and speed of growth. In 2015, Xiamen introduced more than 400 national science and technology projects, and obtained funds worth about 390 million yuan; the effect of scientific and technological input was significant; a range of products and technologies—including the first hepatitis E vaccine in the world, the world's third and China's first cervical cancer vaccine, the immune diagnostic reagent for the Middle East respiratory syndrome corona virus—became world-class. As of late 2015, 51 provincial innovative enterprises were cumulatively cultivated, including 6 national innovative enterprises and 7 national pilot innovative enterprises. Furthermore, in the Xiamen Torch Hi-tech Zone, as one of the four national hi-tech zones named “torch” in China, the industrial enterprises above the designated size delivered an annual output value and an added value amounting to 57,204 million yuan and 14,659 million yuan, respectively.

## 5. Hainan

In 2015, Hainan's fund expenditure in scientific and technological activities reached 1.67 billion yuan, up 3.7%; 36,309 people were employed, up 1.9%. A total of 3125 patent applications were accepted and handled, up 29.3%; 2060 patents were authorized, up 29%; there were 2111 effective invention patents, up 17.8%; 2.34 effective invention patents were owned per 10,000 people. Moreover, the establishment of Hainan's first key national laboratory within enterprises (AVIC Special Glass Technology Co., Ltd. got approval to build a key national laboratory for special glass) means that great strides have been made in the system of technical innovations. In 2015, 10 key laboratories and engineering and technological research centers were newly added; 34 enterprises were newly identified as new and high-tech enterprises; 33 projects and products were newly identified as new and high-tech projects and products. In 2015, in Hainan, nearly 500,000 *Stichopus variegates* were bred, with the output value of nearly one million yuan, making the first breakthrough in artificial breeding of *Stichopus variegates* in South China; scientific and technological achievements promoted the development of efficient featured agriculture. In Hainan, special projects for boosting marine development through science and technology were launched; major scientific and technological projects relating to the ocean were carried out, and active efforts were made to apply for provincial-ministerial joint construction of a key national laboratory for the utilization of marine resources from the South China Sea.

### **2.1.3 Improve the Environmental Protection System and Mechanism, Promote the Green Transformation of Industries**

Catering to the needs of the development in the era, fostering the philosophy of environmental protection, making laws to build the institutional environment and incentive system for green transformation, seizing the important opportunities from supply-side structural reform for shoring up the weak links in the ecological environment are the important forces for boosting the green transformation of the industries.

#### **1. Shenzhen**

In 2015, Shenzhen's energy consumption per 10,000 yuan GDP was 0.398 tce/10,000 yuan, down 3%, its level of energy consumption was the lowest in China; water consumption per 10,000 yuan GDP was 11.37 m<sup>3</sup>/10,000 yuan, down 6% the advanced level among large and medium-sized cities across China; the average annual PM2.5 concentration was 29.8 μg/m<sup>3</sup>, down 11.3%, making Shenzhen the large city with the best quality of air in China. In 2015, the ambient air quality index (AQI) was good and excellent on 340 days which accounted for 96.3% of the annual effective monitoring days (353 days).

In 2015, Shenzhen's environmental protection department carried out the new *Environmental Protection Law*, intensified the environmental protection law enforcement, carried out the actions of the Environmental Law Enforcement Year, special law enforcement actions in key fields and objects, and cracked down on the acts of violating environmental laws. In 2015, Shenzhen imposed administrative penalties on 1248 acts of violating environmental laws; these penalties hit 91,518,000 yuan. In 2015, Shenzhen became the first to initiate carbon emissions permit trading; Shenzhen was listed among the first batch of national pilot low-carbon cities; Shenzhen was at the national advanced level in carbon emissions per 10,000 yuan GDP; Shenzhen came out in front among national pilot low-carbon cities. As China V gasoline was applied in an all-round way, about 132,000 yellow-label cars and old cars were phased out; about 600 enterprises underwent exhaust gas control and treatment, 263 automobile repair enterprises experienced water paint renovation. Shenzhen was the first to control pollution from ships in ports with the adoption of low-sulphur fuel in 619 smaller ships.

#### **2. Zhuhai**

In 2015, Zhuhai's energy consumption per 10,000 yuan GDP decreased by 2.8%; energy consumption per 10,000 yuan industrial added value declined by 1.88%; electric power consumption per 10,000 yuan regional GDP decreased by 1.61%.<sup>2</sup> The annual daily average PM2.5 concentration was 31 μg/m<sup>3</sup>, down 8.8%, the air quality was relatively good; Zhuhai ranked No. 9 among 74 cities nationwide in the quality of air. In 2015, the ambient air quality index (AQI) was good and excellent

---

<sup>2</sup>[http://www.gdstats.gov.cn/tjzl/tjgb/201605/t20160509\\_327753.html](http://www.gdstats.gov.cn/tjzl/tjgb/201605/t20160509_327753.html).

on 323 days which accounted for 89.97% of the annual effective monitoring days (359 days). The quality of the water environment was very good, the quality of the water at the drinking water source fully complied with the standard in 2015. The amount of 14,537 million kWh of electric power was consumed in 2015, up 8.2%—8828 million kWh of electric power was consumed by industry, up 4.9%. Waste gas emissions from industrial enterprises increased by 0.48%; the discharge of industrial wastewater decreased by 14.53%, and solid wastes from industrial enterprises increased by 3.34%.

### 3. Shantou

In 2015, Shantou's energy consumption per 10,000 yuan GDP decreased by 6.81%; the energy consumption per 10,000 yuan industrial added value declined by 16%; the consumption of electric power per 10,000 yuan regional GDP decreased by 5.78%.<sup>3</sup> The annual daily average PM<sub>2.5</sub> concentration was 33  $\mu\text{g}/\text{m}^3$ , down 17.5%, the quality of the air was relatively good. In 2015, the ambient air quality index (AQI) was good and excellent on 342 days, which accounted for 94% of the annual effective monitoring days (364 days). The quality of the water at its source was good, and the quality of the water fully complied with the standard. The amount of 17,801 million kWh of electric power was consumed in 2015, up 2.2%—11,412 million kWh of electric power was consumed by industry, up 1.9%. The consumption of electric power in modern service industries soared—the consumption of electric power in the computer service and software industry surged by 41.5%, that in the telecommunications and other transmission service industries increased by 8.2% and that in the financial industry rose by 7.4%; they were 39.3, 6 and 5.2 percentage points higher than the growth rate of the total consumption of electric power, respectively.

In 2015, Shantou intensified its environmental supervision, environmental law enforcement and environmental rule of law; Shantou expanded the limitation on the accessible areas, increased the incentive and subsidy standard for phase-out and enhanced law enforcement on roads to phase out yellow-label cars; 235,000 marks of environmental conformity were verified and issued; 17,000 yellow-label cars were phased out, and the testing lines of nine environmental testing bodies were renovated.

### 4. Xiamen

In 2015, Xiamen's energy consumption per 10,000 yuan GDP was 0.437 tce/10,000 yuan, down 8.33%; the energy consumption per unit of the industrial added value decreased by 16.81%; the consumption of electric power per unit of GDP declined by 6.32%.<sup>4</sup> The annual daily average PM<sub>2.5</sub> concentration was 29.4  $\mu\text{g}/\text{m}^3$ , down 19.01%; Xiamen ranked No. 2 among 74 cities nationwide in the quality of the air. In 2015, the ambient air quality index (AQI) was good and excellent on 362 days, which accounted for 99.2% of the annual effective monitoring days (365 days). The quality of the water at the source of drinking water fully complied with the standard; 93.4% of the municipal sewage was treated in a centralized way.

---

<sup>3</sup>See Footnote 2.

<sup>4</sup><http://xmec.xmsme.gov.cn/2016-3/20163894448.htm>.

In 2015, according to 9 tasks and 42 work priorities specified in *Xiamen's Action Plan for Clean Air (2014–2017)*, Xiamen took active clean air actions to promote low-carbon urban construction, carry out 50 major energy conservation projects and save an amount of energy equivalent to 45,800 tce. A total of 16,456 yellow-label cars were phased out; marine shore power facilities started to be built at the wharfs; oil and gas pollution was controlled at 118 gas stations and 7 oil depots; roads were cleaned, greening, maintenance and spraying were carried out to reduce flying dust; 43 concentrated areas for catering were built; 9346 illegal barbecues were banned.

## 5. Hainan

In 2015, Hainan's energy consumption per unit of industrial added value was 2.4 tce/10,000 yuan, down 0.56%; the annual daily average PM<sub>2.5</sub> concentration was 20  $\mu\text{g}/\text{m}^3$ , which complied with the national Grade II standard for ambient air quality. The quality of Hainan's air was good and excellent on 97.9% of the days—it was excellent on 73.5% of the days and good on 24.4% of the days. The quality of the water at the centralized domestic drinking water sources fully complied with the standard and national requirements for the quality of water at the centralized drinking water sources. In 2015, industrial waste gas emissions totaled 233.87 billion  $\text{m}^3$ , down 11.4%; sulfur dioxide emissions were 32,000 t, down 3.0%; nitric oxide emissions were 89,000 t, down 6.3%; soot and dust emissions were 20,000 t, down 13.0%.

Hainan relies on unique environmental resource advantages to seek development and utilizes its great advantages to build a green, ecological special economic zone. This is Hainan's absolute advantage. In 2015, 2.84 billion yuan were invested in environmental protection. In late 2015, there were 20 environmental monitoring stations in Hainan. Technical renovation relating to emission reduction was made in the No. 4 and No. 5 units at the Haikou Power Plant, the No. 1 unit at the Dongfang Power Plant and the No. 3 boiler at the Jinhai Pulp & Paper. China V gasoline was adopted in an all-round way, and about 30,000 yellow-label cars were phased out.

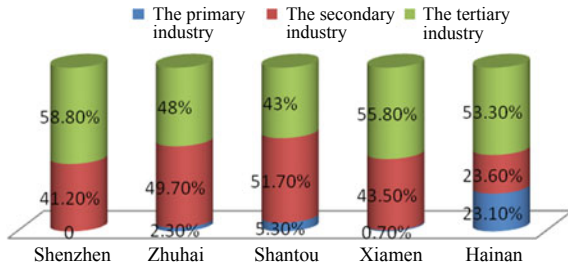
## 2.2 Analysis of the Capability of the Special Economic Zones for the Green Transformation of Industries

### 2.2.1 Comparison of the Levels of Structural Conversion

#### 1. Comparison of the levels of industrial structural conversion in the special economic zones

Regarding the three-industry structure, the secondary industry receded, the tertiary industry advanced and the proportion of the primary industry changed slightly in the five major special economic zones in 2015—the proportions of the tertiary industry

**Fig. 2.1** Comparison of the three-industry structure in the five major special economic zones in 2015



in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan increased by 1.5, 1.2, 0.7, 2.3 and 1.4 percentage points, respectively compared with 2014; accordingly, the proportion of the secondary industry declined to some extent.

In 2015, the proportion of the tertiary industry exceeded 50%, but that of the primary industry was lower than 1% in Shenzhen and Xiamen; both cities were at the advanced stage of industrial evolution. The proportion of the secondary industry reached about 50%, but that of the primary industry was lower than 10% in Zhuhai and Shantou; both cities were at the stage of industrial evolution characterized by the intensification of industrialization. The proportion of the tertiary industry exceeded 50%, but that of the primary industry was basically the same as that of the secondary industry in Hainan; this was closely related to Hainan’s unique resource and environmental endowment conditions; an industrial structural evolutionary path suitable for Hainan was experimented in line with Hainan’s advantages (see Fig. 2.1).

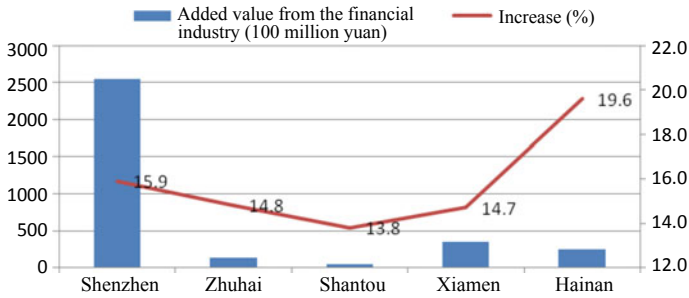
2. Analysis of the transformation of the service industries in the special economic zones

In 2015, tertiary industry grew rapidly and its proportion increased to some extent in the five special economic zones. The increasing proportion of the service industries, especially the modern service industries, is conducive to boosting the green transformative development of industries. The high value-added modern service industries, including the financial, marine and modern logistics industries, and the annual cumulative completed investment amount in the tertiary industry in the special economic zones are compared and analyzed below.

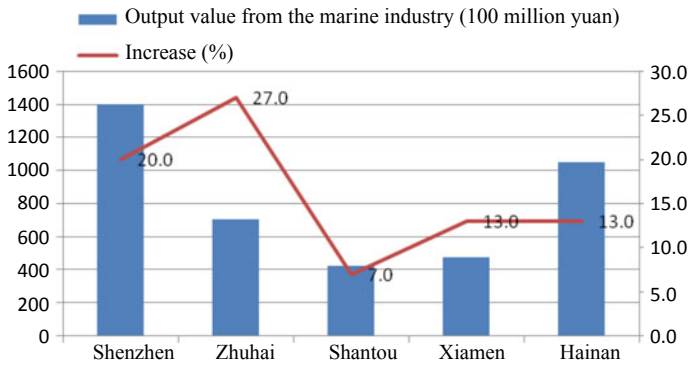
In 2015, the financial industry grew rapidly in the five major special economic zones; the added value from Shenzhen’s financial industry hit more than 250 billion yuan (see Fig. 2.2). The added value from the financial industry in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan grew by 15.9, 14.8, 13.8, 14.7 and 19.6%, respectively, compared with 2014, which were 5.7, 4.8, 3.4, 8.2 and 10 percentage points higher than the growth rate of the added value from the tertiary industry in these special economic zones.

As the 17th National Congress of the Communist Party of China was convened, the marine industry had developed faster and it had increasingly become an important growth pole for the country or regions; the five major special economic zones have made breakthroughs in developing the marine industry thanks to their location,





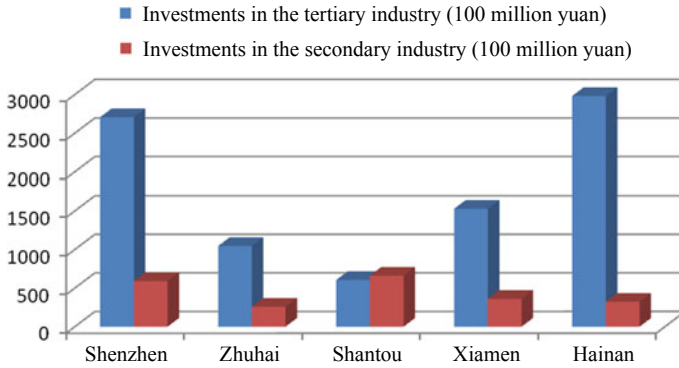
**Fig. 2.2** Added value from the financial industry and its growth rates in the five major special economic zones in 2015



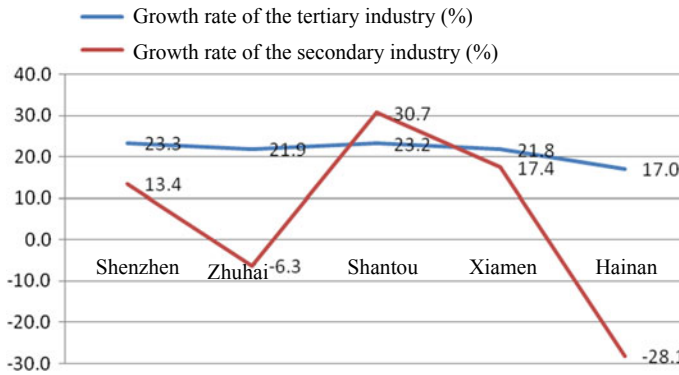
**Fig. 2.3** Output value from the marine industry and its growth rates in the five major special economic zones in 2015

resources and institutional advantages. In 2015, the output value from Shenzhen’s marine industry was about 140 billion yuan, that from Hainan’s marine industry hit 100 billion yuan and that from Zhuhai’s marine industry exceeded 70 billion yuan; the output value from the marine industry grew rapidly (see Fig. 2.3). Moreover, Shenzhen, Zhuhai and Hainan have put the development of the characteristic marine industry in an important strategic position, while the launch of high-end projects, the increase of R&D input and the introduction of scientific research talents will further boost the development of the marine industry.

The rapid development of new-generation information technology and the Internet stimulated the growth of e-commerce and the modern logistics industry. The added value from Shenzhen’s logistics industry was 178.3 billion yuan in 2015, up 9.4%; the added value from Xiamen’s logistics industry exceeded 30 billion yuan; Hainan’s logistics industry grew by more than 50%; the development of the modern logistics industry injected vigor into cities. Meanwhile, the growth of the software and information technology service industry was also fairly optimistic. Thanks to the leading enterprises, including Huawei and Tencent, Shenzhen’s software and infor-



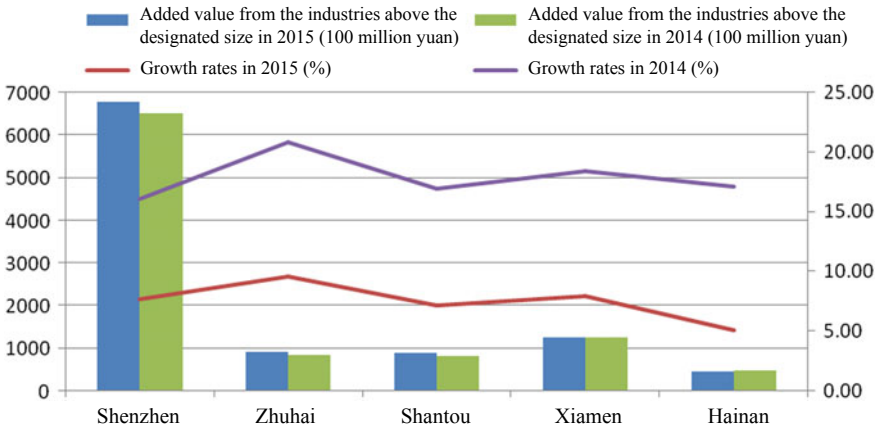
**Fig. 2.4** Amount of investments in the secondary and tertiary industries in the five major special economic zones in 2015



**Fig. 2.5** Growth rates of investments in the secondary and tertiary industries in the five major special economic zones in 2015

mation technology service industry grew rapidly, ranking Shenzhen No. 2 in China. The added value from the information transmission, computer services and software industries in Shantou and Hainan grew by 13.2 and 11.9%, respectively, in 2015.

The direction of fixed asset investments reflected the direction of the regional industrial development to some extent. In 2015, the amount of investments in the tertiary industry was much higher than that in the secondary industry and was about five times that in the secondary industry in the five major special economic zones, including Shenzhen, but not Shantou (see Fig. 2.4); the amount of investments in the tertiary industry in Shenzhen, Zhuhai, Xiamen and Hainan grew by 23.3, 21.9, 21.8 and 17%, respectively, which was, respectively 9.9, 28.2, 4.4 and 45.1 percentage points higher than the growth rates of the amount of investments in the secondary industry in the special economic zones (see Fig. 2.5). This indicates that the tertiary industry was the development priority in the special economic zones and its proportion may further increase.

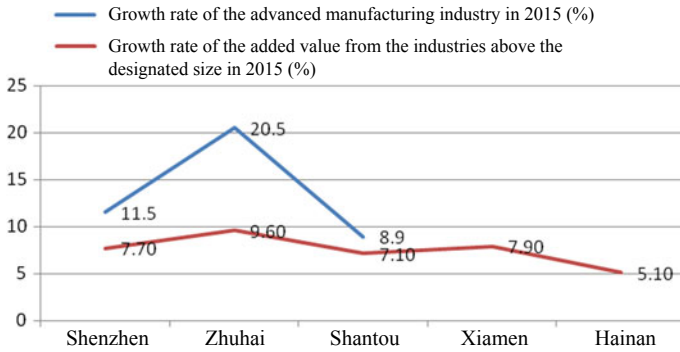


**Fig. 2.6** Added value from the industries above the designated size and its growth rates in the five major special economic zones in 2014 and 2015

### 3. Analysis of the transformation within the industries in the special economic zones

In 2015, the industrial added value from the enterprises above the designated size in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan was 678.5, 90.8, 87.25, 125.41 and 44.9 billion yuan, respectively, up 7.7, 9.6, 7.1, 7.9 and 5.1%. The growth rates of the industrial added value from the enterprises above the designated size in the five major special economic zones in 2015 were lower than they were in 2014 (see Fig. 2.6). The industrial added value from the enterprises above the designated size in Shenzhen was 7.5, 7.8, 5.4 and 15.1 times higher than what it was in Zhuhai, Shantou, Xiamen and Hainan. This suggests that the industrialization in the special economic zones had entered the stage of intensification, and the growth rates had declined slightly.

The advanced manufacturing industry is the resource-saving, environmentally-friendly efficient manufacturing industry and serves as an important path for the transformation and upgrading of the manufacturing industry and for the green transformation of industries. The advanced manufacturing industry grew by 11.5, 20.5 and 8.9%, respectively in Shenzhen, Zhuhai and Shantou in 2015, apparently higher than the growth rates of the added value from the industrial enterprises above the designated size in 2015 (see Fig. 2.7). This shows that the industries in the special economic zones were transforming and developing towards the resource-saving, environmentally-friendly advanced manufacturing industry.

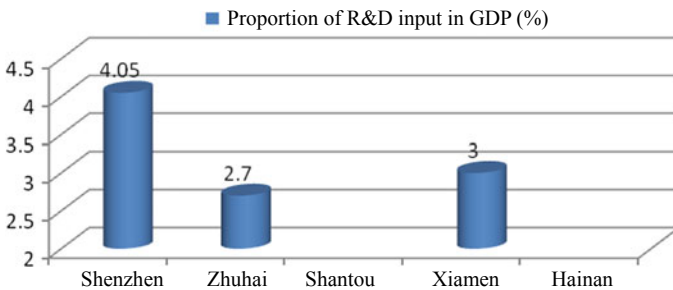


**Fig. 2.7** Growth rate of the added value from the industries above the designated size and that of the advanced manufacturing industry in the five major special economic zones in 2015

### 2.2.2 Comparison of the Levels of Innovation Impetus

In 2015, the proportion of all R&D input in GDP in the special economic zones was obviously higher than the level of the national average (see Fig. 2.8); in particular, that in Shenzhen reached 4.05%, equivalent to that in South Korea which ranked No. 2 in the world, much higher than that in other special economic zones.

In 2015, the number of scientific research achievements soared in the special economic zones. The number of domestic patent applications and domestic patent authorizations grew by more than 28% in Shenzhen and Hainan, while the growth rates of domestic patent applications and domestic patent authorizations in Shantou were relatively low—8 and 18.3% respectively (see Fig. 2.9). In addition, the number of PCT international patent applications reached 13,300 in Shenzhen, ranking Shenzhen No. 1 in China for 12 consecutive years and surpassing such countries as the UK and France.



**Fig. 2.8** Proportion of R&D input in GDP in the five major special economic zones in 2015

### 2.2.3 Comparison of Ecological Environmental Protection

In 2015, the consumption of energy per 10,000 yuan GDP in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan decreased by 3, 2.8, 6.81, 8.33 and 1.27%, respectively. The consumption of electric power in Hainan per 10,000 yuan GDP grew slightly, while that in Shenzhen, Zhuhai, Shantou and Xiamen decreased by 5.52, 1.61, 5.78 and 6.32%, respectively (see Fig. 2.10). This indicates that the special economic zones were transforming towards the pattern of intensive growth.

Regarding the quality of the air in the special economic zones, the average annual PM<sub>2.5</sub> concentrations in Shenzhen, Zhuhai, Shantou, Xiamen and Hainan were 29.8, 31, 33, 29.4 and 20  $\mu\text{g}/\text{m}^3$  in 2015 (see Fig. 2.11), respectively, much lower than they were in the previous year, reaching the national Grade II air quality standard (average annual 35  $\mu\text{g}/\text{m}^3$ ); all of these special economic zones were low-ranking

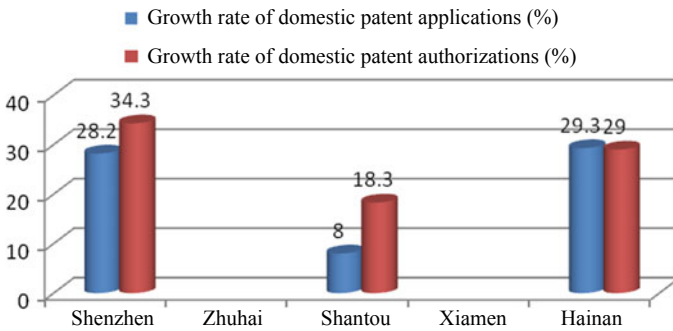


Fig. 2.9 Growth rates of domestic patent applications and domestic patent authorizations in the five major special economic zones in 2015

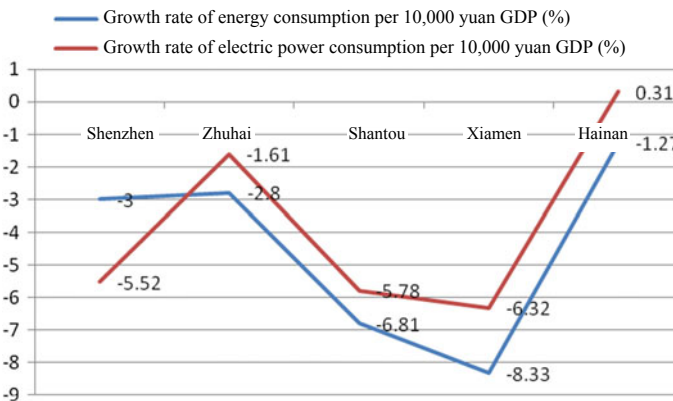
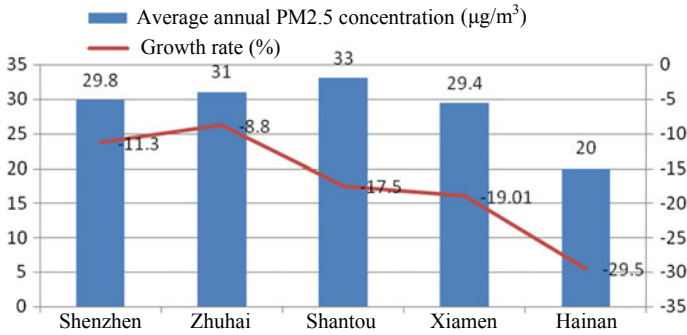
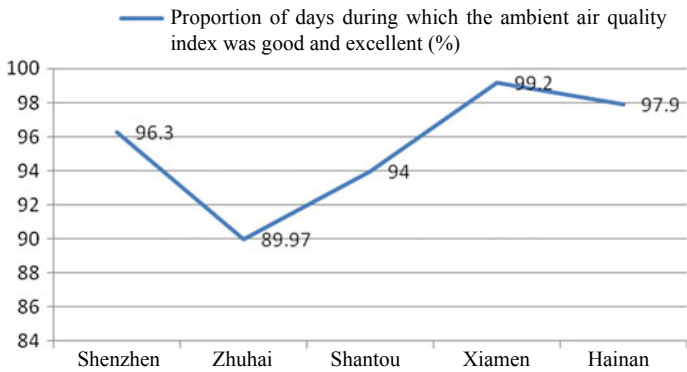


Fig. 2.10 Growth rates of energy consumption and electric power consumption per 10,000 yuan GDP in the five major special economic zones in 2015



**Fig. 2.11** Average annual PM2.5 concentration and growth rate in the five major special economic zones in 2015



**Fig. 2.12** Proportion of days during which the ambient air quality index was good and excellent in the five major special economic zones in 2015

in this regard among 360 Chinese cities whose air quality monitoring data were released. The ambient air quality index in all of the special economic zones, except Shantou, was good and excellent on more than 94% of the days (see Fig. 2.12). This indicates that the special economic zones were relatively good among the major cities in China in terms of air quality and this produced certain effects on the green transformation of industries.

## **2.3 Evaluation of the Capability of the Special Economic Zones for the Green Transformation of Industries**

### ***2.3.1 The Line of Thought Regarding Evaluation***

With respect to the green transformation of industries, currently the academic community is mainly focusing on the research in the evaluation of green industries (see Table 2.1). Unlike the research on the evaluation of green industrial development, the evaluation of the capability for green transformative development of industries stresses not only the capability for penetration of green philosophy and technologies in the industrial transformation, but also the level of integration between the industrial transformation and green development. The research on the capability for the green transformative development of industries mainly addresses the industrial transformation, research perspective and greening in the industrial transformation. A green industry is a concept based on environmental protection and mainly relies on a green environmental system. A green industry is a global concept. Regarding the connotation and denotation of the academic research, both involve the integration between green development and industrial development, but they are different in focus. When it comes to the building of a method of evaluation and a system of indicators, and the integration between green development and industrial development, both indicators can be mutually used for reference within a certain scope.

Based on the system of indicators, the line of thought regarding the building developed by such scholars as Zhu et al. (2014), Gu et al. (2013), given the subject of evaluation—the capability of the special economic zones for the green transformative development of industries—this paper proposes taking the input-output process of the industrial development as the logical observation point for the design of the indicators, and developing the system of indicators from the perspectives of green input, green production, green control, green benefits and green environment, and adopting the entropy method to conduct a quantitative evaluation of the capability of the special economic zones for the green industrial transformative development.

### ***2.3.2 Design of the Evaluation Indicator System and Data Source***

#### **1. Design of the evaluation indicator system**

Based on the above line of thought regarding evaluation, the analysis of relevant domestic and foreign literature, and given the availability of indicator data and the operability of the evaluation scheme, the evaluation system for the capability of the special economic zones for the green transformative development of industries which includes the following 13 indicators is ultimately determined (see Table 2.2).

**Table 2.1** Research progress in the evaluation of the existing green industrial development

Author	Research subject	Evaluation method	System of indicators	Brief comment
Zhu et al. (2014)	Evaluation research on green industrial development	Grey situation decision-making model improved by entropy weight	Build the evaluation system from the perspectives of green benefits, green utilization, green manufacturing, green control and green management	The system of primary indicators is highly enlightening, but it is difficult to obtain a number of indicators in the system of secondary indicators, and evaluation focuses on green industries, while insufficient attention is paid to transformation
Gu et al. (2013)	Research on the system of indicators for green industry evaluation	R cluster-grey correlation analysis method	Choose 22 indicators from the perspectives of green production, green consumption and green environment to build the system of indicators	It focuses on the production and consumption process in green industries; the evaluation subject is different from the green transformative development of industries. This paper focuses on building the system of indicators and does not involve an empirical process; many indicators are inoperable in the empirical process
Zhou et al. (2016)	Building a model of a system of indicators for green industry evaluation, and empirical research	R cluster-factor analysis method	Choose 26 indicators from the perspectives of green production, green consumption and green environment to build the system of indicators	There is no rigorous logic for classifying sub-indicators; the subject of evaluation is different from the subject involving the green transformative development of industries. Green consumption does not fall within the evaluation field involving the green transformation of industries

(continued)



**Table 2.1** (continued)

Author	Research subject	Evaluation method	System of indicators	Brief comment
Zhu and Ma (2011)	Evaluation research on the effects of green industrial development	Factor analysis method	Choose 26 indicators from economic indicators, ecological environmental indicators and social evaluation indicators to build the system of indicators	The system of indicators is highly operable, but the subject of evaluation is green industry and is different from the subject involving the green transformative development of industries

The average annual concentration of inhalable particles in central urban areas is a negative indicator—its size is negatively related to the capability of the special economic zones to carry out green industrial transformation. All of the remaining 12 indicators are positive indicators—their size is positively related to the capability of the special economic zones to carry out green industrial transformation.

**2. Data source**

The textual and graphical data from the statistics bureaus and environmental protection departments of China’s five major special economic zones are used to generate the basic data for evaluating the capability of China’s five major special economic zones to carry out green industrial transformation in 2015, as shown in Table 2.3.

**2.3.3 Evaluation Process**

The entropy method is adopted to evaluate the capability of the five major special economic zones to carry out the green transformation of industries, as below. The entropy method is an objective weighting evaluation method. Its evaluation process covers the following steps.

**1. Standardized processing of raw data**

The definitions and measurement units of the evaluation indicators in the evaluation system for the capability of special economic zones to carry out the green transformation of industries are different, thus it is necessary to classify the above indicators into two categories for dimensionless processing in order to facilitate a unified comparison. The positive indicators undergo standardized processing according to the following processing method:

$$x'_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}} \quad (0 \leq x'_{ij} \leq 1)$$

**Table 2.2** The evaluation system for the capability of the special economic zones to carry out green transformation

Evaluation objectives	Primary indicator	Secondary indicator	Indicator type
Evaluation of the capability of the special economic zones to carry out green transformation	Green input	Proportion of R&D fund expenditure in GDP	Positive
		Proportion of personnel above the junior college degree	Positive
		Growth rate of fixed asset investments	Positive
	Green production	Change value of the three-industry structure	Positive
		Growth rate of the output value from new and high-tech industries	Positive
		Growth rate of the added value from the modern service industries	Positive
	Green control	Proportion of reduction of energy consumption per unit of GDP	Positive
		Proportion of reduction of the consumption of electric power per unit of GDP	Positive
	Green benefits	GDP per unit of land area	Positive
		Per capita GDP	Positive
	Green environment	The number of days during which the quality of the air reaches the national Grade I standard	Positive
		Per capita park green land area	Positive
		Average annual concentration of inhalable particles in central urban areas	Negative

**Table 2.3** Basic data for evaluating the capability of China's five major special economic zones to carry out green industrial transformation in 2015

Secondary indicator	Shenzhen	Shantou	Zhuhai	Xiamen	Hainan
Proportion of R&D fund expenditure in GDP	4.05%	0.94%	2.70%	3%	0.48%
Proportion of personnel above the junior college degree	17.18%	4.16%	18.39%	17.80%	7.77%
Growth rate of fixed asset investments	21.40%	27.10%	15.00%	20.60%	10.40%
Change value of the three-industry structure	3.00	1.40	2.40	4.60	2.80
Growth rate of the output value from new and high-tech industries <sup>a</sup>	9.70%	18.60%	6.60%	11.20%	15.60%
Growth rate of the added value from the modern service industries	10.20%	10.00%	10.40%	6.50%	9.60%
Proportion of reduction of energy consumption per unit of GDP	3%	6.81%	2.80%	8.33%	1.27%
Proportion of reduction of the consumption of electric power per unit of GDP	5.52%	5.78%	1.61%	6.32%	-0.31%
GDP per unit of land area	8.66	0.98	1.10	2.21	0.11
Per capita GDP	157,985	33,406	124,700	90,378	40,818
The number of days during which the quality of the air reaches the national Grade I standard	340	342	323	362	357
Per capita park green land area	16.91	14.41	19.5	11.4	12.11
Average annual concentration of inhalable particles in central urban areas	29.8	33	31	29.4	20

<sup>a</sup>Xiamen and Hainan's 2015 statistical communiqués do not show the growth rate of the output value from new and high-tech industries. Xiamen's growth rate of the output value from new and high-tech industries chosen here is the data covering January–October, 2015. Hainan's growth rate of the output value from new and high-tech industries is the data covering the first half of 2015. The basis for replacement is the sound growth rates of the leading industries supporting the development of Xiamen and Hainan's new and high-tech industries in the second half of the year. Hainan's economic growth rate in the second half of the year was 0.2 percentage points higher than that in the first half of the year

The negative indicators undergo standardized processing according to the following processing method:

$$x'_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}} \quad (0 \leq x'_{ij} \leq 1)$$

**Table 2.4** Standardized data concerning the indicators for evaluating the capability of the five major special economic zones to carry out green industrial transformation in 2015

Secondary indicator	Shenzhen	Shantou	Zhuhai	Xiamen	Hainan
Proportion of R&D fund expenditure in GDP	0.8061	0.1714	0.5306	0.5918	0.0776
Proportion of personnel above the junior college degree	0.8338	0.0684	0.9052	0.8706	0.2805
Growth rate of fixed asset investments	0.5700	0.8550	0.2500	0.5300	0.0200
Change value of the three-industry structure	0.5000	0.1000	0.3500	0.9000	0.4500
Growth rate of the output value from new and high-tech industries <sup>a</sup>	0.3133	0.9067	0.1067	0.4133	0.7067
Growth rate of the added value from the modern service industries	0.5200	0.5000	0.5400	0.1500	0.4600
Proportion of reduction of energy consumption per unit of GDP	0.3000	0.6810	0.2800	0.8330	0.1270
Proportion of reduction of the consumption of electric power per unit of GDP	0.5927	0.6164	0.2373	0.6655	0.0627
GDP per unit of land area	0.8665	0.0981	0.1096	0.2215	0.0109
Per capita GDP	0.9845	0.0262	0.7285	0.4644	0.0832
The number of days during which the quality of the air reaches the national Grade I standard	0.6154	0.6462	0.3538	0.9538	0.8769
Per capita park green land area	0.6910	0.4410	0.9500	0.1400	0.2110
Average annual concentration of inhalable particles in central urban areas	0.2600	0.1000	0.2000	0.2800	0.7500

<sup>a</sup>Xiamen and Hainan's 2015 statistical communiqués do not show the growth rate of the output value from new and high-tech industries. Xiamen's growth rate of the output value from new and high-tech industries chosen here is the data covering January–October, 2015. Hainan's growth rate of the output value from new and high-tech industries is the data covering the first half of 2015. The basis for replacement is the sound growth rates of the leading industries supporting the development of Xiamen and Hainan's new and high-tech industries in the second half of the year. Hainan's economic growth rate in the second half of the year was 0.2 percentage points higher than that in the first half of the year

The maximum and minimum values of the indicators are determined according to the empirical values of recent years. According to the above calculation formula, the raw data in Table 2.3 can be put into dimensionless processing, as shown in Table 2.4.

## 2. Calculation of the entropy, difference coefficient and weight

First, determine the proportions of the indicator values of the evaluation units under each indicator; the calculation formula is shown below:

$$p_{ij} = \frac{x'_{ij}}{\sum_{i=1}^n x'_{ij}}$$

And then calculate the entropy of each indicator:

$$e_j = -k \sum_{i=1}^n p_{ij} \ln p_{ij}, \text{ where } k = \frac{1}{\ln n}.$$

Define the difference coefficient:  $g_j = 1 - e_j$ , calculate the weight according to the difference coefficient:

$$a_j = \frac{g_j}{\sum_{i=1}^m g_j}$$

Calculate the entropy, difference coefficient and weight according to the above formula, as shown in Table 2.5.

### 3. Evaluation results

Calculate the comprehensive evaluation value according to the entropy, difference coefficient and weight:

$$v_i = \sum_{j=1}^n a_j p_{ij}$$

Substitute the data to obtain the scores of the primary and secondary evaluation factors involving the capability of the five major special economic zones to carry out the green transformative development of industries, as shown in Tables 2.6 and 2.7.

#### 2.3.4 Analysis of the Results of the Evaluation

As shown in Table 2.8, Shenzhen ranked No. 1 among the five major special economic zones in the capability for the green transformation of industries and obtained the highest sum of factor scores in five aspects, followed by Xiamen, Zhuhai, Shantou and Hainan.

According to the results of the evaluation obtained after continuously tracking the capability of the five major special economic zones for industrial transformation in recent years, the results of the evaluation concerning the capability for the green transformation in industrial development is greatly different from that related to the capability for pure industrial transformation. From 2012 to 2014, Shenzhen ranked No. 1 among the five major special economic zones in the capability for industrial

**Table 2.5** Entropy, difference coefficient and weight of evaluation indicators

Secondary indicator	Entropy	Difference coefficient	Weight
Proportion of R&D fund expenditure in GDP	0.8605	0.1395	0.0761
Proportion of personnel above the junior college degree	0.8635	0.1365	0.0744
Growth rate of fixed asset investments	0.8364	0.1636	0.0892
Change value of the three-industry structure	0.8953	0.1047	0.0571
Growth rate of the output value from new and high-tech industries <sup>a</sup>	0.8865	0.1135	0.0619
Growth rate of the added value from the modern service industries	0.9570	0.0430	0.0234
Proportion of reduction of energy consumption per unit of GDP	0.8856	0.1144	0.0624
Proportion of reduction of the consumption of electric power per unit of GDP	0.8811	0.1189	0.0649
GDP per unit of land area	0.6310	0.3690	0.2012
Per capita GDP	0.7597	0.2403	0.1310
The number of days during which the quality of the air reaches the national Grade I standard	0.9687	0.0313	0.0171
Per capita park green land area	0.8765	0.1235	0.0674
Average annual concentration of inhalable particles in central urban areas	0.8644	0.1356	0.0740

<sup>a</sup>Xiamen and Hainan's 2015 statistical communiqués do not show the growth rate of the output value from new and high-tech industries. Xiamen's growth rate of the output value from new and high-tech industries chosen here is the data covering January–October, 2015. Hainan's growth rate of the output value from new and high-tech industries is the data covering the first half of 2015. The basis for replacement is the sound growth rates of the leading industries supporting the development of Xiamen and Hainan's new and high-tech industries in the second half of the year. Hainan's economic growth rate in the second half of the year was 0.2 percentage points higher than that in the first half of the year

transformation and firmly secured that position. The other four special economic zones changed a lot in ranking—Zhuhai and Hainan have gradually improved their capability for industrial transformation recently, while Xiamen and Shantou have seen a certain decrease in their capability for transformation in recent years.

When the evaluation and observation of the capability for industrial transformation of the five major special economic zones from the green perspective is added, a new perspective of analysis is provided for the current transformation of the special economic zones.

**Table 2.6** The scores of the secondary evaluation factors involving the capability of the five major special economic zones to carry out the green transformation of industries in 2015

Secondary indicator	Shenzhen	Shantou	Zhuhai	Xiamen	Hainan
Proportion of R&D fund expenditure in GDP	0.0282	0.0060	0.0185	0.0207	0.0027
Proportion of personnel above the junior college degree	0.0210	0.0017	0.0228	0.0219	0.0071
Growth rate of fixed asset investments	0.0229	0.0343	0.0100	0.0213	0.0008
Change value of the three-industry structure	0.0124	0.0025	0.0087	0.0223	0.0112
Growth rate of the output value from new and high-tech industries <sup>a</sup>	0.0079	0.0229	0.0027	0.0105	0.0179
Growth rate of the added value from the modern service industries	0.0056	0.0054	0.0058	0.0016	0.0050
Proportion of reduction of energy consumption per unit of GDP	0.0084	0.0191	0.0079	0.0234	0.0036
Proportion of reduction of the consumption of electric power per unit of GDP	0.0177	0.0184	0.0071	0.0198	0.0019
GDP per unit of land area	0.1334	0.0151	0.0169	0.0341	0.0017
Per capita GDP	0.0564	0.0015	0.0417	0.0266	0.0048
The number of days during which the quality of the air reaches the national Grade I standard	0.0031	0.0032	0.0018	0.0047	0.0043
Per capita park green land area	0.0191	0.0122	0.0263	0.0039	0.0058
Average annual concentration of inhalable particles in central urban areas	0.0121	0.0047	0.0093	0.0130	0.0349

<sup>a</sup>Xiamen and Hainan's 2015 statistical communiques do not show the growth rate of the output value from new and high-tech industries. Xiamen's growth rate of the output value from new and high-tech industries chosen here are the data covering January–October, 2015. Hainan's growth rate of the output value from new and high-tech industries are the data covering the first half of 2015. The basis for replacement is the sound growth rates of the leading industries supporting the development of Xiamen and Hainan's new and high-tech industries in the second half of the year. Hainan's economic growth rate in the second half of the year was 0.2 percentage points higher than that in the first half of the year

From the perspective of the green transformation of industries, thanks to prominent green input and green benefits, Shenzhen ranked No. 1 among the five major special economic zones in the capability for the green transformation of industries. The score obtained by Shenzhen in green input was nearly 7 times Hainan's score, while Shenzhen's score in green benefits was nearly 30 times and 11 times Hainan's score and Shantou's score, respectively. Although Shenzhen still enjoyed certain advantages in the production and control process, it lagged behind, to some extent, Hainan, Xiamen and Shantou in the scores concerning the growth rate of the output value from new and high-tech industries and the added value from the modern ser-

**Table 2.7** The final evaluation results concerning the capability of the five major special economic zones to carry out the green transformation of industries in 2015

Primary indicator	Shenzhen	Shantou	Zhuhai	Xiamen	Hainan
Green input	0.0720	0.0420	0.0513	0.0638	0.0106
Green production	0.0260	0.0308	0.0172	0.0344	0.0340
Green control	0.0261	0.0375	0.0149	0.0432	0.0054
Green benefits	0.1898	0.0166	0.0586	0.0607	0.0064
Green environment	0.0343	0.0201	0.0374	0.0216	0.0451
Total	0.3482	0.1470	0.1795	0.2238	0.1015
Ranking	1	4	3	2	5

**Table 2.8** Analysis of the ranking in evaluating the capability of the five major special economic zones for industrial transformation, 2012–2014

Year	Shenzhen	Shantou	Zhuhai	Xiamen	Hainan
2012	1	3	4	2	5
2013	1	2	4	3	5
2014	1	2	5	4	3

The results of the evaluation concerning the industrial transformation capability of the five major special economic zones from 2012 to 2014 is shown in the Report on Transformative Development of Industries in China's Special Economic Zones prepared by Yuan Yiming, Yan Zhenkun and Guo Hongyi, from the *Annual Report on the Development of China's Special Economic Zones (2015)* edited by Tao Yitao, Social Sciences Academic Press, 2015, p. 24

vice industries which constituted the scores concerning green production. This was mainly because those special economic zones were mostly in the industrialization or post-industrialization process; the advantages of the scale of new and high-tech and service industries had yet been fully tapped, and it was difficult for Shenzhen to maintain rapid growth on a large scale after many years of development; Shenzhen lagged behind Xiamen and Shantou in green control; Zhuhai was better than Shenzhen in green environment. As a relatively mature special zone at the developmental stage, Shenzhen should intensify its green control and improve its green environment in order to speed up the green transformation of its industries in the future.

In 2015, Xiamen ranked No. 2 among the five major special economic zones in the capability for the development of green transformative development of industries. This was mainly attributable to Xiamen's outstanding advantages in green production and green control. According to the scores concerning both primary indicators, Xiamen ranked No. 1 among the five major special economic zones—Xiamen's score concerning its capability for green production was 1.33 times that of Shenzhen, and Xiamen's score for its capability for green control was 1.66 times that of Shenzhen. Its excellent scores concerning capability for green production and green control mainly resulted from the rapid adjustment of the industrial structure in Xiamen. From 2014 to 2015, Xiamen's three-industry structure was rapidly adjusted from 0.7:4.8:53.5



to 0.7:43.5:55.8; the rapid increase in the proportion of the tertiary industry made Xiamen enjoy the highest score concerning the change value of the three-industry structure. With the rapid development of the service industry, the industrial structure was rapidly optimized and the consumption of energy and electric power decreased rapidly. Xiamen ranked No. 1 among the five major special economic zones in the rate of reduction in consumption of energy and electric power per unit of GDP, suggesting that the adjustment of the industrial structure was highly related to the green transformative development of industries in an area. Compared with Shenzhen's high capability for green transformation, Xiamen was defective in green input, green benefits and green environment, so accelerating the intensive development of industries and the development of the environmentally-friendly industries is still the top priority for Xiamen in its future green transformative development of industries.

Zhuhai ranked No. 3 among the five major special economic zones in the capability for green transformative development of industries in 2015. This was mainly attributable to its high score in green environment. Zhuhai ranked No. 2 among the five major special economic zones in the score concerning green environment, only second to Hainan and slightly higher than Shenzhen with the highest capability for green transformative development of industries. Zhuhai was advantaged in per capita park green land area among the three indicators which constituted the score concerning green environment, so Zhuhai's score in green environment covered its gap with Shenzhen in the quality of the air and PM2.5. It is noteworthy that Zhuhai still has great weaknesses in green production and green control. These weaknesses cause Zhuhai to have nearly a one-fold gap with Shenzhen in the overall score. In 2015, although Zhuhai enjoyed an advantage in green environment, that advantage was not firm so the other areas caught up with and surpassed it more rapidly. It is necessary for Zhuhai to make integrated efforts in green transformation by reinforcing its industries, narrowing the gap with Shenzhen and Xiamen in green transformative development of the industries in the future.

Shantou ranked No. 4 among the five major special economic zones in the capability for green transformative development of the industries in 2015. As a special economic zone with a relatively low level of per capita GDP and an accelerated intensification of industrial development, Shantou performed very well in the scores concerning green production and green control; in particular, Shantou's scores were higher than those of Shenzhen in the ratio of reduction in consumption of energy and electric power per unit of GDP. Both scores in green production and green control constituted 46.48% of Shantou's competitiveness. However, it should be noted that Shantou had a large gap with Shenzhen, Xiamen and Zhuhai in green benefits, green input and green environment. It is essential for Shantou to make breakthroughs in speeding up the green transformation of its industries and the transformation of their industrial structure, strengthening input and environmental improvement in the future.

Hainan ranked No. 5 among the five major special economic zones in the capability for green transformative development of industries in 2015. Hainan's poor performance in green transformative development among the five major special economic zones mainly resulted from a disconnection between Hainan's green development

and industrial development. Regarding the scores in five aspects, Hainan took the first place in the score concerning the green environment, but had nearly a several-fold, even a 10–20-fold gap with the other special economic zones in green input, green production, green control and green benefits. Noteworthily, although Hainan has made great progress in promoting optimization and adjustment of the industrial structure in recent years, the introduction of petrochemical and smelting projects has greatly undermined the green development of its industries. In Hainan, the tourism industry, Hainan's pillar industry, is less related to the modern manufacturing and modern service industries, and the industrial chain is short. Given these striking problems, there was a long way to go and heavy responsibilities for Hainan in the transformative development of its industries. How to consolidate the industrial foundation in accelerating the green transformative development of industries will remain a great challenge for Hainan in the future.

## **2.4 Policy Suggestions for the Green Transformative Development of Industries in the Special Economic Zones**

### ***2.4.1 Foster the Philosophy of Green Transformative Development, Promote Profound Transformation of Industries in the Special Economic Zones***

Over the 30 years of reform and opening up, China's special economic zones have witnessed splendor since China's reform and opening up, and have also become the first in China to face huge challenges in adjusting their economic growth pattern under resource and environmental constraints. Against the general background of the current increasing resource and environmental constraints, in order to intensify transformation in the future, it is essential for the special economic zones to more rapidly build a market-oriented industrial structure with high technological content, low resource consumption and less environmental pollution. However, the green transformative development of industries is not merely the development of the environmental protection industry or an emerging energy-saving industry; on the contrary, it means that it is necessary to make changes in various aspects, from value concepts to production modes, and these changes involve not only technologies and capital, but also the people's mindsets and standard procedures. Therefore, speeding up the green transformative development of industries is a profound change in the current industrial development of the special economic zones, even of China itself. As the forefront of China's reform and opening up, China's special economic zones should undertake new missions during the new historical stage of development and strive to seek new paths for boosting the green transformative development of industries.

### ***2.4.2 Eliminate the Weaknesses in the Green Transformation of Industries, Enhance the Capability of the Special Economic Zones for Green Transformation***

According to the evaluation of the capability of the five major special economic zones for the green transformative development of industries, these special economic zones were different in developmental level and greatly differed in the stage of the industrial transformative development and the weak links in the green transformation of industries. Thus it is necessary for the five major special economic zones to make well-targeted efforts to address their developmental weaknesses according to their own conditions in the process of promoting the green transformation of industries. Specifically, although Shenzhen enjoys outstanding advantages in green input and green benefits, and high technical strength in boosting the green transformation of industries, there is a need for intensifying efforts in green control, cultivation of green industries and environmental protection. Xiamen and Shenzhen complement each other to some extent in pushing forward the green transformation of industries. Xiamen should take targeted actions to increase the green input and promote green technologies in the future. Only when innovation-driven development is strengthened can the green benefits from industrial development gradually become apparent. Zhuhai, Shantou and Hainan enjoy certain advantages in some fields relating to green input, green production, green control, green benefits and green environment, but they have a great gap with Shenzhen and Xiamen in the overall score. In order to narrow the gap more rapidly with Shenzhen and Xiamen in key links, it is necessary for them to take comprehensive measures to further develop green industries, optimize their industrial structure, increase their technical level and extend their industrial chain.

## **References**

- Gu, Z., Shi, B., & Chi, G. (2013). The building of the green industry evaluation indicator system based on cluster-grey correlation analysis. *Resource Development & Market* (4).
- Statistical Communiqué of Hainan's National Economic and Social Development 2015, official website of the Hainan Bureau of Statistics, 2016.
- Statistical Communiqué of Shantou's National Economic and Social Development 2015, official website of the Shantou Bureau of Statistics, 2016.
- Statistical Communiqué of Shenzhen's National Economic and Social Development 2015, official website of the Shenzhen Bureau of Statistics, 2016.
- Statistical Communiqué of Xiamen's National Economic and Social Development 2015, official website of the Xiamen Bureau of Statistics, 2016.
- Statistical Communiqué of Zhuhai's National Economic and Social Development 2015, official website of the Zhuhai Bureau of Statistics, 2016.
- Zhou, Y., Wang, H., & Chi, G. (2016). Building model of green industry evaluation indicator system based on factor analysis and empirical research. *Journal of Systems & Management* (2).

- Zhu, C., & Ma, T. (2011). Evaluation research on regional green industrial development effects. *Research on Economics and Management* (3).
- Zhu, B, Hu, Z., & Yao, Q. (2014). Evaluation and analysis of green industrial development based on the grey entropy decision-making model—Take Fujian as an example. *Logistics Engineering and Management* (1).

# Chapter 3

## Report on the Resource Efficiency and Sustainable Development of China's Special Economic Zones



Ruoyu Zhong, Wen Tang and Zhigui Guang

The environmental efficiency of resources is an important dimension for measuring regional sustainable development. This report adopts the Material Flow Analysis (MFA) method, and analyzes DMI indicator data of the regional and urban resource efficiency to compare and analyze the differences in resource efficiency among China's five major special economic zones, thus offering advice and suggestions for improving resource efficiency and the sustainable development of the special economic zones.

### 3.1 Framework of Regional and Urban Material Flow Analysis and Resource Efficiency Analysis

As an effective method for measuring sustainable development, the material flow analysis method can serve as a yardstick for measuring resource consumption and the quality of economic growth at the urban, regional and national levels; it also provides a new perspective for analyzing the issue of the efficiency of regional resources and sustainable development at various levels.<sup>1</sup>

---

<sup>1</sup> Refer to Zhong Ruoyu, A Study of the Issues Concerning Natural Resource Value and Efficiency, *Seeker*, 2008(5); Zhong Ruoyu, A Study of China's Resource Productivity and Total Factor Productivity, *Economics Information* 2010 (7).

---

This report is also the staged achievement under the major program (10JJDZONGHE019) initiated by the Ministry of Education's Key Research Base for Humanities & Social Science.

---

R. Zhong · W. Tang · Z. Guang (✉)  
Shenzhen University, Shenzhen, China

### 3.1.1 Framework of Regional and Urban Material Flow Analysis

The Material Flow Analysis method is used to examine and analyze the material input, consumption and flow in the economic system to obtain concise indicators for measuring resource input and consumption, so as to expand the methods for analyzing sustainable development.

The Material Flow Analysis method is different in the yardstick of analysis at the urban, regional and national levels, while the existing urban MFA in China is mostly based on the framework of the EU Directive; for example, Xiaofen (2006)<sup>2,3</sup> et al. used the EU Directive to conduct the urban material flow analysis of Shanghai, Shenzhen and other areas.

This report continues to adopt a simplified framework for material flow analysis to discuss the issue of the efficiency of regional and urban resources (Zhong, Peng, Guan 2015).<sup>4</sup> This paper focuses on studying the issue of material resource utilization relating to the development of industrialization at the urban level in China's special economic zones; it takes into account a number of factors such as the definition of the urban boundary system and the availability of urban material utilization data to simplify and classify the direct material input (DMI) indicators, as shown below: (Table 3.1).

### 3.1.2 Resource Efficiency Indicator Based on Material Flow Analysis

The resource productivity indicator  $P_{resource}$  can be measured by the ratio of the **Value** of economic and social development (generally GDP) to **Material**:

$$P_{resource} = \frac{Value}{Material} \quad (1)$$

Currently, the most common simplified indicator for measuring the natural resource productivity is called Pearce indicator (Pearce 2001):  $P_{Pearce} = \frac{V_{output}}{M_{input}}$ , where  $V_{output}$  is the output of value form,  $M_{input}$  is materials input.

---

<sup>2</sup>Xiaofen and Dajian (2007).

<sup>3</sup>Zhong Ruoyu, The Change of Shenzhen's Resource Productivity and Its Impact, *China Opening Journal*, 2008(4).

<sup>4</sup>Zhong Ruoyu, Peng Xincui, Guan Zhigui, The Report on the Resource Efficiency and Sustainable Development of China's Special Economic Zones, from the *Annual Report on the Development of China's Special Economic Zones* 2015.

**Table 3.1** Simplified framework of urban material flow analysis: classification of the DMI indicators

Indicator	Category	Component	Sub-indicator	Main content
Input indicator DMI	Direct material input = domestic extraction + import DMI = DE + I	Domestic extraction (DE)	1. Fossil fuels	(1) Raw coal (2) Crude oil (3) Natural gas
			2. Industrial metallic minerals	(1) Iron ore (2) Aluminum ore (3) Copper ore (4) Others
			3. Industrial non-metallic minerals	(1) Chemical raw materials (2) Plastics in the primary form (3) Glass, cement, etc. (4) Others
Consumption indicator DMC	Direct material consumption = direct material input-export DMC = DMI-E		4. Biomass	(1) Crops (2) Forest products (3) Aquatic products (4) Animal products
			Inflow (imports) I	Fossil fuels; industrial minerals; biomass
			Outflow (exports) E	Fossil fuels; industrial minerals; biomass

*Note* (1) The national framework for material flow analysis serves as the reference for the urban framework for material flow analysis; the import and export at the national level are called inflow and outflow at the urban level; (2) The initial source of the above simplified framework can be based on Zhong Ruoyu, Zhuang Weifeng, the Report on the Resource Efficiency and Sustainable Development of China's Special Economic Zones 2012 from the *Annual Report on the Development of China's Special Economic Zones 2012*, Social Sciences Academic Press, April, 2013, pp. 41–47

The material flow system and national economic accounting system are considered to develop a series of derivative indicators which mainly include the following three categories: (1) material input indicators such as the intensity of resource utilization and resource productivity; (2) material consumption indicators such as the intensity of resource consumption and the rate of resource consumption output; (3) material emission indicators such as the intensity of material emissions and the rate of material emissions output. Based on the resource productivity indicators, a framework for the analysis of the efficiency of resources based on material flow analysis is built; in this

framework, the social economic system is taken as a whole to examine its overall material input, consumption and output, and to study the material flow at the input end of the economic system.

## 3.2 Material Flow Analysis of China's Five Major Special Economic Zones and Its Results

### 3.2.1 Data Source and Processing

The data in this report come from statistical yearbooks, statistical communiqués and relevant survey data from the five major special economic zones.

The statistical system interfaces of the five major special economic zones suffer from lack of data and excessively high acquisition costs, so data processing implies the following assumptions: (1) with respect to consumption demand for a certain material, if there is local production, priority is given to local production; (2) if a certain material which is locally produced is oversupplied, its inflow is assumed to be zero; (3) if local material output fails to meet the local demand, its outflow is assumed to be zero. In all of the special economic zones, except Hainan, such factors as fossil fuels, metallic minerals and industrial non-metallic minerals are internally undersupplied, their inflow or importation from the outside is needed, and data can be analyzed and processed according to Assumption (3).

Major categories of material flow data concerning the five major special economic zones are processed as follows:

(1) Fossil fuels, metallic minerals and industrial non-metallic minerals are introduced from the outside of cities and basically are not extracted at the local level, so their outflow is assumed to be zero. Fossil fuels, metallic minerals and industrial non-metallic minerals are represented by the annual output; fossil fuels consist of raw coal, crude oil and natural gas; they are converted into standard raw coal according to a scientific ratio so that data are processed; all data come from the statistical yearbooks and relevant statistical reports of the special economic zones over the years. (2) Industrial metallic minerals consist of gold, copper, aluminum, lead, zinc and iron ore. The calculation in this paper is based on the data concerning such resources as the available finished steel and the quantity of imported iron ore and aluminum products in particular years<sup>5</sup>; only the data concerning the output of some products can be obtained from the corresponding statistical yearbooks, and then the input-output relationship is considered to calculate the demand for raw ore. Based on the above assumption involving short local supply, it can be assumed that the direct material input = domestic extraction + imports, the demand for raw ore is domestic extraction + imports, so the demand for raw ore is equal to the direct material

---

<sup>5</sup>Calculated according to such technical indicators as: aluminum ore contains 40% aluminum; 1 t crude steel requires 1.6 t iron ore which contains 62% iron.



input. Moreover, the numerical value of ecological rucksacks of mineral resource extraction is not calculated in this report. (3) Biomass consists of crops, commercial crops, annual forest tree output and aquatic products. In this paper, the consumption of biomass is estimated according to the level of local per capita consumption of the main biomass.

### 3.2.2 Preliminary Results of Material Flow Analysis

The DMI reflects the total direct material input in economic growth. Based on the framework for the material flow analysis and basic indicators, this report utilizes the relevant data of the special economic zones over the years to calculate the direct material input (DMI) which characterizes the material resource input in the economic development of the special economic zones.

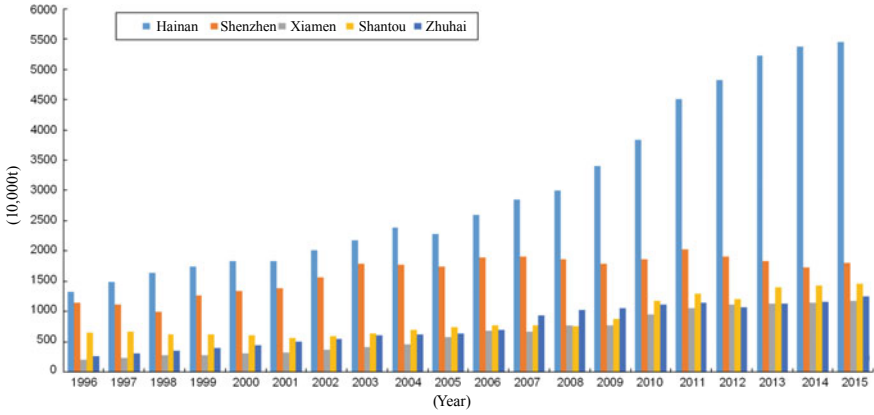
#### 1. Total DMI, per capita DMI and its changes over the years

Table 3.2 and Fig. 3.1 show the changes in total DMI in the special economic zones from 1996 to 2015. Among the five major special economic zones under review, Hainan's total direct material consumption was much higher than that of other special economic zones, the lowest total DMI occurred in Xiamen and Zhuhai.

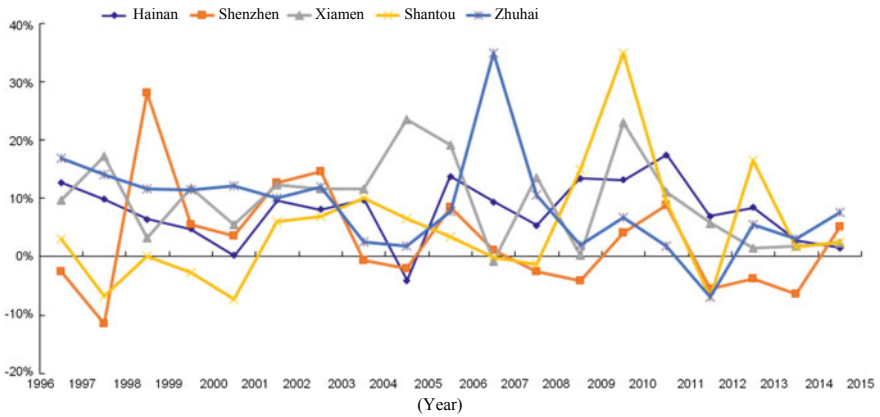
**Table 3.2** Direct material input (DMI) in the five major special economic zones, 1996–2015 (unit: 10,000 t)

Year	Direct material input (DMI)				
	Shenzhen	Hainan	Xiamen	Zhuhai	Shantou
1996	1150.4	1327.0	211.4	267.6	647.4
2000	1340.2	1829.4	313.0	443.9	605.7
2005	1743.0	2285.4	571.0	641.7	745.6
2006	1889.3	2599.8	679.8	691.2	771.5
2007	1910.8	2843.3	674.6	932.3	771.1
2008	1863.5	2996.5	766.5	1031.0	760.4
2009	1787.3	3397.8	768.1	1052.2	873.6
2010	1861.3	3844.0	944.1	1123.0	1177.6
2011	2024.7	4512.8	1049.1	1144.1	1288.8
2012	1912.1	4827.4	1109.5	1065.5	1200.7
2013	1838.8	5232.7	1126.8	1123.7	1398.4
2014	1722.0	5375.1	1147.8	1158.4	1422.8
2015	1809.8	5458.4	1174.3	1246.6	1460.2

*Source* Calculation is carried out according to the simplified framework of material flow analysis in this research; the data in the 2014 Communiqué are corrected according to the latest yearbook



**Fig. 3.1** Comparison of the direct material input in the five major special economic zones, 1996–2015



**Fig. 3.2** Comparison of the DMI growth rates in the special economic zones, 1996–2015

For the growth of the total consumption of resources, Xiamen’s total DMI grew from 2114,000 t in 1996 to 11,743,000 t in 2015; the average annual growth rate from 1996 to 2015 reached 9.4%; the lowest average annual DMI growth rate occurred in Shenzhen (2.4%), while the average annual DMI growth rates in Hainan, Shantou and Zhuhai were 7.7, 4.4 and 8.4%, respectively.

Regarding the changes over the years, Hainan’s DMI grew by 2.72 and 1.55% in 2014 and 2015 respectively. According to the analysis of the composition of its DMI growth, its DMI growth mainly came from the growth of industrial non-metallic minerals and building materials, which grew by 8 and 4% respectively, as shown below (Fig. 3.2).

**Table 3.3** Comparison of the per capita DMI in the special economic zones, 1996–2015

Year	Per capita direct material input (t/person)				
	Shenzhen	Shantou	Xiamen	Hainan	Zhuhai
1996	2.38	1.52	1.10	1.86	2.82
2000	1.91	1.29	1.53	2.40	3.59
2005	2.11	1.51	2.09	2.76	4.53
2006	2.17	1.54	2.36	3.11	4.78
2007	2.09	1.52	2.22	3.36	6.32
2008	1.95	1.48	2.35	3.51	6.82
2009	1.80	1.67	2.33	3.93	6.83
2010	1.79	2.18	2.65	4.43	7.19
2011	1.93	2.38	2.91	5.14	7.30
2012	1.81	2.20	3.02	5.45	6.73
2013	1.74	2.63	3.23	5.84	7.07
2014	1.60	2.58	3.01	5.95	7.18
2015	1.59	2.63	3.04	6.29	7.63

*Note* The per capita indicator is based on the permanent resident population over the years

Shantou's total DMI grew by 34.8% in 2010. According to the analysis of the composition of its DMI growth, a drastic growth of this indicator in 2010 resulted from the following factors: the level of use of fossil fuels increased by 57%, and the proportion of industrial non-metallic minerals rose by 25.2%; the substantial growth of fossil fuels and industrial non-metallic minerals reflected the characteristics of the resources in Shantou's economic development in 2010.

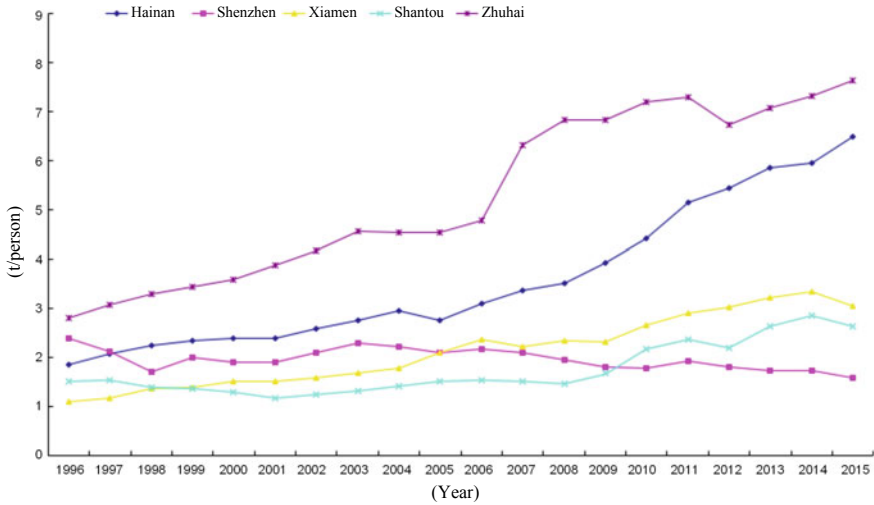
## 2. Per capita DMI and its comparison

The per capita DMI embodies the per capita level of consumption of material resources in the economic growth of the special economic zones. As shown in Table 3.3, Zhuhai's per capita DMI was the highest among the special economic zones; it reached 7.63 t/person in 2015; the per capita DMI in Shenzhen, Shantou and Xiamen in 2015 was 1.59 t/person, 2.63 t/person and 3.04 t/person, respectively.

As indicated by Fig. 3.3, Zhuhai's per capita DMI was much higher than that in the other four special economic zones. Hainan's per capita DMI generally increased; the per capita DMI in Shantou and Xiamen has briefly declined in recent years, while that in Shenzhen gradually decreased.

During the review period, the average annual growth rates of the per capita DMI in Hainan, Xiamen and Zhuhai were high among the five special economic zones; they were 6.68, 5.52 and 5.38% respectively, while that in Shantou was relatively steady (2.94%); only Shenzhen witnessed a net decrease in the per capita DMI, which declined by 2.1%, as shown in Table 3.4.

Shenzhen's total DMI grew annually by only an average of 2.4% from 1996 to 2015. The growth rate of the total DMI in Shenzhen was the lowest among the spe-



**Fig. 3.3** Changes in the per capita DMI in the five major special economic zones, 1996–2015

**Table 3.4** Comparison of the per capita DMI (ton per capita) and its average annual growth rates (%) in the special economic zones, 1996–2015

Year	Xiamen	Shantou	Hainan	Shenzhen	Zhuhai
1996	1.10	1.52	1.86	2.38	2.82
2015	3.04	2.83	6.29	1.59	7.63
Average annual growth rate (%)	5.52	2.94	6.68	- 2.10	5.38

Source The material flow analysis in this research and the results of relevant statistical reports

cial economic zones, but the average annual growth rate of the permanent resident population reached 4.6% in Shenzhen in the same period, so its per capita DMI greatly declined; in other words, Shenzhen entered the stage of gradual decrease in the per capita DMI, the demand for material resources during its economic growth decreased. This tallied with the fact that Shenzhen basically completed its industrial transformation and upgrading and entered the post-industrialization stage of economic development.

### 3.2.3 Analysis of the Composition of the Typical Resource Utilization in the Special Economic Zones

The changes in the DMI structure in Shenzhen and Zhuhai showed distinctive features compared with other special economic zones from 1996 to 2015.

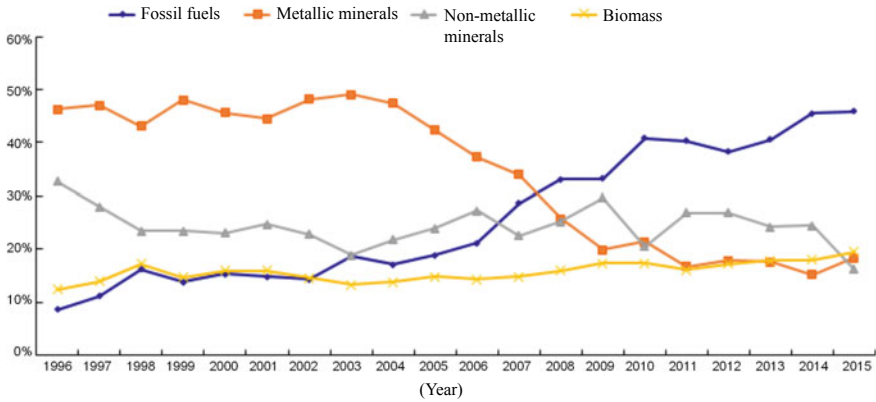


Fig. 3.4 Changes in the composition of the DMI in Shenzhen, 1996–2015

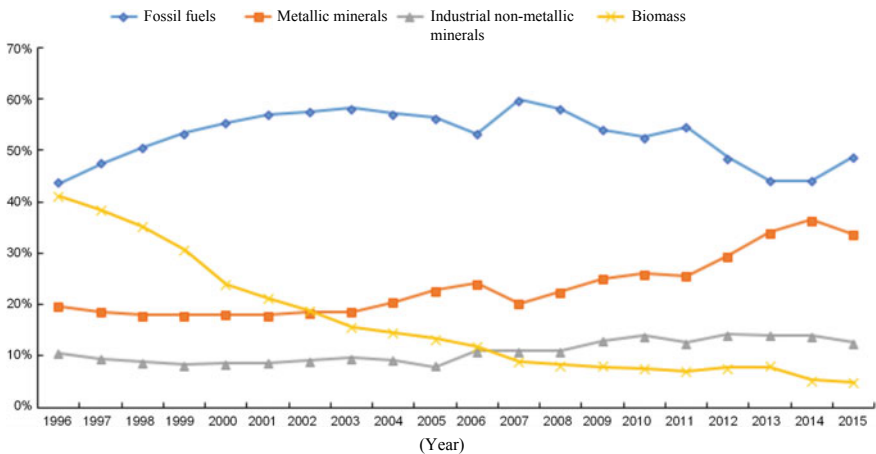


Fig. 3.5 Changes in the composition of the DMI in Zhuhai, 1996–2015

First, according to the composition of Shenzhen’s DMI (as shown below), the proportion of metallic minerals in the total DMI has continuously declined in recent years. From 1996 to 2004, the proportion of metallic minerals in the total DMI was basically stable, but it decreased year by year as from 2004; it was 47.4% in 2004 and decreased to 18.3% in 2015 (Figs. 3.4 and 3.5).

Second, the proportion of fossil fuel input in the total DMI showed a slow sustained growth. The proportion of fossil fuels in the total DMI was 8.6% in 1996, while it hit 45.85% in 2015. As Shenzhen had a population of nearly 20 million on a land covering an area smaller than 2000 sq km, Shenzhen was subject to high resource and environmental pressure and constraints, and saw an increasing input of fossil fuels. This indicates the resource dilemma for Shenzhen in achieving sustainable development.

Regarding the composition of the DMI in Zhuhai from 1996 to 2015, the total DMI increased from 2676,300 t in 1996 to 12,465,500 t in 2015, an average annual growth rate of 8.4%. The proportion of fossil fuels in the total DMI increased steadily and then decreased stably, while that of metallic minerals rose from 19.7% in 1996 to 33.7% in 2015 and that of biomass declined from 41.2% in 1996 to 4.9% in 2015, as shown below.

### 3.3 Comparative Analysis of Resource Input and Resource Efficiency in the Five Major Special Economic Zones in 2015

#### 3.3.1 Comparison of Resource Input and Its Composition in the Five Major Special Economic Zones in 2015

The five major special economic zones were ranked in decreasing order of the decreasing total of DMI in 2015 as follows: Hainan (54,784,000 t), Shenzhen (18,098,000 t), Shantou (14,602,000 t), Xiamen (11,743,000 t) and Zhuhai (12,466,000 t). Excluding the factor of total population, the per capita DMI which characterizes the level of per capita material resource input can accurately reflect the consumption of resources in the economic development of the special economic zones. The five major special economic zones were ranked in decreasing order of the per capita resource input as follows: Zhuhai (7.63 t/person), Hainan (6.29 t/person), Xiamen (3.04 t/person), Shantou (2.63 t/person) and Shenzhen (1.59 t/person) (Tables 3.5 and 3.6).

**Table 3.5** Comparison of the DMI and per capita DMI in the special economic zones in 2015

Indicator	DMI (10,000t)	Per capita DMI (t/person)	Resource produc- tivity (yuan/t)	GDP (100 mil- lion yuan)	Year-end permanent resident population (10,000 peo- ple)	Per capita GDP (10,000 yuan)	Per capita GDP (USD)
Hainan	5458.4	6.29	4592.4	2506.7	867.2	2.89	4453
Shenzhen	1809.8	1.59	75,996.1	13,753.5	1137.9	12.09	18,629
Shantou	1460.2	2.63	12,044.5	1758.8	554.2	3.17	4884
Zhuhai	1246.6	7.63	14,599.2	1819.9	163.4	11.14	17,164
Xiamen	1174.3	3.04	27,887.6	3274.8	386.0	8.48	13,066

*Source* In this research, the calculation is based on the framework of material flow analysis and on relevant data; the GDP and the per capita GDP are calculated according to the constant price in 2000; the per capita GDP in USD is based on RMB-USD central parity rate in late 2015

**Table 3.6** Adjustment and revision of the data concerning the DMI and the per capita DMI in the special economic zones in 2014

Indicator	DMI (10,000 t)	Per capita DMI (t/person)	Resource productivity (yuan/t)	GDP (100 million yuan)	Year-end permanent resident population (10,000 people)	Per capita GDP (10,000 yuan)	Per capita GDP (USD)
Hainan	5375.1	5.95	4326.1	2325.3	903.5	2.57	4199
Shenzhen	1722.0	1.60	73,341.1	12,629.4	1077.9	11.72	19,134
Shantou	1422.8	2.58	11,403.3	1622.5	551.0	2.94	4804
Zhuhai	1158.4	7.18	14,282.8	1654.5	161.4	10.25	16,749
Xiamen	1147.8	3.01	26,613.5	3054.8	381.0	8.02	13,101

*Note* Adjustment, revision and recalculation are carried out according to the data in the statistical yearbooks of the special economic zones in 2015

**Table 3.7** Comparison of the composition of the DMI in the special economic zones in 2015

Indicator	DMI (10,000 t)	1. Fossil fuels (%)	2. Metallic minerals (%)	3. Non-metallic minerals (%)	4. Biomass (%)	Per capita DMI (t/person)
Hainan	5458.39	34.0	10.0	39.4	16.6	6.29
Shenzhen	1860.8	45.85	18.34	16.25	19.56	1.59
Shantou	1460.2	50.6	15.8	16.7	17.0	2.63
Zhuhai	1246.6	48.75	33.65	12.67	4.93	7.63
Xiamen	1174.3	31.05	42.88	14.51	10.56	3.04

*Source* The framework for material flow analysis in this research and relevant data

The data concerning the permanent resident population and the GDP in some provinces and municipalities are adjusted in their 2015 statistical yearbooks, and a certain deviation may occur in some data during the calculation, the data involving the DMI and the per capita DMI in the special economic zones in 2014 are adjusted, revised and recalculated, as shown below:

According to the comparison of the composition of the DMI among the special economic zones in 2015 (see Table 3.7), the proportions of fossil fuels, metallic and non-metallic minerals were relatively large; for example, in Zhuhai and Xiamen, fossil fuels accounted for more than 50%, metallic minerals made up a relatively large proportion; the overall reality showed that both special economic zones were in the process of rapid industrial development and consumed massive amounts of material resources. In Hainan, the proportion of fossil fuels, non-metallic minerals and biomass was relatively large, while metals were consumed less, suggesting that Hainan's local materials were less consumed and exported.

**Table 3.8** Resource productivity in the special economic zones, 1996–2015 (unit: yuan/t)

Year	Hainan	Shantou	Zhuhai	Xiamen	Shenzhen
1996	2897.4	4519.5	8084.3	13,161.0	10,639.9
2000	2879.7	7432.0	7487.8	16,034.4	16,322.0
2005	3727.4	8422.2	9894.0	17,948.0	26,738.9
2006	3709.2	9083.7	10,664.9	17,668.3	28,754.9
2007	3927.3	10,270.7	9251.1	20,830.3	32,649.2
2008	4110.4	11,507.8	9136.4	20,807.8	37,532.9
2009	4049.1	11,089.4	9538.8	22,426.0	43,301.8
2010	4151.7	9369.3	10,086.7	21,001.2	46,639.1
2011	3960.8	9588.7	11,014.3	21,753.0	47,184.4
2012	4039.6	11,269.6	12,653.6	23,047.0	54,938.8
2013	4095.6	10,331.1	13,259.5	23,225.3	62,721.2
2014	4326.1	11,403.3	14,282.8	26,613.5	73,341.1
2015	4592.4	12,044.5	14,599.5	27,887.6	75,996.1

*Source* The calculation is based on the results of the material flow analysis in this research; resource productivity is calculated according to the constant price GDP in 2000, while the data concerning some years are adjusted

### ***3.3.2 Comparison of the Efficiency of Resource Utilization in the Five Major Special Economic Zones in 2015***

In order to facilitate the comparison, resource productivity was calculated according to the comparable price GDP in 2000. As indicated by the results of the calculation (see Table 3.8), the efficiency of resource utilization generally improved in the special economic zones as from 1996. In 2015, resource productivity was 76,000, 27,800, 14,600, 12,000 and 4,600 yuan/t in Shenzhen, Xiamen, Zhuhai, Shantou and Hainan, respectively.

### **3.4 Analysis of Resource Efficiency and Sustainable Development in the Five Major Special Economic Zones**

The data are available but are non-systematic, so based on the MFA, the total factor productivity is introduced to further measure the issues in the sustainable development of the special economic zones. At present, difficulties still exist, thus this report adopts simplified resource productivity and other indicators, and takes into account the relevance among population, economy and resource consumption to analyze the resource efficiency and sustainable development in the special economic zones.



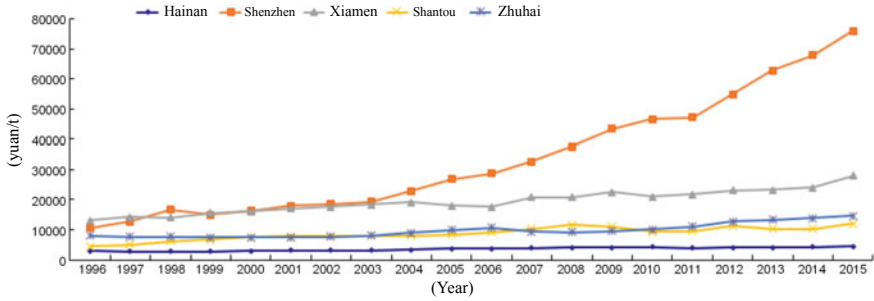


Fig. 3.6 Comparison of the resource productivity in the special economic zones, 1996–2015

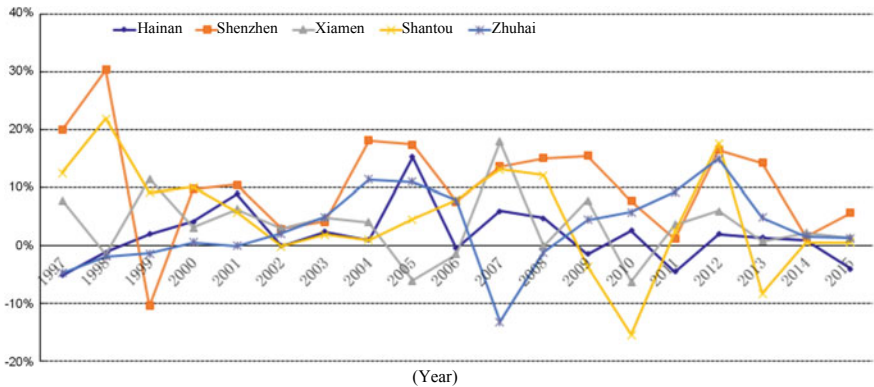


Fig. 3.7 Comparison of the resource productivity growth rates in the special economic zones, 1996–2015

### 3.4.1 Resource Productivity in the Special Economic Zones, 1996–2015

The changes in the resource productivity in the special economic zones from 1996 to 2015 are shown in Fig. 3.6.

In 1996, Xiamen enjoyed the highest resource productivity, 13,200 yuan/t, among the special economic zones, followed by Shenzhen where the resource productivity was 10,600 yuan/t. In 2015, Shenzhen’s resource productivity reached 76,000 yuan/t. Shenzhen’s average annual growth rate in 20 years, from 1996 to 2015, stood at 10.9%. In 2015, Xiamen’s resource productivity reached 27,800 yuan/t. Xiamen’s average annual growth rate in 20 years, from 1996 to 2015, was 4%. The changes in the resource productivity showed Shenzhen’s highly efficient economic development in nearly 20 years.

The growth rates of the resource productivity in the special economic zones are shown in Fig. 3.7. From 1996 to 2015, Shenzhen’s resource productivity grew by an

**Table 3.9** Comparison of resource productivity and its average annual growth rates in the special economic zones, 1996–2015

Resource productivity (yuan/t)	Hainan	Zhuhai	Xiamen	Shantou	Shenzhen
1996	2897.4	8084.3	13,161.0	4519.5	10,639.9
2015	4592.4	14,599.5	27,887.6	12,044.5	75,996.1
Average annual growth rate (%)	2.5	3.2	4	5.3	10.9

Source The results of the material flow analysis in this research

**Table 3.10** Comparison of the growth rates of the main indicator in the special economic zones, 1996–2015 (unit: %)

Indicator growth rate	Shenzhen	Shantou	Xiamen	Hainan	Zhuhai
DMI	2.4	4.4	9.4	7.7	8.4
GDP	13.6	9.9	13.9	10.4	11.9
Permanent resident population	4.6	1.4	3.7	1.0	2.9
Per capita DMI	−2.1	2.94	5.52	6.29	7.63
Resource productivity	10.9	5.3	4.0	2.5	3.2

average of 10.9%, while the growth rates of resource productivity in the other four major special economic zones were less stable.

The resource productivity growth rates in Zhuhai and Hainan were relatively low among the special economic zones, with average annual growth rates being 3.2 and 2.5% respectively, as shown in Table 3.9.

### 3.4.2 *Resource Efficiency and Sustainable Development of the Special Economic Zones*

First, with overall considerations given to a number of factors, including population, consumption of resources and economic growth, according to the comparison of the main indicator growth rates in the special economic zones from 1996 to 2015 (see Table 3.10), the growth of the total consumption of resources in the special economic zones was relatively high, and its growth was relatively rapid in Hainan, Zhuhai and Xiamen; the average annual DMI growth rates in Shenzhen and Shantou reached 2.4 and 4.4%, respectively. Second, as shown by the average annual growth rate of resource productivity, its level of growth was the highest in Shenzhen among the special economic zones, with an average annual growth rate of 10.9%. With further improvements in the level of efficiency of resources, the special economic zones will enter the stage of improving sustainable development through the enhancement of efficiency.

As Pearce's identical equation about growth is used, a basic judgment can be made with respect to the relationships among consumption of resources, efficiency

of resources, population growth and economic growth in the special economic zones in 2015. The following equation is used in the growth accounting form developed by Pearce (2001):

$$R_{DMI} = yP_{population}/P_{resource} \quad (2)$$

where,  $R_{DMI}$  is the level of resource use, expressed in DMI;  $y$  is per capita output, expressed in  $GDP_{real}/P_{population}$ ;  $P_{population}$  is population, expressed in year-end permanent resident population;  $x_{11}$  is resource productivity, expressed in the actual output to which material input corresponds in the current year.

Take the logarithm and obtain the total differential in relation to time so as to arrive at:

$$R_{DMI} = \dot{y} + \dot{P}_{population} - \dot{P}_{resource} \quad (3)$$

where,  $\dot{y} = \frac{1}{y} \frac{dy}{dt}$  the rest can be deduced by analogy. This expression describes a basic relationship between consumption of resources and population, economic output. According to the above equation, only when the growth  $\dot{P}_{resource}$  of resource productivity is higher than the sum of population and per capita output growth can the absolute growth of the level of resource use be avoided.<sup>6</sup>

Table 3.11 shows the result of the calculation based on the above formula and concerning the basic relationships among resources, population and output in the special economic zones in 2015. According to relevant indicator data, in 2015, the DMI growth rate was basically consistent with the sum of the per capita GDP growth, the population growth and the growth of resource productivity; the consistency in the basic relationships among resources, population and output among the five major special economic zones was verified. For example, Zhuhai's DMI growth rate, 7.6% in 2015, was basically consistent with the per capita GDP growth (8.68%) and the growth of the permanent resident population (1.23%) minus the growth of the resource productivity (2.22%) which equaled 7.69%.

It should be noted that Shenzhen's identical relationship value calculated according to the method of the material flow analysis is far different from the DMI growth rate. We believe that there may be three causes: First, in 2015, Shenzhen's real estate market was brisk, the average transaction price of commodity houses was more than doubled, the added value from the real estate industry was 162,777 million yuan, up 16.8%, accounting for 9.3% of the GDP, while the rates of various consuming materials in the operation of the real economy cannot catch up with the growth rates of real estate prices; second, Shenzhen's advanced manufacturing industry grew very rapidly and made up a large proportion, but the consumption of material flow was low and the output value was high compared with the traditional secondary industry; third, the proportion of the tertiary industry represented by the Internet, financial and cultural industries continuously increased. For the above reasons, we judge that

---

<sup>6</sup>Grant Allan and Nick Hanley (2006), *The Macro-economic Rebound Effect and the UK Economy*, Report for DEFRA, May 2006.

**Table 3.11** Annual basic judgment about the relationships among resources, population and output growth in the special economic zones in 2015 (unit: %)

Special economic zones	DMI growth	Per capita GDP growth	Population growth	Resource productivity growth	Identical relationship accounting
Hainan	1.55	12.4	-4	6.2	2.2
Xiamen	2.3	5.81	1.31	4.79	2.33
Shenzhen	5.1	8.62	5.57	3.6	10.59
Shantou	2.6	7.8	0.57	5.6	2.77
Zhuhai	7.6	8.68	1.23	2.22	7.69

*Source* The results of the material flow analysis in this research and relevant data

Shenzhen has entered the stage of economic upgrading and development with industrial deepening, and Shenzhen's economic development has been characterized by low input and high output.

### ***3.4.3 Suggestions Concerning the Efficiency of Resources and the Sustainable Development of the Special Economic Zones***

#### **1. Objectively deal with the differences in the efficiency of resources of the special economic zones, take the path of a sustainable development with reduction, reuse and recycling**

As shown by various indicators in 2015, the special economic zones maintained a relatively high per capita GDP growth, but the material resource input remained at a relatively high level—the DMI growth rates in Xiamen and Shantou reached 9.4 and 4.4%, respectively; Shenzhen's per capita material resource input tended to be stable, while that in the other special economic zones still grew continuously. As indicated, the economic growth in the special economic zones was highly dependent on the consumption of resources. In 2015, resource productivity was far different among the special economic zones; Shenzhen's resource productivity hit 75,996.1 yuan/t, much higher than that in the other special economic zones. This shows that there is much room for improving the resource productivity in the special economic zones. Of course, the special economic zones are different in developmental stages and conditions, so it is necessary to constantly enhance the efficiency of resources in line with the respective conditions.

Reduction, reuse and recycling are the core guiding principles for developing a recycling economy. Subject to given social, economic and natural conditions, the special economic zones should aim at achieving overall optimization of ecological, economic and social benefits, and carry out these guiding principles in the national

economy and economic activities at various industrial levels and links. It is essential to fully recognize the importance of the improvement of factor productivity for long-term sustained economic growth, focus on enhancing the overall efficiency of the economic development and take the path of sustainable development.

## **2. Fully respect the attribute value of natural resources, stress the option value of urban and regional development**

When sustainable development is explained subject to intertemporal resource constraints, it is necessary to fully respect the attribute value of natural resources and emphasize the option value of urban and regional development. If we have the impulse of immediate consumption of natural resources, and overlook the attribute value of natural resources in the concepts of economy and value, this will lead to discrimination of natural resources, low-price and predatory exploitation of minerals, biomass and other raw materials. When we attach importance to option value and emphasize the principle of preserving options, we should not ignore the following issues: First, the process of value creation cannot be separated from the important role of natural resources; the size of value depends upon the intensity of material and labor input in certain resources; the natural resources whose material and labor input is temporarily unable to be measured present option value because they retain the opportunity for future generations to make options in the future; second, economic and social development is accompanied by increasing resource input; the input in both production processes, infrastructure construction and operations reflects the attribute value of natural resources. Furthermore, the penetration of capital into land and other natural resources has been a common phenomenon; many natural objects are the results of labor and play an important role in the creation of value; third, the relationship between natural capital and social capital has changed; mankind has gradually entered a stage of development that is subject to hard constraints by natural capital, while the scarcity of natural resources determines that mankind will increase the social capital input in resources.

## **3. Speed up the building of a standardized, measurable system of indicators for the evaluation of sustainable development**

The systems of indicators for the evaluation of sustainable development widely applied in the international community mainly include the driving force—pressure—state—impact—response framework of the Government of Canada, the sustainable development indicator system of the United Nations Statistics Division, the sustainable development indicator system of the Scientific Committee on Problems of the Environment and the sustainable development indicator system of the World Bank. As various countries have different conditions, there are a variety of country-specific systems of indicators of sustainable development, such as the stepwise recursive combination indicator system put forward by the Sustainable Development Strategy Research Group of the Chinese Academy of Sciences after considering the capability contributions from five major systems, including survival, development, social, environmental and intellectual support. In relevant research on

the evaluation of sustainable development in recent years, the green GDP, human development index, ecological system health index, ecological footprint and other indicators have become increasingly important while the level of sustainable development can be measured by the indicator system.

The framework for the material flow analysis is consistent with the system of integrated environmental and economic accounting; it relies on the principle of mass conservation and the first law of thermodynamics, and accounts for material energy inflow and outflow in a certain period. The MFA is an effective way to evaluate the efficiency of resources and sustainable development, while a well-enhanced material flow analysis system plays the role of guiding theoretical research and practice in researching sustainable development and making policies in China. Therefore, it is necessary for China to build a suitable, scientific and complete statistical indicator system for material flow analysis and the efficiency of resources as early as possible so that the government has tools to supervise the utilization of natural resources and environmental protection.

## References

- European Communities. (2001). Economy-wide material flow accounts and derived indicators, A methodological guide. Luxembourg: Office for Official Publications of the European Communities.
- Gylfason, T. (2001, May). Natural resources, education, and economic development. *European Economic Review*, 45(4–6), 847–859. Elsevier.
- Krutilla, J. V. (1967). Conservation reconsidered. *American Economic Review*, 57(4), 777–786.
- OECD. (2001). *Measuring productivity: Measurement of aggregate and industry-level productivity growth*. Paris: OECD Publications.
- Pearce, D. W. (2001, February). Measuring resource productivity. *Paper to DTI/Green Alliance Conference*.
- Su, D., Zhong, R. (2010). *A study of China's special economic zones*. China Economic Publishing House.
- Xiaofen, H. (2006). *A Study of urban green competitiveness based on resource productivity*. Doctoral dissertation at Tongji University.
- Xiaofen, H., & Dajian, Z. (2007). Material input analysis of Shanghai's economic and environmental system. *China Population, Resources and Environment*, 17(3), 96–99.
- Zhong, R. (2010). A study of China's resource productivity and total factor productivity. *Economics Information*, 2010(7).
- Zhong, R. (2012a). View the future development of the special economic zones from the perspective of efficiency and quality. *Special Zone Economy*, 2012(2).
- Zhong, R. (2012b, October 29). Option value and urban future. *Chinese Social Sciences Today*.
- Zhong, R., Lin, B. (2014, April). Report on the efficiency of resources and the sustainable development of China's special economic zones 2013. In Y. Tao (Ed.) *Annual report on the development of China's special economic zones 2013*. Social Sciences Academic Press.
- Zhong, R., Peng, X. (2015, April). Report on the efficiency of resources and the sustainable development of China's special economic zones 2014. In Y. Tao (Ed.) *Annual report on the development of China's special economic zones 2014*. Social Sciences Academic Press.
- Zhong, R., Peng, X., Guan, Z. (2015, December). Report on the efficiency of resources and the sustainable development of China's special economic zones 2015. In Y. Tao (Ed.) *Annual report on the development of China's special economic zones 2015*. Social Sciences Academic Press.

# Chapter 4

## Report on the Innovative Development of China's Special Economic Zones



Kai Zhang and Songbin Wu

In 2015, the global economic situation was severe—the economic recovery of the developed countries could be expected; there was an obvious sign that the developed countries, led by the U.S.A., were recovering; the major developed countries had not yet gotten out of their economic woes; the emerging economies were apparently divided into different camps; China's economy had entered the new normal; the economic growth had declined, the GDP growth rate was 6.9%, the lowest in 25 years; the stable economic growth was mixed with concerns and troubles. The internal structure of industries was adjusting more rapidly, new industries were growing faster, the industrial structure was developing more swiftly towards the medium and high end. The development of industries was greatly different, as evidenced by the following three phenomena: First, there was an excess of production capacity in some traditional industries. The growth rates of resource and energy industries had substantially decreased, and the quality of products in such industries as iron and steel declined sharply, the overall pressure of inventory was great, these industries were still at the stage of adjustment. Second, the new and high-tech industries developed rapidly. Such industries as electronic information technology, new energy and pharmaceutical manufacturing showed a relatively rapid growth. Amidst the complicated and changing internal and external environments, China's special economic zones endeavored to carry out reform, promote transformation, and give prominence to the leading role of quality and innovation-driven efforts to achieve sustained innovation-driven economic development

---

This report is funded by the major program (14JJD790041) of the Ministry of Education's Key Research Base for Humanities and Social Science and the 12th Five-Year Planning Program of Guangdong for Philosophy and Social Science (GD13YYJ01).

---

K. Zhang (✉) · S. Wu  
Shenzhen University, Shenzhen, China

© Social Sciences Academic Press and Springer Nature Singapore Pte Ltd. 2019  
Y. Tao and Y. Yuan (eds.), *Annual Report on The Development of China's Special Economic Zones (2017)*, Research Series on the Chinese Dream and China's Development Path, [https://doi.org/10.1007/978-981-13-6705-2\\_4](https://doi.org/10.1007/978-981-13-6705-2_4)

## 4.1 Overview of Innovative Development of the Special Economic Zones

### 4.1.1 Annual Overview of Shenzhen's Innovative Development

In 2015, Shenzhen continued to intensify the process of its economic reform initiated by the 18th National Congress of the Communist Party of China, constantly improving the construction of a system of innovation, and developing excellent systems to foster a good ecosphere for makers, solidly promoting the transformation and upgrading of the industrial structure, leading the way in independent innovative development in China. In an effort to move towards the international community and with core technologies leading the new trends, Shenzhen was on its way to becoming a modern, international innovative city.

1. The construction of a system of innovation was improved, a good ecosphere for makers was fostered

In 2015, in order to turn Shenzhen into a national innovative city, the plan for the future five-year development was unveiled and actions were taken to actively boost the building of Shenzhen's demonstration zone and provide a policy guarantee for independent innovation activities; in order to guide makers to achieve healthy development, the *Three-Year Action Plan for Maker Development*, the *Several Measures for Promoting Maker Development* and the *Administrative Measures for Special Funds for Makers* were released to arouse the innovative and entrepreneurial vigor; with regard to new and high-tech output, the regulations for intellectual property protection were actively issued to increase the new and high-tech output rate of transformation.

In order to overcome the difficulty in financing the enterprises, fiscal policy support was provided and the financing channels were unblocked. The structure of the fiscal fund input for science and technology was adjusted and optimized; more than 50% of the fiscal funds were allocated to carry out the key projects relating to core technology, cutting-edge technology and generic technology; experiments were made in the mode of building new-type scientific research institutions; the Peacock Team was relied on to build new-type scientific research institutions, including the Shenzhen Institute of Neuroscience and the Shenzhen Research Institute of Big Data. The mode of the fiscal fund input for science and technology was reformed; such support modes as bank-government-enterprise cooperation, scientific and technological insurance, angel investment guidance and equity investments were adopted to guide the various factor resources in the capital market towards scientific and technological innovations. The system of scientific and technological innovation bonds was implemented to address the capital and technical needs of micro, small and medium-sized enterprises and makers for purchasing the innovative services, including the



testing service, scientific and technological evaluation relating to the research and development of new products, new technologies or new processes. The innovation mechanism for a close industry-university-research cooperation was improved. The China (Shenzhen) Innovation and Entrepreneurship Competition was held to build an investment and financing platform for innovation and entrepreneurship. The interest subsidy project was launched for cooperation among banks, the government and enterprises, in which the government offered 2.3 billion yuan in loans to 133 micro, small and medium-sized enterprises by means of a 50 million-yuan interest subsidy and risk compensation fund. These measures have promoted integration among science, technology and finance.

Shenzhen vigorously developed a good ecosphere for makers. In 2015, a number of important competitions involving innovations and maker exchanges were held in Shenzhen, attracting a large number of domestic and foreign makers to Shenzhen, building a place for makers to engage in exchange and cooperation and showcasing the latest innovation achievements. There were large theme activities such as “Discover the Stars of Popular Innovation and Entrepreneurship” in Guangdong, a “Maker Talk” theme speech activity and a “Makerspace” theme interaction activity. Meanwhile, the Shenzhen Scientific & Technological Innovation Commission established a special fund for makers and a makers fund to support the development of makers.

Shenzhen constantly improved the talent introduction system. In 2015, there were nearly 3 million professional and technical talents; their number is steadily increasing. Regarding the cultivation of local new and high-tech talents, first, solid progress was made in order to increase the level of Shenzhen's institutions of higher learning; second, high-level professional talents were introduced, innovation teams under the “Pearl River Talent Program” and the “Peacock Program” were introduced more and more; the number of these innovation teams was on the increase; third, the breadth of international scientific and technological cooperation was increased, a number of domestic and foreign technology transfer institutions, including UK Isis, Australian Csiro and U.S. Honeywell, were introduced; fourth, an extensive cooperation with Hong Kong, Macao and Taiwan was steadily promoted, intensified efforts were made to build the Shenzhen-Hong Kong innovation circle, and a high-level frontier industry-university-research base was jointly built in Shenzhen.

## 2. The process of reform was solidly promoted, the transformation of the industrial structure was profoundly optimized

In 2015, Shenzhen's economic operation was characterized by stable growth, excellent quality, exceptionally strong innovation and structure optimization. In 2015, with a focus on the strategy of an innovation-driven development, Shenzhen unveiled *Shenzhen's Reform Plan 2015*, which determined 44 key reforms in seven major fields to make breakthroughs by transforming the government's functions, and building Qianhai and Shekou Free Trade Zone to push forward all-round reforms. The construction of Shenzhen's Qianhai and Shekou Free Trade Zone has shaped a new pattern of reform and opening up, and has deepened the cooperation with Hong Kong, Macao and foreign countries. So far, Qianhai's institutional innovations have

cumulatively generated more than 100 achievements, and 31 achievements have been included in the first batch of 60 innovation experiences by the Guangdong Pilot Free Trade Zone. A total of 74,000 enterprises have been registered in Qianhai and the Shekou Free Trade Zone, with a registered capital of 3.3 trillion yuan and an added value of 100 billion yuan.

In 2015, as the national independent innovation demonstration zone, Shenzhen sought new breakthroughs in new fields by strengthening its innovation gene and its unique innovation advantages. In 2015, the modern service industries, the advanced manufacturing industry and the hi-tech manufacturing industry delivered an added value amounting to 713,447 million yuan, 516,557 million yuan and 449,136 million yuan, up 11.6, 11.5 and 9.7% respectively. The three new pillar industries developed side by side. The output value from Shenzhen's four major pillar industries including the new and high-tech industry, the financial industry, the logistics industry and the cultural industry increased by 13.0, 15.9, 9.4 and 7.4%, respectively. The new and high-tech industry and the financial industry developed in the fastest way.

Shenzhen's strategic emerging industries continuously grew in scale and played an increasingly important role in supporting the economy. The top three industries delivered an added value amounting to 317,307 million yuan, 175,714 million yuan and 75,606 million yuan, up 19.1, 13.1 and 19.3% respectively. The new energy industry, the new material industry, the energy conservation and environmental protection industry, and the biological industry brought about an added value amounting to 40,587 million yuan, 32,924 million yuan, 32,742 million yuan and 25,468 million yuan, up 10.1, 11.3, 12.0 and 12.4% respectively.

### 3. Innovation drove original creativity, core technologies and led the world

Innovation is the fundamental guarantee for core technologies. Shenzhen continued to reinforce and expand the role of innovation in driving the development of core technologies. In 2015, The intensity of Shenzhen's research and development—the ratio of R&D input to the GDP—reached 4.05%, while the intensity of national research and development was only 2.10%. The number of Shenzhen's PCT international patent applications received was more than 13,000, accounting for nearly 50% of the national number; Shenzhen was given a number of national awards for science and technology. In Shenzhen, the science and technology service industry grew annually by an average of more than 25%; Shenzhen kept ahead of its counterparts in China, even in the world, in the technologies in such fields as 4G, gene sequencing, 3D display and drones.

Shenzhen intensely fostered a good atmosphere of entrepreneurship and innovation. In 2015, there were 5524 enterprises identified as national new and hi-tech enterprises in Shenzhen and 128 enterprises based in Shenzhen and listed in the growth enterprise market and SMEs board. Shenzhen enjoyed an excellent ecosphere for

makers, and was home to a large number of makerspaces, 1283 innovation carriers, including key laboratories and technical centers. Shenzhen strongly pushed ahead with the construction of the Shenzhen-Hong Kong Innovation Circle and built an integrated system of industry-university-research cooperation. An industry-university-research base was built through cooperation with six Hong Kong colleges and universities in Shenzhen. Forty-five high-level industry-university-research alliances in satellite navigation, the Internet of Things and cloud computing were established in Shenzhen.

In Shenzhen, a land imbued with entrepreneurship and innovation, a host of famous enterprises such as Huawei, Tencent, ZTE and Hytera, have played the role of the leading wild goose and have encouraged numerous small and medium-sized enterprises, such as DJI-Innovations and Royole, to thrive. DJI-Innovations was listed among the 50 most innovative enterprises in the world for the year 2015 by Fast Company. BGI, DJI-Innovations, Kuang-Chi, etc. have become the enterprise representatives in the strategic emerging industries; their capability for innovation has changed China's manufacturing image and they have been well-known at home and abroad. With sound growth for 28 years since its inception in 1987, Huawei has developed into a company with a sales revenue of 390 billion yuan as one of the top 500 companies in the world. Huawei's cumulative R&D input in ten years has exceeded 240 billion yuan, ranking Huawei top among its counterparts. Founded in 2006, DJI-Innovations has rapidly developed for several years; it delivered a revenue in drone sales of 1 billion USD in 2015, accounting for 70% of the drone market. Kuang-Chi owns more than 80% of the patents in the global metamaterial field. Royole's research and development of flexible display screen technology has reached the advanced level of the world.

#### ***4.1.2 Annual Overview of Zhuhai's Innovative Development***

In 2015, Zhuhai insisted on the path of optimizing the industrial structure, transforming and upgrading for high quality. In the development of the innovation environment, Zhuhai actively improved the government-industry-university-research-capital mechanism, took the hi-tech zone as the typical innovation pilot zone to boost the integration of science, technology and finance, and further implemented the strategy for the introduction of talents; it focused on enhancing the western area's capability for scientific and technological innovation, pushing forward industrial transformation and upgrading on the west bank of the Pearl River and developing Zhuhai's quality economy.

1. A government-industry-university-research-capital innovation mechanism was built, the integrated innovation system was improved

Innovation policy is an important measure for supporting innovation. Zhuhai unceasingly improved its system for innovation policy. In 2015, Zhuhai successively released relevant policies and documents for encouraging scientific and technological

innovation and conducted a top-level design of the policies for encouraging scientific and technological innovation. According to those documents, Zhuhai would enhance its capability for innovation by cultivating new and hi-tech enterprises, and energetically introducing talents and capital. Moreover, Zhuhai would also increase the R&D input in science and technology projects, actively guide the idle social capital to innovation activities and greatly increase the capital sources for scientific and technological innovation, laying a solid foundation for boosting the output of innovation.

Zhuhai has vigorously built an integrated government-industry-university-research-capital innovation mechanism and has cooperated with Tsinghua University to drive the industrial innovation through the institutions of higher learning. Zhuhai has signed strategic cooperation agreements with a number of colleges and universities, including Sun Yat-Sen University, Ji'nan University and Jilin University. Building has begun on several city-university collaborative innovation centers. The introduction of colleges, universities and scientific research platforms has brought a crop of talents and technologies for innovation and entrepreneurship. Through the cooperation between Sun Yat-Sen University and Zhuhai, the Tianqin Program has attracted professors from more than ten domestic universities and research institutions; it will stimulate the development of such technical fields and industries as precision measurement, automatic control and large-scale computing, and it will introduce more talents and advanced technologies to Zhuhai. In 2015, the Hengqin New Area was included in the Guangdong Pilot Free Trade Zone and more than 40 reform and innovation measures were taken in the Hengqin New Area. Six reform and innovation cases were identified as the first batch of institutional reform cases for the Guangdong Pilot Free Trade Zone; 17 reform and innovation measures were copied and applied in Guangdong Province. Several innovation cooperation modes were created in Hengqin and Macao—there was “one island with two systems” in the University of Macao New Campus on Hengqin Island; the Guangdong-Macao Industrial Park for Cooperative Traditional Chinese Medicine Science and Technology was funded by Macao and established in Hengqin; Hengqin played the guiding role in, and small and medium-sized Macao enterprises jointly invested in, building Legend Friendship Square; the commercial pedestrian street in Hongqi Village was planned in Hengqin and incorporates the characteristics of Hong Kong and Macao; tourists from Macao go vacationing to Hengqin at the Chimelong International Marine Resort. These modes have become a free trade zone experience which can be copied and applied.

2. A regional innovation center was built, industrial transformation and upgrading were promoted

The advanced manufacturing industry and emerging industries have always been the main driving forces for Zhuhai's economy. In 2015, Zhuhai's advanced manufacturing industry delivered an added value of 48,645.696 million yuan; the added value from the petroleum and chemical industry and the equipment manufacturing industry grew by 40.8 and 17.3%, respectively; the modern service industries accounted for more than 50%, suggesting that Zhuhai's intensified efforts in developing the

modern service industries produced preliminary effects. The hi-tech manufacturing industry generated an added value of 26,775 million yuan—the medical device sub-industry grew by more than 30%, its growth rate was much higher than that of other sub-industries.

Zhuhai's economic development has always been the bright spot in the economic development of the west bank of the Pearl River; its proportion has increased year by year. Zhuhai's industrial development and international exchange activities have led the west bank of the Pearl River to a new level. In 2015, the First International Fair for Investment and Trade of Advanced Equipment Manufacturing on the West Bank of the Pearl River was held in Zhuhai International Convention and Exhibition Center. At that Fair, Zhuhai signed agreements concerning 28 projects with an investment amount of 35.46 billion yuan in two days. In the Gree Intelligent Equipment Industrial Park, an industrial demonstration base of intelligent equipment has been built in several advanced manufacturing fields. The Sany Offshore Wind Power Equipment Manufacturing Project is the new achievement of the comprehensive cooperation between Zhuhai and the Sany Group. With the shift of China's economic focus to industries, energetic development of the advanced manufacturing industry has been put on the agenda. Given that Zhuhai is the flagship in the economic area of the west bank of the Pearl River, with the implementation of national preferential policies, Zhuhai's innovative development is playing a leading role in the economy of the west bank of the Pearl River, driving the economic development there; it is conducive to stimulating the economic development on the west bank of the Pearl River. There is a good prospect for innovation-driven quality development in that area.

3. The construction of the hi-tech zone was boosted, the Phoenix Program was carried out

According to relevant policies,<sup>1</sup> the hi-tech zone serves as the main vehicle and experimental field for Zhuhai's innovation-driven development. Relevant documents stress an accelerated talent aggregation. Specifically, in the Zhuhai Hi-tech Zone, the Phoenix Program for introducing and cultivating talents is being implemented, five doubling plans involving talents, venture capital funds, new-type research and development institutions, innovative enterprises and incubators are being developed in order to turn the west bank of the Pearl River into an innovation center more rapidly.

Actions are being taken to make talent policy cover the mechanism of special assistance for talents, give support to innovation and entrepreneurial teams, to the mechanism for an affordable housing guarantee for talents and the incentive mechanism for talent introduction, which constitute the 1 + N policy system and attract

---

<sup>1</sup>The Office of the Municipal Party Committee and the Office of the Municipal Government jointly printed and distributed *Zhuhai's Three-Year Action Plan for Innovation-driven Development (2015–2017)* on June 9, 2015.

professional talents at various levels, such as innovation teams. The hi-tech zone supports the leading enterprises in building industry alliances and public innovation display platforms while connecting the hi-tech zone with colleges and universities, strengthening the industry-university-research cooperation and increasing the rate of transformation of scientific and technological achievement.

Science and technology have been effectively integrated with finance in the hi-tech zone. A number of angel investment funds and commercial investment funds have been established in the Zhuhai hi-tech zone. There are five additional listed enterprises in the National Equities Exchange and Quotations. Science and technology-oriented financial intermediaries have been introduced, and multiple financing services have been launched to increase fund support for small and medium-sized enterprises. Internet finance has been vigorously developed.

The main hi-tech park is home to five incubators which principally consist of science and technology services and cooperation with well-known colleges and universities. According to the *Three-Year Plan* of the hi-tech zone, incubators should enter the era of 4.0; the future incubator construction and operation will be open to private capital, which will expand the scale of incubators, consolidate its foundation, help increase the number of micro and small enterprises and develop the private economy.

### ***4.1.3 Annual Overview of Xiamen's Innovative Development***

In 2015, amidst the complicated and changing economic situation at home and abroad, Xiamen actively pushed ahead with the construction of the innovation system, speeded up the aggregation of scientific and technological innovation factors, continued to intensify reforms in key fields, accelerated the construction of the pilot free trade zone, increased the proportion of R&D input and enhanced the independent innovation capability; thus an innovative economy emerged, quality and benefits steadily increased, and new breakthroughs were made in industrial transformation and upgrading.

1. The construction of the innovation system was quickened, the factors of scientific and technological innovation were accumulated

In 2015, Xiamen quickened the construction of its innovation system and built a good ecosystem for scientific and technological innovation. Xiamen unveiled *Xiamen's Action Plan for Accelerating Scientific and Technological Innovation (2015–2016)* to gather city-wide scientific and technological innovation resources, and launched 152 scientific and technological innovation projects. Xiamen introduced a series of policies involving support for innovation and entrepreneurship, biopharmaceutical manufacturing in order to continuously retain the advantages in biopharmaceutical science and technology. Xiamen improved the system of guar-

antees for scientific and technological policies and carried out a preferential tax policy for encouraging innovations. In 2015, the income tax reduction and exemption involving new and high technologies hit 10 billion yuan; increased tax reduction based on research and development expenditure exceeded 2 billion yuan, thus greatly mitigating the tax burden on innovative enterprises and increasing Xiamen's research and development strength. In order to protect the intellectual property of enterprises, Xiamen actively introduced the policies and regulations concerning patents<sup>2</sup> and their use to improve the management of enterprises' intellectual property.

Xiamen has brought together the scientific and technological innovation resources to consolidate the foundation for scientific and technological innovation. In order to foster a good atmosphere for innovation and entrepreneurship, a municipal platform for integrated scientific and technological innovation and entrepreneurship service has been built. Xiamen has carried out the doubling plan of the scientific and technological research and development fund to increase its scientific and technological funds. In 2015, Xiamen obtained more than 3000 national projects for science and technology and a national fund support of 2257 million yuan to promote the rapid growth of small and medium-sized enterprises.

## 2. Efforts were intensified in industrial transformation and upgrading, an innovative economy was established

In 2015, Xiamen firmly speeded up industrial transformation and upgrading, and an innovative economy emerged. The economic structure was further optimized, the hierarchy of the innovative economy gradually became clear; the strength of Xiamen's economic pillars gradually increased. The main features are shown below.

The advanced manufacturing industry developed rapidly. In 2015, the computer and communication equipment industry delivered an added value of 70.92 billion yuan; Xiamen introduced integrated circuit giants including United Microelectronics and Tsinghua Unigroup, making Xiamen the national base for the integrated circuit industry. The turnover of 120 animation and game enterprises grew by nearly 30%. Nine enterprises including 4399, MIGU Animation and Feiyu Technology delivered an output of more than 100 million yuan. The Phase II project of the software park is the largest software and information service industrial park in China and a good innovation and entrepreneurship ecosphere for gathering enterprises, entrepreneurs and innovation factors.

The strategic emerging industries and modern service industries have developed rapidly. The optoelectronic industry has always been the support priority in Xiamen; its total output value exceeded 120 billion yuan in 2015. It is followed by the software and information service industry with an output value at nearly 100 billion yuan. The overall scale of the entire LED industrial chain and the new material market was more than 100 billion yuan, and they became the new economic growth poles in

---

<sup>2</sup>The Circular of Xiamen Intellectual Property Office Concerning the Work on Patent Insurance, Implementation Opinions on Xiamen's Patent Application Action, Xiamen's Administrative Measures for Patent Assistance Funds (Revised), Xiamen's Interest Subsidy Measures for Patent Right Pledge Loan

Xiamen; Xiamen's industrial structure was optimized; the support from the emerging industries to Xiamen's economy was significantly increased.

### 3. R&D input increased, the independent innovation capability was enhanced

Xiamen continuously increased its R&D input; Xiamen's annual R&D intensity was nearly 2%. There were 12,467 domestic patents authorized in Xiamen. Internal R&D expenditure accounted for 1.87% of the main business income in Xiamen. Xiamen's achievements in scientific and technological innovation were closely related to the increased R&D input—more than 500 enterprises participated in R&D expenditure activities with internal R&D funds approaching 10 billion yuan; more than 300 micro and small enterprises among these enterprises allocated R&D funds accounting for more than 10% of the research funds, representing an increasing R&D compared with 2014. This indicates that Xiamen's enterprises had an increasing awareness about independent innovation and increased R&D input to lay a good foundation for promoting industrial transformation and upgrading.

In 2015, 308 domestic enterprises carried out R&D activities; there were 36,300 R&D people in the industrial enterprises above the designated scale and 20,600 people in large and medium-sized R&D enterprises. The computer communications, electronic and traditional plastics industries were the top three industries in R&D funds, and their R&D funds were 3695 million yuan, 887 million yuan and 621 million yuan, respectively. The rising R&D intensity directly increased the number of patents. Relevant data show that more than 7000 patent applications were filed by industries in the whole city.

Problems in R&D are the following: the coverage of enterprises with R&D activities is still small; the funds from the governments are insufficient; R&D funds are imbalanced; there are great differences among industries. The countermeasures lie in improving the incentive policy for introducing scientific and technological talents, focusing on developing and enhancing the capability for innovation in key industries and fields, continuing to increase innovation input, optimizing the structure of innovation input, intensifying government support, simplifying the approval procedure for preferential measures and further improving the various external mechanisms for cooperation on innovation.

With respect to the environment for scientific and technological innovation, so far, Xiamen is home to 12 scientific and technological enterprise incubators including 4 national ones; however, the area of scientific and technological incubators is on the increase; 77 public service platforms for scientific and technological innovation and 16 high-level industry-university-research-capital strategic alliances have been established. Twenty-nine areas dedicated to innovation and entrepreneurship agglomeration and nearly 100 makerspaces have been built; more than 1000 national innovation and entrepreneurship teams have been introduced. In 2015, Xiamen pushed forward the construction of the Fujian Pilot Free Trade Zone and strengthened its cooperation with the countries along the Belt and Road; the China International Fair for Investment and Trade and the World Ocean Week were held in Xiamen.



#### ***4.1.4 Annual Overview of Shantou's Innovative Development***

The building up of innovation-oriented capabilities is always the key building project in Shantou. In the past year, Shantou continuously intensified the building up of its innovation-oriented capabilities, emphasized the implementation of the strategy of rejuvenating the city through science and technology, which produced a certain demonstration effect. Shantou also continued to press ahead with the transformation and upgrading of its industrial structure, and to build a regional scientific and technological innovation center to integrate science and technology with the economy.

1. The construction of the innovation system was promoted, scope was given to the leading role of science and technology

The innovation-driven economic development became the main theme in the development of the special economic zone. In 2015, Shantou introduced relevant regulations to more rapidly build an innovative special economic zone with a focus on enhancing its capability for independent innovation, restarting economic development and quickening economic transformation and upgrading. With the construction of an innovation environment and innovation support as the entry point, play was given to the important role of the market mechanism in the allocation of innovation resources, scientific and technological innovation input was intensified, the R&D fund management regulations were improved, and concerted efforts were made to speed up the construction of an innovative special economic zone.

The fiscal fund support was increased at various levels; enterprises were guided to undertake various scientific and technological programs and projects, 194 projects were recommended to apply for national and provincial special funds, the funds involving the projects approved to be initiated amounted to more than 70 million yuan. Four enterprises, including Ultrasonic Electronics, were identified as provincial innovative enterprises through evaluation; 53 enterprises were included in the provincial new and high-tech enterprise cultivation pool through examination and evaluation; nearly 60 enterprises were identified as new and high-tech enterprises; the number of academician workstations reached a new level. Actions were taken to build a collaborative innovation service system, to cooperate with Israel and domestic institutions of higher learning, and establish a cooperative relationship at different levels. Shantou carried out experiments in building a pilot zone for talent management reform; it improved its talent policy innovations, increased the input of talent funds and optimized the talent development environment. Shantou held the Training Meeting on the Publicity of Guangdong's Scientific and Technological Innovation Policy 2015, the Shantou Exchange Training Meeting on New and Hi-tech Enterprises, and carried out the Scientific and Technological Progress Activity Month to create an environment favorable for scientific and technological innovation.

2. The optimization of the industrial structure was promoted, an innovative economy was developed

In 2015, the industrial production was generally sound and new progress was made in transformation and upgrading in Shantou. The industrial added value was

87,248 million yuan, up 7.1% over the previous period; the total industrial output value reached 392,471 million yuan, up 8.3%. The industries with high added value continued to develop and expand. The total industrial output value from the chemical, general equipment manufacturing and pharmaceutical industries with relatively high added value increased by 16.7, 14.1 and 9.7% respectively.

The industrial structure continued to improve. The service industry developed vigorously, becoming the main driving force for economic growth which strengthened the gathering and driving functions of the central cities of eastern Guangdong Province. The proportion of modern services in the service industry continuously increased, reaching nearly 40%. The types of emerging businesses in relevant sectors, including the Internet, and 4G mobile phone developed better, making the added value from the software industry grow by 13.2%.

Shantou's economic development was subject to the following problems: First, enterprises faced increasing difficulties in production and operations, only four enterprises were newly established and put into production, making it difficult to shape the new driving forces for economic growth; second, the proportion of the modern service, advanced manufacturing, new and high-tech industries was very small, so there were some problems in the transformation of the industrial structure.

In 2015, 46 scientific and technological achievements were made, 27 technical contracts were signed and technology transactions amounted to 20,557,000 yuan in Shantou. There were 9827 patent applications and 7651 patent authorizations, up 8.0 and 18.3%, respectively. A total of 150 enterprises were identified as new and high-tech enterprises at the provincial level, up 13.6%.

#### ***4.1.5 Annual Overview of Hainan's Innovative Development***

The strategy of rejuvenating the island through green development and making it strong through science and technology has always been the fundamental policy for the innovative development of Hainan's economy. In 2015, in order to carry out the national strategy of the Belt and Road and the South China Sea development strategy, push forward the reform of the scientific and technological system and improve the policy system for scientific and technological innovation, Hainan focused on developing 12 industries, promoting the construction of six types of industrial parks and 100 characteristic industrial towns, and optimizing the transformation and upgrading of its industrial structure.

1. The reform of the innovation system was propelled, the foundation for scientific and technological innovation was consolidated

In 2015, in order to promote the reform of the scientific and technological system, Hainan unveiled the *Plan of Hainan Province for Intensifying the Reform of Provincial Fiscal Scientific and Technological Programs and Fund Management*. Hainan has always attached importance to the transformation of its scientific and technological achievements. In the past year, relevant policies and opinions were

released to encourage the technology enterprises to quicken the transformation of their achievements. With its natural geographical advantages and the implementation of the national strategy of the Belt and Road, in order to actively respond to the national strategy of the Belt and Road and firmly seize the new opportunities from Internet Plus, Hainan continued to create relevant regulations, energetically participated in implementing the grand strategy of going global and went into the tide of Internet Plus. Going global, financial innovation, and scientific and technological innovation are playing an increasingly important role in Hainan's innovative economic development. In 2015, Hainan continuously consolidated the foundation of the scientific and technological innovation. In 2015, Hainan allocated 15 million yuan in funds to support 374 basic research projects and provided major support in life science, material science, information science and medical science. Hainan enhanced its technical cooperation with 14 countries and territories including the USA and Russia, and allocated 34 million yuan in funds in international scientific and technological cooperative projects. The Institute of Deep-sea Science and Engineering was established in Sanya to carry out deep-sea science and engineering research. Six academician workstations were established in Hainan.

## 2. Industrial transformation and upgrading were boosted, an innovative economy was built

In 2015, new progress was made in developing the new and hi-tech industries in Hainan—the urban rail transit equipment manufacturing, communication equipment manufacturing, and biopharmaceutical manufacturing industries were the top three industries in the added value, their added value annually grew by an average of 32.2, 20.3 and 13%, respectively. In 2015, new-type, intelligent and automatic equipment and high-end information electronic products unleashed the growth potential, while the output of new energy automobiles, industrial robots, smart televisions and smart phones grew by 161.2, 21.7, 14.9 and 11.3%, respectively.

In 2015, achievements were gratifying in the new and high-tech industries—the output value from the new and high-tech enterprises was nearly 40 billion yuan, suggesting that Hainan's new and high-tech industries had entered a new stage of development. In 2015, 169 enterprises were identified as the new and high-tech enterprises, the R&D fund expenditure reached 1.67 billion yuan, and nearly 40,000 people were employed, helping Hainan take the path of building a strong island through science and technology. In order to increase the scientific and technological support for agriculture, research was conducted with respect to key technologies for improving Hainan's cultivated land and special subjects for demonstration purposes, and a demonstration base covering an area of 6600  $\mu$  [a unit of area (=0.0667 ha)] was built. In order to support agriculture through the Internet, the Internet Plus action support platform was built in the Sci-Tech 110 Agricultural Online ([www.963110.com.cn](http://www.963110.com.cn)). A special project for pursuing marine development through science and technology was carried out, the fund expenditure was 13.24 million yuan; 42 projects were approved to be initiated to support the research and application of key technologies for marine fishery, marine information and marine biotechnology.

### 3. Opening up and cooperation were expanded, makerspaces were developed

Opening up and cooperation were widened. The mechanism of work contact among scientific and technological departments of sister cities was established with the UK, Ireland, Finland and other countries to engage in cooperation in scientific research and talent cultivation. Hainan strengthened cooperation with Japan in marine science and technology, and reached a number of consensus with Japan on marine resource development, marine aquaculture and development of deep diving technology. Hainan reinforced its scientific and technological cooperation with Africa in tropical agriculture. International conferences on the Belt and Road were held in Hainan.

With vigorous support from the Hainan Government, remarkable achievements were made in scientific and technological innovation. In 2015, 2060 patent authorizations were obtained, 33 projects and products were identified as the new and high-tech projects and products. The medical industry delivered an added value of 4 billion yuan; the leading enterprises, including Haikou Pharmaceutical Factory, delivered the output at a growth rate above 50%. In order to seize the developmental opportunities from Internet Plus, Hainan earmarked more than 40 million yuan as a provincial special fund for the development of small and medium-sized enterprises to help develop makerspaces. At present, the first provincial makerspace has been put into operation, it provides an excellent incubation site for innovation and entrepreneurial projects, and indirectly promotes the implementation of Hainan's strategy of building a strong province through science and technology. Efforts were made to steadily carry forward the construction of the Hainan Resort Software Community Scientific and Technological Incubation Base, the Haikou Information Industry Incubation Park and Animation Industry Base.

## **4.2 Analysis of the Input-Output Efficiency of Innovative Development in the Special Economic Zones—Based on the DEA Model**

### ***4.2.1 Selection of the Method for the Analysis of the Input-Output Efficiency of the Innovative Development in the Special Economic Zones***

The 18th National Congress of the Communist Party of China stressed that China should transform its pattern of economic growth from extensive growth to intensive development, and gradually increase the proportion of the output value from the tertiary industry to optimize the economic structure by implementing the strategy of the strategic emerging industries including the modern service and advanced manufacturing industries. Ten years have elapsed since China vowed to establish innovative cities for the first time in 2006. As the national economic benchmark, the special

economic zones have made certain achievements in building innovative cities. The distinctive features of innovative cities consist in utilizing innovation resources to carry out economic activities, adjusting the economic structure and sharpening the competitive edge of innovative cities (which refers to the special economic zones). How to find a suitable model to connect innovation input (innovation resources) and innovation output (typical economic indicator) is the important content in this section. For the comparison of innovation input and output among different special economic zones, some literature present research on the issues concerning input and output under general conditions. For research on the special economic zones, we should pay more attention to innovation input and output. As the economy is at the stage of the new normal, innovation input and output has a vital bearing on the future direction of the economy. Given that the number of individual samples is small and the time span is short as shown by the economic data on the five major special economic zones, based on the input and output research experience from predecessors, we consider the Data Envelopment Analysis (DEA) here, and proceed from the innovation resource input and output involving innovative economic development to compare and analyze the advantages and disadvantages of the special economic zones in innovative economic development.

The innovation efficiency of the innovative enterprises generally measures the conversion relationship between industrial input and industrial output. The main methods of evaluation are classified into two categories by whether or not evaluation parameters are adopted. The first one is the parametric method: it is mainly represented by the Stochastic Frontier Analysis (SFA); the advantage of this method is that it can be used in panel data analysis; the main reason is that this method builds the benchmark production frontier with initial data, while all of the remaining data change on this production frontier; they are effectively divided by changing the distance into the scale efficiency and technical efficiency of the innovative industries and emerging industries so as to facilitate the research on innovative enterprises; this method is mostly applied to panel data; another method is the nonparametric method; it is mainly represented by the Data Envelopment Analysis (DEA); the advantage of this method is that it is not necessary to know the function of the production in advance and determine the weights of relevant indicators, and the result of the calculation is not affected by the dimension of the indicators. The development of the special economic zones is not governed by a unified production function. Moreover, we do not consider the continuous time data on the special economic zones, thus this report adopts the DEA to evaluate the efficiency of the innovative development in the special economic zones.

The DEA is the classic method for analyzing the efficiency of input and output. It was initially proposed by operational research experts such as Charnes et al. in 1978 and was used to evaluate the relative effectiveness of similar sectors or units. Afterwards, this method was widely applied in evaluating economic and management decision-making. During the past decade, as China carried out the innovation strategy in advance, the corresponding evaluation system preliminarily took shape, and the DEA was included in the evaluation system accordingly. According to the basic prin-

principle of the DEA, it is relatively effective for the current evaluation objects. Generally, the DEA is not separately used in time series analysis of innovative cities. In foreign countries, new methods based on the DEA have become increasingly diverse, such as super efficiency DEA, two-stage DEA, three-stage DEA, etc., suggesting a highly strong fusion power and strong competitiveness of the DEA (Charnes et al. 1978).

As China has gradually entered the new normal of its economy, the deceleration of economic development conforms to the actual law; it is necessary to foster new driving forces for the economic zones and renew the engines for economic development; the multiple optimization modes for the economic structure represented by new and high-tech industries and strategic emerging industries have become more and more perfect. The evaluation of the above optimization modes for the economic structure has gradually drawn the attention of the domestic scholars. This is also one of the reasons why the DEA receives a lot of attention. Applying the DEA to evaluating the innovation efficiency of the emerging industries and analyzing their economic contributions and innovation efficiency is an important step for making arrangements for the future economy and enhancing the core competitiveness of the economy. In recent years, domestic research on which DEA is used to analyze the industrial efficiency mainly focuses on new and high-tech enterprises, strategic emerging industries, advanced manufacturing and modern service industries. Liu (2016) studied Liaoning Province's data to research the impact on the efficiency of innovation of the strategic emerging industries by means of industrial division and innovation mode. Liu et al. (2015) adopted the DEA model to estimate the efficiency of the technical innovation of China's strategic emerging industries and finally concluded that the efficiency of technical innovation was imbalanced in different areas of China and there was a certain space for improving the overall efficiency of innovation: the efficiency of technical innovation in the southeastern coastal and central regions needed to be further improved, while the western region was the lowest-ranked for the efficiency of technical innovation. Liu (2015) built the three-stage DEA model based on the perspective of value chain and concluded that the development of China's high-tech industrial technology generally featured U-shaped changes from 1996 to 2011, indicating that the efficiency of China's first stage of innovation was most subject to the impact from the rate of the development of technology and the subsequent two stages were closely related to external economic factors. Liu Weizai stated that the results of the efficiency of the three-stage DEA estimated in line with external factors, including government support and market structure, conformed more to the economic reality, and its bright spot consisted in controlling the external environmental factors including the environmental factor and the economic system. Huang Yanmei et al. also carried out similar work, adopted the DEA and finally proceeded from policy orientation, evaluation system and service system to analyze the main path for improving the efficiency of China's new and high-tech industries. Regionally, how to enhance the efficiency of technical innovation in the western region was also the focus of attention from Chinese scholars. Li (2016) used the DEA to specially calculate the innovation efficiency of 12 provinces, autonomous regions and municipalities of the western region, and thus provided a certain theoretical support for improving the efficiency of innovation in the western region in the future.

Wu (2013) studied the large industrial enterprises in provinces, autonomous regions and municipalities in the western region; she believed that the efforts to revive the western region should mainly start with the government to increase the technical innovation input, strengthen the competitiveness of the strong industries, introduce more relevant talents with special characteristics so as to enhance the capability for technical innovation, independent research and development. Regarding the industrial analysis, some scholars paid attention to DEA research in the financial field; for example, Li (2014) studied the factors affecting the financing efficiency of small and medium-sized innovative enterprises, and considered their operational characteristics to explicitly state that these enterprises should proceed from their capability for innovation to enhance their capability for management and further increase the frequency of financing. Overall, the DEA has been applied in evaluating the economic, operational, and industrial efficiency and industrial development.

#### ***4.2.2 Selection of the Indicators for the Analysis of the Input-Output Efficiency of the Innovative Development in the Special Economic Zones***

Using the DEA, the first priority should be given to addressing the following two issues: First, determine the decision-making units, identify the gap between other decision-making units and benchmark decision-making units to find room for improving the efficiency of innovation resource utilization; second, determine the innovation input and output indicators. When choosing relevant indicators, it is necessary to uphold both scientificity and measurability, weigh the objectives of the research, tap the typical innovation output through innovation input, measure the efficiency of the innovation, and focus on the high potential and strong impetus for future economic development instead of seeking quick output with little input, thus it is essential to choose the indicators by drawing upon the existing experience, giving due consideration to the current situation and drawbacks in the innovative development of China's economy and determining the typical innovation input and output indicators.

Adopting the DEA, the selection of the input and output indicators is not based on a certain standard but mainly depends on the objects of our research. This report mainly aims at comparing the innovation efficiency of the special economic zones. Consequently, we chose suitable indicators mainly from the perspective of innovation input and output. The theory of economic growth stresses the contributions from capital and labor to the economy. This report chose the indicators by making reference to the indicator determination standard developed by Liu (2015) and built the input-output indicator system for the special economic zones as specified in Table 4.1 according to the first part of the developmental characteristics of the special economic zones, the standard of development for China's economic innovation and relevant theories.

**Table 4.1** Innovation input and output

Innovation resource		Evaluation indicator
Innovation input indicator	Capital input	Intensity of R&D fund input $x_{11}$ Proportion of scientific and technological input in fiscal input $x_{12}$ Number of new and high-tech enterprises $x_{13}$
	Innovation of human capital input	Number of R&D people $x_{14}$ Number of people employed in the financial industry $x_{15}$ E-commerce scale $x_{16}$
Innovation output indicator	Scientific and technological output	Number of patent applications $x_{21}$ Per capita patent number $x_{22}$
	Innovative economic output	Added value from new and high-tech industries $x_{23}$ Proportion of the tertiary industry in GDP $x_{24}$ Per capita GDP $x_{25}$

### 4.2.3 Empirical Analysis of the Innovation Input-Output Efficiency in the Special Economic Zones

#### 1. Data source and its explanation

The data in this report mainly come from the 2015 statistical communiqués of provinces and municipalities, the implementation of the national plan for economic and social development in 2015, and the 2016 national plan for economic and social development. This report covers a long period, the 2015 statistical yearbooks, the science and technology yearbooks of the special economic zones have not been released yet, some data are not available, some indicators that were chosen are relatively new, the existing database does not include detailed statistical data, thus the historical data are analyzed to estimate the relevant statistical data for 2015. Finally we generate the 2015 statistical data concerning the special economic zones.

#### 2. Introduction to the DEA

The basic principle of the DEA is detailed in the article of Charnes et al. (1978) and thus it is not detailed in this report; for details, see Ma (2010).

#### 3. The result of the empirical analysis of the DEA evaluation model

The operating environment of data processing software is STATA13.0, and the DEA function command in the internal system of STATA13.0 is put into effect. The result of its analysis is shown in the following table. Using the decision-making units (only five special economic zones in this report) and innovation input, output indicators (13 indicators) required by the DEA, we adopted the DEA to analyze the innovative economic development of the special economic zones from the perspectives of scientific and technological innovation, the efficiency of scientific and technological



**Table 4.2** The efficiency of scientific and technological innovation input-output 1

	City	Shenzhen	Zhuhai	Xiamen	Shantou	Hainan
	Ranking	<b>1</b>	<b>4</b>	<b>5</b>	<b>3</b>	<b>1</b>
	Theta	<b>1</b>	0.691634	0.548398	0.88879	<b>1</b>
Input slack	R&D intensity	0	0.003505	0	0.00722	0
Input slack	Proportion of scientific and technological expenditure	0	0.04734	0.005334	0.018263	0
Input slack	Number of R&D personnel	0	0	23,664.8	0	0
Output slack	Output value of new and high technologies	0	0	0	171.014	0

achievement transformation and innovation, and the efficiency of the optimization of the economic structure.

### 3.1 Analysis of the efficiency of scientific and technological innovation

The indicators of the scientific and technological innovation include the intensity of R&D funds (100 million yuan), the proportion of the scientific and technological expenditure in fiscal expenditures and R&D research personnel. The output indicator is the output value of new and high technologies (100 million yuan). We adopted the classic DEA BCC model. The result of its analysis is shown below.

According to Table 4.2, Shenzhen and Hainan were in the forefront of the efficiency of scientific and technological innovation output; in other words, their efficiency was the highest in relation to the other special economic zones. This suggests that the efficiency in both special economic zones was at the same level, while the total quantity in Shenzhen was much larger than that in Hainan. The input slack represents the maximum saving of input and means a surplus of this production factor where other input and output are unchanged. The input surplus in Shantou, Zhuhai and Xiamen gradually increased, suggesting disharmony between innovation input and output. Relative to Xiamen, Zhuhai had an input surplus in the proportion of scientific and technological expenditure in fiscal expenditure, indicating that Zhuhai was inefficient in scientific and technological expenditure and that it should adjust its scientific and technological expenditure accordingly. In fact, according to the comparison of the innovative development reports in the previous periods, Zhuhai and Xiamen were at the same level of development of economic aggregate. As shown by the analysis of R&D input and output, Zhuhai was more efficient than Xiamen, suggesting that Zhuhai maintained the leading position regarding economic quality.

According to the last column in Table 4.3, the scientific and technological innovation in the four special economic zones, except Shenzhen, was 1, suggesting that there was an effect of scale increase in the four special economic zones, and the vari-

**Table 4.3** The efficiency of scientific and technological innovation input-output 2

City	Constant scale efficiency	Variable scale efficiency	DRS_TE	SCALE	Whether the scale increases
Shenzhen	1.000000	1	1	1	0
Zhuhai	0.585205	0.691634	0.585205	0.84612	1
Xiamen	0.190356	0.548398	0.190356	0.347112	1
Shantou	0.045824	0.88879	0.045824	0.051558	1
Hainan	0.819204	1	0.819204	0.819204	1

**Table 4.4** Analysis of the efficiency of the transformation of innovation achievements 1

	City	Shenzhen	Zhuhai	Xiamen	Shantou	Hainan
	Ranking	<b>1</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>1</b>
	Theta	1	1	0.693	0.957	1
Input slack	Number of R&D personnel	0	0	723.356	0	0
Input slack	Proportion of scientific and technological expenditure	0	0	0.00043	0.01203	0
Input slack	R&D intensity	0	0	0	0.007	0
Output slack	Number of patents per 10,000 people	0	0	0	0	0

able scale efficiency showed that Shenzhen enjoyed the leading position regarding the efficiency of scientific and technological innovation input-output.

### 3.2 Analysis of the transformation rate of the innovation achievement

In order to measure the optimization of the economic structure, we adopted the intensity of R&D, the proportion of the scientific and technological expenditure in fiscal expenditure and the number of R&D personnel as the innovation input indicators, and used the per capita number of patents owned as the innovation output indicator because the output of innovation input is mostly embodied by patents, and the capability for scientific and technological innovation in the special economic zones can be effectively evaluated by analyzing the number of patents owned. The result of its analysis is shown in Tables 4.4 and 4.5.

According to Table 4.4, the scientific and technological achievement output in Shenzhen, Zhuhai and Hainan was on the frontier level, Shantou was superior to Xiamen in ranking mainly because Shantou was a place where the private economy was active, and transformed towards high scientific and technological content and got good economic benefits. Xiamen’s efficiency value was 0.693, showing that 0.307 input could be saved in the case of guaranteeing the equivalent patent output; Xiamen should make further improvements in achieving transformation; Hainan’s

**Table 4.5** Analysis of the efficiency of the transformation of innovation achievements 2

City	Constant scale efficiency	Variable scale efficiency	DRS_TE	SCALE	Whether the scale increases
Shenzhen	1	1	1	1	0
Zhuhai	1	1	1	1	0
Xiamen	0.649	0.693	0.649	0.937	1
Shantou	0.503	0.957	0.503	0.525	1
Hainan	0.699	1	0.699	0.698	1

**Table 4.6** The efficiency of the innovation of the optimization of the economic structure 1

	City	Shenzhen	Zhuhai	Xiamen	Shantou	Hainan
	Ranking	<b>1</b>	<b>4</b>	<b>5</b>	<b>1</b>	<b>1</b>
	Theta	1	0.691634	0.408469	1	1
Input slack	Number of R&D personnel	0	0	13,869.7	0	0
Input slack	Number of new and high-tech enterprises	0	66.9455	0	0	0
Output slack	Proportion of output value of new and high technologies	0	0	0	0	0

potential for economic development was on the increase mainly because Hainan has vigorously carried out the strategy of building a strong island through science and technology in recent years. Hainan's scientific and technological potential was increasingly aroused to drive forward rapid and sound economic development.

According to Table 4.5, Shenzhen and Zhuhai kept an unchanged scale effect, while the remaining three special economic zones maintained an increasing scale benefit, suggesting that the innovation input was increased and it was able to continue improving the efficiency of the transformation of its innovation achievements.

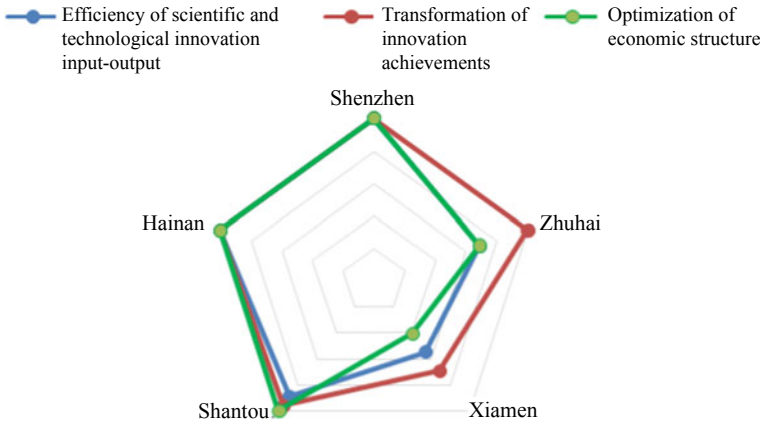
### 3.3 Analysis of the efficiency of the optimization of the economic structure

In order to measure the optimization of the economic structure, we adopted the number of R&D personnel and the number of new and high-tech enterprises as the innovation input indicators, and used the proportion of the new and high-tech output value in GDP as the innovation output indicator. The analysis of the result is shown in Tables 4.6 and 4.7.

According to Table 4.6, Shenzhen was ahead of the other four special economic zones in the efficiency of the innovation of the optimization of the economic structure, while both Shantou and Hainan performed well; both Zhuhai and Xiamen had surplus in innovation input; Zhuhai was more efficient than Xiamen, Zhuhai's efficiency exceeded that of Xiamen by 1/3; Zhuhai showed saving in the number of new and

**Table 4.7** The efficiency of the innovation of the optimization of the economic structure 2

City	Constant scale efficiency	Variable scale efficiency	DRS_TE	SCALE	Whether the scale increases
Shenzhen	1	1	1	1	0
Zhuhai	0.623157	0.691634	0.623157	0.900991	1
Xiamen	0.343612	0.408469	0.408469	0.841218	-1
Shantou	0.070908	1	0.070908	0.070908	1
Hainan	1	1	1	1	0



**Fig. 4.1** Radar map of efficiency of innovation of the special economic zones

high-tech enterprises, the output value from Zhuhai’s new and high-tech enterprises was greatly different.

The efficiency of the variable scale of the five special economic zones was analyzed above. With regard to whether the scale increases, according to Table 4.7, Xiamen showed a decreasing scale effect, suggesting that Xiamen should expand its innovative channels of economic development, arouse the driving forces for endogenous innovative economic development, increase the proportion of the private economy, tap the innovative development potential of the private economy, pursue innovative development in an integrated, systematic and permanent way, make Xiamen’s whole economy big and strong in a planned and efficient manner (Fig. 4.1 and Table 4.8).

### 3.4 Ranking of the efficiency of economic innovation

In the previous section, we proceeded from the efficiency of output of scientific and technological innovation, the efficiency of the transformation of innovation input achievements and the optimization of the economic structure to further explain the innovation input in increasing the potential of emerging industries and the rate of the transformation of innovation achievements and further optimizing the economic structure in the special economic zones. According to the above ranking, Shenzhen

**Table 4.8** Ranking of cities regarding efficiency

City		Shenzhen	Zhuhai	Xiamen	Shantou	Hainan
Ranking	Scientific and technological innovation	1	4	5	3	1
	Scientific and technological achievements	1	1	5	4	1
	Industrial innovation	1	4	5	1	1

took the lead in three major innovation fields and was ahead of the other four special economic zones in both quantity and quality. This was closely related to the historical capital accumulation, vigorous government support and unceasing efforts of the enterprises in Shenzhen. Hainan and Shantou's economy presented a certain potential in the output ratio, but there was a certain space for increasing the total quantity; as the second echelon of innovative development of the special economic zones, Zhuhai and Xiamen should continue to maintain and increase the rate of their developmental growth and developmental driving forces, steadfastly take the path of innovative economic diversification, and actively draw upon domestic and foreign advanced experience in innovation-driven economic development. The five special economic zones have exhibited distinctive features in their economic development. It is essential to take the "innovation, coordination, greening, openness and sharing" put forward in the 18th National Congress of the Communist Party of China as the guide for the next innovative development of the special economic zones, so that the special economic zones can cooperate with each other and advance synergistically. The analysis in this report is based on the cross-section data in 2015. In the future, the data can be extended into panel data, the sample size can be further increased, and the data concerning other large cities across China can be adopted to carry out a unified analysis of the differences in innovative development between the special economic zones and large cities, find the internal driving factors for a differentiated development to boost the economic development in the special economic zones.

### 4.3 Characteristics of Innovative Development in the Special Economic Zones

Based on the above empirical analysis and initial data, we can conclude that the economic structure should be further optimized, the capability for and efficiency of innovation should be further improved. In the future, the special economic zones should make the following improvements. Actions should be taken to guarantee the input of innovation factors and the improvement of the efficiency of the factor output of innovation. The efficiency of innovation is an important indicator for measuring whether innovation input and output are rational, and it serves as the fundamental basis for judging whether a city is an innovative city. At present, the economy is

under the new normal, the demographic dividend is fading away, the advantage of human capital is gradually declining, so it is particularly important to find another engine for China's economic development. At the current stage, the transformation from economic growth into economic development is of far-reaching significance for China, even for the special economic zones. It is of great historical significance for the special economic zones—the national economic benchmark—to accomplish this arduous mission. Based on the above empirical analysis, we find that the current development of the special economic zones presents the following outstanding characteristics.

### ***4.3.1 It Is Still Necessary to Increase the Innovation Input in Emerging Industries***

In the above empirical analysis, the efficiency of innovation in the five special economic zones is analyzed from the perspectives of scientific and technological innovation, financial innovation and industrial structural innovation. The size of the data and the size of the research sample are small, so the number of indicators available for us to measure the efficiency of innovation is small, but there is still a certain realistic significance. In scientific and technological innovation, the intensity of the input of R&D funds is an important indicator for measuring the level of scientific and technological innovation of the whole society, while the enterprises' R&D shows certain externalities, thus it is difficult for the market mechanism to effectively ensure that enterprises voluntarily conduct independent R&D; the government exerts an important impact on improving the innovation capability of enterprises, and the ratio of scientific and technological expenditure to fiscal expenditure is the main basis for evaluating the governmental support for the enterprises' R&D input. By observing the initial data, we can conclude that the five special economic zones are obviously different in innovation input; taking the intensity of R&D as an example, the indicator on this aspect in the four special economic zones, except Shenzhen, did not exceed 3%, suggesting that there is room for increasing the intensity of the input of R&D funds. Zhuhai was excellent in the proportion of scientific and technological input regarding fiscal input, showing that the Zhuhai Municipal Government attached great importance to scientific and technological input, while Xiamen, Shantou and Hainan were generally at low levels in the scientific and technological input, meaning that the other special economic zones should increase their scientific and technological input; the number of scientific research personnel was small, so it is necessary to strengthen the building of R&D talent teams. Hainan gradually increased the proportion of its financial industry in the GDP and made certain achievements compared with last year. The new and high-tech industries have always been the priority in Hainan's economic work. In 2015, there were nearly 170 new and high-tech enterprises. This is the important reason why Hainan and Shenzhen appeared in parallel on the frontier level; this shows that Hainan made certain achievements in green

development, which was essential for optimizing Hainan's economy. According to the innovative development reports in three years, we can find that "rejuvenating the island through green development and making the island strong through science and technology" was not a slogan for Hainan; on the contrary, it was really put into practice in Hainan; Hainan shared the same frontier level with Shenzhen in efficiency, but it lagged behind Shenzhen in stock to some extent. The state-owned enterprises still made up a relatively high proportion of Xiamen's economy, the vigor of the private economy had not yet been fully aroused in Xiamen. It is imperative to further tap Xiamen's potential for economic innovation. There was a certain increase in the proportion of the output value from the financial industry in Xiamen's economy compared with last year. The growth rate of the output value from Zhuhai's financial industry was the same as that for last year. Shenzhen's financial industry grew rapidly.

### ***4.3.2 The Efficiency of the Innovation of Scientific and Technological Industries Should Be Further Improved***

As the previous advantages of China's economy have faded away, innovative economic development has gradually drawn wide attention. Scholars have questioned China's previous pattern of extensive economic development and have stressed that economic development should be achieved in an "efficient" way, and the pattern of economic development should be improved by enhancing the efficiency of economic development. Based on the above empirical analysis, we can find that there is still room for upgrading the new and high-tech industries in Xiamen and Hainan; the number of new and high-tech enterprises in Hainan grew rapidly, Hainan still enjoyed certain advantages in the value of new and high-tech output. This was closely related to Hainan's strategy of rejuvenating the island through green development and making the island strong through science and technology. The economic structure in the five special economic zones was further optimized, the tertiary industry accounted for more than 50% in each of the five special economic zones; however, the output value of the modern service and advanced manufacturing industries was at a low level. Vigorously developing the modern service, the advanced manufacturing and the financial service industries is the next important strategy for the development of the special economic zones.

The five special economic zones should intensely increase the input of innovation factors, and spare no effort at strengthening their economic driving forces through science and technology, and they should avoid overhastiness in innovation output and emphasize the future expectability, continuity and high growth of innovation output. This requires the government, enterprises and individuals to generally improve the efficiency of the economic production of the special economic zones from multiple perspectives, including institutional innovation and talent cultivation

innovation. According to the results of the analysis of data envelopment, Shantou and Hainan surpassed Zhuhai and Xiamen in ranking; there was a great difference from the previous reports on innovative development, suggesting that Shantou and Hainan maintained a strong developmental momentum, and the significant contribution from the financial industry cannot be ignored. Increasing the proportion of the output value from the modern service industries dominated by the financial industry in the future is important for developing an innovative economy, thus increasing the innovation input of the financial industry should focus not only on capital, but also on the finance-related institutional facilities; more importantly, it entails the financial talents and the experience in taking the path of an innovation-driven financial development.

#### **4.4 Suggestions for the Innovative Development of the Special Economic Zones**

The 5th Plenary Session of the 18th Central Committee of the Communist Party of China put forward five major developmental philosophies, including innovation, coordination, greenness, openness and sharing, and identified the direction for China's future innovative economic development. The future economic development of the special economic zones will be fostered according to these five major developmental philosophies. Among these, the first priority is given to innovation, followed by greenness, openness and finally sharing. Mutually beneficial sharing and win-win cooperation will be the final form of the innovative development of the special economic zones. These five major developmental philosophies are also the important guiding philosophies for quickening the innovative economic development of the special economic zones. Based on the above empirical analysis, it is necessary to further strengthen innovation, greenness, openness and sharing. The author believes that the innovative development of the special economic zones should be promoted from the following perspectives.

##### ***4.4.1 Mastering the Market Law and Giving Full Scope to the Decisive Role of the Market Is the Prerequisite for the Innovative Development of the Special Economic Zones***

The market law is the invisible hand in the market. Respecting the market law has a direct bearing on a sound operation of a market economy. The market operational mechanism has always been one of the important laws upheld by Shenzhen as the typical representative of the market economy; it is also the source of motive force for Shenzhen's innovative development. The market mechanism presents unique



advantages in allocating the scarce innovation factors in the market. Shenzhen's "four 90%" in R&D innovation has always been the myth which it is difficult for the other special economic zones to solve. Since the 18th National Congress of the Communist Party of China, understanding and mastering the law of market economy has been given a primary strategic position. As shown by the course of Shenzhen's tortuous development over a period of 30 years, Shenzhen's loose, free and open economic atmosphere for innovation, entrepreneurship and grass-roots development gave birth to a number of information industry giants, including Huawei and Tencent, and many emerging startups with a huge developmental potential, including DJI-Innovations and Hytera. According to statistics, currently in Shenzhen, 10% of the people are starting a business, there are more than 30,000 small and medium-sized technology enterprises, nearly 5000 national new and high-tech enterprises, more than 1000 enterprises with a sales volume exceeding 100 million yuan. They jointly help Shenzhen's innovative economic development. The outstanding achievements made by Shenzhen seem to result from its numerous innovative enterprises; in the final analysis, Shenzhen's mature and loose market economic system brought about Shenzhen's current economic prosperity. Moreover, Shenzhen is adjacent to Hong Kong and enjoys an excellent geographical advantage which is not available in Shantou. Although the private economy plays the leading role in Shantou, generally low technological content is its typical characteristic. Xiamen's government departments point out that Xiamen's economic growth rate is on the decrease, while the prices of production factors, including land and labor in the special economic zone, are rising; the state-owned enterprises become dominant, the agglomeration effect of leading private enterprises is insufficient, the emerging industries are weak, it is difficult for the traditional pattern of economic development to sustain development; furthermore, the economic development within and outside the island is imbalanced; improving the market mechanism and correctly understanding the market economic law is the priority of the next work. Zhuhai is close to Shenzhen, its market economic operational mode is similar to that in Shenzhen; Zhuhai pays more attention to developing a green economy; a host of enterprises, including Gree and Kingsoft are well-known throughout China; Zhuhai has been rated as the national livable city many times. Zhuhai has made unremitting efforts at improving its market system. Zhuhai has an increasing number of technology enterprises. Hainan is weak in foundation and vast in territory. Hainan developed from a low point into a special economic zone. Hainan has developed along a tortuous path. The strategy of rejuvenating the island through green development and making the island strong through science and technology has become the consensus throughout the island. Hainan's comprehensive and balanced market economic system needs to be further improved.

#### ***4.4.2 Strengthening the Government's Institutional Support Is the Foundation for the Innovative Development of the Special Economic Zones***

Market failure is inevitable. Enterprises' R&D activities have certain externalities, leading to market failure. In case of market failure, the government should play the role of a visible hand to correct the trajectory of the economic operations, thus it should make great efforts in innovating its institutions, policies and services in order to stimulate the innovative enterprises to continue intensifying scientific and technological innovations, jointly helping innovative enterprises boost the rapid and sound economic development of the special economic zones, and achieve the ultimate goal of optimizing the economic structure in them. At the level of institutional innovations, the government should respond to the call of the 18th National Congress of the Communist Party of China for streamlining the administration and delegating power to the lower levels, it should make every effort to administrate less and in an appropriate way so as to foster a good environment for the growth of the new economy. Since the 18th National Congress of the Communist Party of China, the governments of the special economic zones have introduced a list of policies to simplify the procedure for the innovative enterprises, attract more innovative enterprises to settle in the special economic zones and contribute to their prosperity; some special economic zones should further make improvements in understanding the government's functions and transforming its philosophies. With respect to policy innovation, the government should actively investigate the production activities of the enterprises profoundly, identify the drawbacks in their internal innovation activities and the existing policies, promptly update the old policies, better provide a policy support for the innovation activities of the enterprises; for example, the R&D activities of enterprises need policy support from the government, including fiscal and relevant tax policy support; tax reduction and exemption is conducive to stimulating enterprises to increase their R&D input. Based on surveys, we find that it is still problematic for Shenzhen's innovative enterprises to enjoy the tax reduction and exemption policy. The main problem is that the production and R&D departments in some emerging industries fail to meet the requirements of the tax reduction and exemption policy; it is difficult to produce the effect of tax reduction and exemption. The main cause is that the tax reduction and exemption policy covers a long period and has outdated content; this will severely hinder the development and growth of the innovative enterprises. If the government can interact with enterprises in policy support and innovate some of its old policies, it would be greatly beneficial for the development of the innovative enterprises, and even of the emerging economies. In the field of service innovation, the government should actively develop an innovative and entrepreneurial environment. The government should build platforms, create an innovative environment and serve as the information service intermediary. According to the first section, several special economic zones place equal emphasis on the construction of innovative platforms and innovative policies. In 2015, a number of policies conducive to building

an innovative environment and platforms were introduced to enhance the capability for innovation of the special economic zones.

#### ***4.4.3 Improving the Talent Incentive Mechanism, the Service Guarantee System and the Talent Cultivation Mechanism Is the Guarantee for the Development of the Special Economic Zones***

Talents are always the internal demand and potential impetus in an innovative economic development. The main innovators are enterprises, while the key to innovation lies in talents. How to intensify talent introduction and cultivation has always been the eternal topic of the innovative economic activities. Under the existing economic operational mechanism, the housing prices are soaring in the eastern coastal cities; as a result, the business costs for the innovative enterprises and the living costs for innovative personnel are skyrocketing, thus further restricting the development and growth of innovative cities. According to the innovative development reports in the last three years, talent shortage has always been the weak link in the economic development of the special economic zones and has severely hampered the construction of innovative cities in those zones. With a diversified development of the innovative economies, the talent requirements become increasingly meticulous, so it is necessary to further improve the corresponding talent incentive mechanism and service guarantee system. In order to build talent teams in the special economic zones, the following work should be carried out. First, attract talents. Talents serve as one of the engines for the economic development of the special economic zones. The key for a city's becoming attractive for innovative and entrepreneurial talents consists in their being treated genuinely, sincerely and patiently by the government, specifically, talent policies should become vigorous and attractive. Shenzhen's Peacock Program, Zhuhai's Phoenix Program and other talent introduction strategies have produced preliminary effects; the number of innovative talents has reached a certain scale, they have started generating impetus for innovative economic development. Second, retain talents. Finally, cultivate talents. Talent cultivation is a long process. In order to cultivate talents, the government should continue to increase the educational input and fundamentally make some innovations in the efficiency of the talent cultivation mechanism. As benchmark cities, the special economic zones should take the lead across China in maintaining the advanced nature of the talent cultivation philosophy, and should make attempts at innovating the talent cultivation mechanism. Principally, the government should proceed from the reality to determine the talent cultivation goal, master the law of talent cultivation, consider the internal requirements for innovative economic development of the special economic zones in order to develop highly professional, practical and technical talents for the innovative economic development of the special economic zones. The government should also increase the educational support and the level of discipline in the special economic

zones, draw upon domestic and foreign advanced teaching philosophies and experience. The small number of colleges and universities and the low average level of students constitute another weakness in the innovative development of the special economic zones. In order to overcome the above drawbacks, the Government of Shenzhen has made unremitting efforts in introducing colleges and universities, and has discussed cooperation matters with well-known domestic and foreign colleges and universities many times; it has introduced excellent specialities from a number of well-known domestic and foreign colleges and universities to vigorously boost the innovative development of economically-characteristic industries in Shenzhen.

It is impossible to present all of the suggestions regarding the innovative economic development of the special economic zones. Based on the result of empirical analysis, this report stresses the endogenous economic innovations in the special economic zones from the perspectives of market environment construction, government support and talent delivery, and encourages the special economic zones to continue maintaining their advantages in economic development and lead China's economic development to a higher level.

## References

- 2015 Shenzhen Statistical Communiqué. [http://www.sz.gov.cn/cn/xxgk/tjsj/tjgb/201604/t20160426\\_3606261.htm](http://www.sz.gov.cn/cn/xxgk/tjsj/tjgb/201604/t20160426_3606261.htm).
- 2015 Zhuhai Statistical Communiqué. [http://www.stats-zh.gov.cn/tjzl/tjgb/201603/t20160330\\_325988.htm](http://www.stats-zh.gov.cn/tjzl/tjgb/201603/t20160330_325988.htm).
- 2015 Xiamen Statistical Communiqué. [http://www.xm.gov.cn/zfxxgk/xxgkznm/gmzgan/tjgb/201603/t20160330\\_1312191.htm](http://www.xm.gov.cn/zfxxgk/xxgkznm/gmzgan/tjgb/201603/t20160330_1312191.htm).
- 2016 Shantou Statistical Communiqué. [http://www.lib.szu.edu.cn/szulibhtm/AD\\_tqzl/BD\\_st/2016/0013.htm](http://www.lib.szu.edu.cn/szulibhtm/AD_tqzl/BD_st/2016/0013.htm).
- 2016 Hainan Statistical Communiqué. [http://www.hainan.gov.cn/hn/zwgk/tjdc/hntj/tjgb/201601/t20160127\\_1759306.html](http://www.hainan.gov.cn/hn/zwgk/tjdc/hntj/tjgb/201601/t20160127_1759306.html).
- <http://www.most.gov.cn/ztzl/qgkjgzhzy/2016/2016j1cl/2016j1df/>
- Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research*, 2(6), 429–444.
- Chen, Q. (2014). *Advanced Econometrics and Stata Application*. Higher Education Press.
- Fang, Li, & Chao, Wang. (2014). The building of the financing efficiency evaluation system for small and medium-sized innovative enterprises. *Statistics and Decision*, 2, 172–175.
- Gao, J., Wang, H., Gao, J. (2016). Tax incentives, R&D input and enterprise performance—An empirical study based on new and high-tech enterprises. *Technology Industry of China* (7).
- Hui, Liu, Yifang, Liu, Han, Qiao, et al. (2015). A Study of the Technical Innovation Efficiency of China's Strategic Emerging Industries. *System Engineering Theory and Practice*, 9, 2296–2303.
- Ji, Y., & Lee, C. (2010). Data envelopment analysis. *The Stata Journal*, 10(2), 267–280.
- Lan, Wu, & Yi, Ru. (2013). Evaluation of the technical innovation efficiency of large and medium-sized industrial enterprises in West China. *Journal of Central University of Finance and Economics*, 10, 86–90.
- Lee, C., Ji, Y. (2017). *Data Envelopment Analysis in Stata*. [https://www.stata.com/meeting/dcconf09/dc09\\_lee\\_ji.pdf](https://www.stata.com/meeting/dcconf09/dc09_lee_ji.pdf), 2017-10-11.

- Linmu, Li, & Cunzhi, Guo. (2014). Whether massive tax reduction and exemption can effectively promote the development of China's new and high-tech industries. *Finance & Trade Economics*, 5, 14–26.
- Liu, Y. (2016). The characteristics of the three stages of technical innovations in liaoning's hi-tech industries and their evolution—Based on DEA. *Journal of Dongbei University of Finance and Economics* (3).
- Liu, S., Jiang, X., Yu, Q. (2015). The characteristics of three stages of technical innovations in China's hi-tech industries and their evolution—DEA. *The Journal of Quantitative & Technical Economics* (7):104–116.
- Lu, Y., Zhang, D. (2012) A study of China's regional financial efficiency measurement and efficiency differences. *Economic Geography* (1).
- Ma, Z. (2010). *The data envelopment analysis model and method*. Science Press.
- Tao, Li, & Yan, Sun. (2016). Spatial quantitative analysis of the factors affecting the innovation capability of West China—An empirical study based on panel data concerning West China. *Hunan Social Sciences*, 1, 134–139.
- Wei, Liu. (2015). The Estimation of the Research, the efficiency of the development and innovation of China's new and high-tech industries—Based on the three-stage DEA model. *Journal of Applied Statistics and Management*, 34(1), 17–28.
- Yanyan, Li. (2015). An analysis of tax incentives at the technical innovation stage of enterprises. *China Price*, 11, 17–20.

# Chapter 5

## Report on the Development of the Rule of Law in China's Special Economic Zones



Keting Zhang and Li Guo

Since the Report to the 15th National Congress of the Communist Party of China as the governing party in China included the expression “governing the country under the rule of law and building a socialist country under the rule of law”, and that expression was enshrined in an amendment to the Constitution, promoting the development of the rule of law in China in an all-round way has become the theme of the times. The development of the rule of law in China is a systematic project and should be pushed forward at both national and local levels. At the national level, in order to comprehensively promote the development of the rule of law in China, the central decision-making body should draft and release relevant legal documents on comprehensively promoting the development of the rule of law in China and developing the rule of law in China to outline the overall theoretical line of thought of the governing party in that regard and regarding the building of a socialist country under the rule of law and the manner of institutional practice; the national legislative body should make, revise and improve a number of relevant laws and regulations according to the overall requirements of the Central Committee; it is necessary to develop specifications regarding responsibility and a procedure of conduct for a state adjudication organ and a legal supervision organ so as to arrange the overall work for the development of the rule of law in China as soon as possible. At present, the work in this regard is still relatively slow. As the progress in the work at the national level is slow due to a lack of support from theoretical preparation and experience, the practice in the rule of law at the local level is of more realistic significance and experimental value for carrying out the basic strategy of comprehensively promoting the development of the rule of law in China. In the past ten years, some provinces and municipalities in China have specified the goals for local development of the rule of law such as “the rule of law in Zhejiang”, “the rule of law in Hunan”, “the rule of law in Jiangsu”, “the rule of law in Guangdong”, and “the rule of law in

---

K. Zhang (✉) · L. Guo  
College of Economics, Shenzhen University, Shenzhen, China

Shenzhen”; Zhejiang, Hunan and Shenzhen have introduced relatively comprehensive and systematic normative documents for developing the rule of law at the local level.

In the new historical period, as the vanguard and frontrunner in China’s reform, special economic zones are unwilling to lag behind in developing the rule of law in China; they elevate the development of the rule of law to a higher strategic level, and foster new advantages with the first-rate rule of law to gather a great amount of new experience. This paper first theoretically demonstrates the significance of the development of the rule of law for social construction, and then summarizes the development and construction of five traditional special economic zones from the perspective of the practice of rule of law, and presents its problems and the outlook for its future development.

## 5.1 Great Significance of the Development of the Rule of Law for Social Construction

According to Aristotle, in order to make things just, it is essential to achieve impartial trade-off, while law is exactly such a reasonable trade-off.<sup>1</sup> At present, reform has entered the deep-water area, and various social contradictions intertwine and are complicated, so the rule of law is particularly important for safeguarding social justice and restricting conflicts within a good order. In order to maintain social equity and prevent public power from abusing and violating private power, it is necessary to adopt legal means to combat corruption, uphold justice and equity, and treat all of the people with the same rewards and punishments. Given the developmental trend of world civilization, the society under rule of law is the cornerstone for progress in social civilization and it also provides an institutional guarantee for the lasting political stability of a country. Meanwhile, the construction of a society under rule of law can further guarantee human rights, achieve equity and justice, safeguard social order, build a credible society, improve the relationship between people and nature; moreover, it is very important for building a harmonious society.

### 1. The society under rule of law is the main form of a harmonious society

The *Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Building a Harmonious Socialist Society* adopted in the Sixth Plenary Session of the 15th Central Committee of the Communist Party of China defined a harmonious society as the essential attribute of socialism with Chinese characteristics,<sup>2</sup> while a harmonious society is the important guarantee for national prosperity and mightiness, national rejuvenation and the happiness of the

---

<sup>1</sup>Aristotle (1965).

<sup>2</sup>Xinhuanet, *Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Building a Harmonious Socialist Society*. [http://news.xinhuanet.com/politics/2006-10/18/content\\_5218639.htm](http://news.xinhuanet.com/politics/2006-10/18/content_5218639.htm).

people. Democracy and the rule of law, equity and justice, trustworthiness and friendliness, great vitality, high stability and good order, and a harmonious coexistence between the people and nature are the six major elements which make up a harmonious society. Democracy and the rule of law are the first among these elements. However, democracy and the rule of law are not equal to and on a par with the other elements; they are in the dominant position. The main form of a harmonious society is a society under rule of law.

China is a socialist country with the people's democratic dictatorship, and the people's democracy is the country's basic system of state. In order to guarantee the people's right to become the masters of the country, it is not feasible to merely rely on policies and regulations; legal means must be adopted to ensure that the people can exercise the powers of making, executing and supervising a variety of laws, including the Constitution, criminal law and civil law. The citizens' democratic power is guaranteed by rule of law; there is no democracy without rule of law. In order to safeguard equity and justice, it is necessary to make and improve relevant laws, rationally distribute economic benefits, regulate the order of market competition, and restrict the misconduct of the economic players. Only in this way can the principle of fair competition be protected, the interests of the disadvantaged groups be safeguarded, and social justice be upheld. Trustworthiness and friendliness, great vitality, high social stability and good social order, and a good atmosphere cannot be established and maintained without rule of law. The relationship between the people and nature is increasingly maintained by relying on rule of law instead of publicity and education. In order to improve the institutions for the construction of an ecological civilization, it is essential to adopt legal means to regulate the productive behavior of enterprises and the residents' manner of living, and to build a system of laws and regulations covering clean production, energy conservation, emission reduction and pollution prevention and control. As shown, rule of law is the core; a society under rule of law is not necessarily a harmonious society, but a harmonious society is certainly a society under rule of law.<sup>3</sup>

## 2. Rule of law is the important source of social vitality

A harmonious society should be a thriving and robust society, full of vitality and with an unlimited potential. The experience gained from several decades of reform and opening up has repeatedly proved that the maintenance and stimulation of social vitality relies on a good environment under rule of law; social vitality is maintained by stimulation and protection; social vitality often originates from economic development, and scientific and technological progress; economic development is generally supported by technological progress in the era of knowledge economy. Regarding the specific legal institutions involved in this field, the *Intellectual Property Law* protects and encourages innovation and creation; the *Science and Technology Reward Regulations* specify the rewards for major scientific and technological progress, under which the positive guidance under rule of law is provided to arouse the enthusiasm

---

<sup>3</sup>Duan Fan, A Harmonious Society is a Society under Rule of Law, The Communist Party of China News Online. <http://theory.people.com.cn/GB/40537/15355665.html>.



of the people for reform and innovation, motivate the initiative and creativity of brain workers, speed up the development of the scientific and technological undertakings, improve the overall national strength. Accordingly, *Criminal Law* should be used to punish the crimes of infringing upon intellectual property, protect and further arouse the people's enthusiasm for innovation and development, continuously push forward social, scientific, technological and economic progress.

Maintaining social vitality also rests upon transforming our mindsets in social management, correctly addressing a slew of problems during the period of social transformation, such as the wide gap between the rich and the poor, the great disparity in social security between urban and rural areas, the unbalanced distribution of educational resources, and insufficient medical services. The above problems include not only those left over by history, but also those which pop up during development. If only the rate of development is relentlessly sought, social justice is overlooked and there is a failure to properly deal with the pressing social problems will it be possible for reform and opening up to finally be affected, even for the hard-won achievements of the reform and opening up to be undermined. Once we establish a good rule of law, legally analyze the current social problems at the macro level, guide the whole society, especially the leading cadres, to transform the management philosophy, insist on the goal of serving the people, firmly uphold the Scientific Outlook on Development and foster the correct outlook on political performance, can we fundamentally spur various departments to take the corresponding measures in order to coordinate the relationship among various parties in a well-targeted way, solve the problems left over by the reform, resolve the social contradictions, and maintain the momentum of a harmonious, healthy and stable social development. For a long-term stable development of rule of law, we should also improve and correctly enforce the Constitution and civil and commercial laws to better protect and develop socialist human rights, gradually narrow the social gap, overcome the difference between urban and rural areas so that the members of the whole society treat each other on an equal footing and live in harmony. Only when we persist in rule of law, foster beneficial competition and jointly create and actively develop a harmonious social environment can we provide inexhaustible institutional source for continuous social vitality.

### 3. Rule of law is the solution to and the guarantee for the problems concerning the people's livelihood

Medical treatment, education, income distribution, employment, prices, ecological environment and social security are the most realistic issues having the most direct bearing on the interests of the people. Based on economic development, efforts are made to guarantee and improve the people's livelihood, expand public services, improve social management and boost equity and justice; this is the core task in building a harmonious society. As a Chinese saying goes, only when the people have ample food and clothing can they pay attention to etiquette, honor or disgrace. The people are the foundation of a country; only when the foundation is firm can the country become stable. If the people have no means to live on, and the people's wellbeing is not improved, it is very hard for a society to become harmonious. In

order to ensure education, old-age wellbeing, medical treatment, old-age care and housing for all of the people, it is essential to speed up legislative work in the field of the people's livelihood and improve relevant judicial work.

The social construction in the field of the people's livelihood needs to be guaranteed by legislation. For a long time, remarkable legislation achievements have been made in the construction of China's economy, but legislation has lagged behind in social construction; emphasis has been placed on one field, while another field has been ignored; in particular, legislation has been very weak in regulating labor relations, social security, social wellbeing and protecting the rights and interests of the special interest groups; this has become an institutional bottleneck in building a harmonious society.<sup>4</sup> Francis Bacon said, "The supreme law of all is the weal of the people". The legislation in the field of the people's livelihood must focus on the issues which the people are most concerned about and that have the most direct bearing on the people's interests. Active efforts should be made in a number of hotspots including food safety, legal private property rights, the rights and interests of workers, social insurance and old-age care.

People-oriented judicial work is also required in social construction in the field of the people's livelihood. People-oriented judicial work is the application of our Party's guiding thought of building the Party for public interests and governing for the people in the judicial field; it aims at fostering the philosophy of a socialist rule of law, ensuring judicial work close to, convenient and favorable for the people, and winning the people's support through all judicial activities. The quality of people-oriented judicial work depends upon the following factors: the judicial work can effectively address the issues concerning the people's livelihood and resolve the contradictions in the people's livelihood; great importance is attached to handling the letters and visits involving complaints from the people so that social conditions and public opinions are smoothly communicated and there is a quick response to the people's appeals; services are enthusiastically performed without giving the people a cold shoulder; the efficiency of case handling is improved; there are no cases which have not been heard for a long time; laws are seriously enforced, ruling is impartially given and can stand the test of time and history; ruling is timely executed rather than suspended. ... In a sense, the efficiency and quality of the judicial system is more important than legislation. Only when solid work is carried out at the legislative and judicial levels can social harmony be fundamentally guaranteed.

#### 4. Rule of law is the institutional guarantee for social stability

High social stability hinges on a stable operational order, good social morality, comfortable and stable life of the people in the whole society, while the building of a society under rule of law is designed to create a stable and harmonious living environment for the people. Criminal law serves as an important means for the development of rule of law and the important law for cracking down on crimes and maintaining

---

<sup>4</sup>Survey Group of the Ministerial and Provincial Class in the Party School of the Central Committee of the Communist Party of China, *Legal Guarantee for the People's Livelihood and Social Construction*, *Chinese Cadres Tribune*, 2010(9).

social stability and harmony. For the dangerous factors which violate the people's lawful rights and disturb social stability, criminal law with absolute authority plays an irreplaceable role in stabilizing social order. However, it is not enough to merely rely on criminal law as a mechanism of punishment for ensuring a lasting social stability; comprehensive governance is required, and a mechanism of rule of law for prevention and handling should be built; for example, in response to the current corruption, the corrupt officials should be severely punished, it is also necessary to establish a relevant whistle-blowing mechanism, specify the rights and responsibilities of officials, vigorously publicize efforts to combat corruption and uphold integrity, prevent official corruption, reduce the opportunities for corruption, improve relevant reward mechanism, clearly define the responsibilities and powers, and build a complete supervision mechanism so as to fundamentally tackle the problem of corruption.

## **5.2 Practice in the Development of Rule of Law in the Special Economic Zones**

Since the strategy of comprehensively developing rule of law was carried out, the special economic zones have actively experimented in building a system of socialist rule of law, and have gained some experience in legislation in social fields, grass-roots governance under rule of law, reform of the judicial system, popularization of laws, publicity and education of rule of law, legal service and punishment of unlawful acts.

### **1. The Shenzhen Special Economic Zone**

For Shenzhen as the forerunner in reform and opening up, as early as 2011, the Shenzhen Municipal Party Committee and the Shenzhen Municipal Government convened the working conference on governing the city according to laws, and vowed to turn Shenzhen into a first-class city under rule of law. During the two sessions held in Shenzhen in January, 2013, the *Proposal on Turning Shenzhen into a First-class City under Rule of Law* was presented as the No. 1 proposal during the Shenzhen Municipal Political Consultative Conference. After several years of development, Shenzhen has acquired a great amount of effective experience in construction, mainly reflected in the following three aspects:

First, strengthen the construction of the system of rule of law. In order to build a first-class society under rule of law and carry out the spirit of the Fourth Plenary Session of the 18th Central Committee of the Communist Party of China, Shenzhen unveiled its *Key Work Plan* and the *Implementation Plan* concerning six tasks for speeding up the construction of a first-class city under rule of law in November, 2014, namely the "1+6 Plan", which stresses actions to intensify the building of a government under rule of law, improve the government work on legislation and formulation of normative documents, turn government bodies into functional departments,

enhance the law-based decision-making mechanism, increase law enforcement in key fields, reinforce restriction and supervision of administrative powers, comprehensively make government affairs public and build up a system of government counselling; the Session also specified the implementation plan for improving the quality of legislation, building a government under rule of law, reforming the judicial system, popularizing laws and emphasizing the observance of all laws among the entire population, building a team for developing the rule of law, combating corruption and upholding integrity.<sup>5</sup> As of late 2012, Shenzhen made 213 local laws and regulations and 255 government rules. Shenzhen is a city with the most local legislation in China, its 10–20 legislations rank Shenzhen No. 1 nationwide. Shenzhen’s goal for building a first-class city under rule of law provides a guarantee for Shenzhen’s reform and development, and practically safeguards the legitimate rights and interests of its citizens.

Second, strengthen the reform of the judicial system. Experiments have been made to build a mechanism for the open selection of judges, and to create a channel between judges and legal workers, including lawyers and law teachers. Attracting more legal elites to become judges is an important task. Actions have been taken to break the boundaries among administrative divisions throughout the city, ensure that the adjudication organ independently and impartially exercises the adjudication power according to laws. In early 2014, the first-ever judge professionalization reform was officially launched in Shenzhen; 1072 judges began to be managed according to a separate positional sequence of judges. This means that judges are stripped of the outerwear of “official” and more emphasis is placed on the law-focused duty in adjudication. In 2015, Shenzhen developed the measures for the selection of judges, and specified the basic qualifications and conditions for selection; moreover, they designed the procedure and method for openly selecting judges in society with a view to attracting more legal elites to become judges. The Court of Futian District has also initiated a reform involving the system of chief judge responsibility in order to reduce the formalities for case examination and approval, raise judges’ enthusiasm for handling cases. In order to remove the unhealthy tendency of believing in letters and visits involving complaints rather than laws, and solve the problem that “the final judicial decision is not final”, and build up a judicial authority, Shenzhen has established the mechanism of separating law and litigation-related letters and visits involving complaints from general letters and visits concerning complaints, it has actively guided complainants to send letters of complaints to and visit the corresponding politics and law departments for solving problems according to laws. The reform of the system of letters and visits also covers judicial assistance for providing the basic living guarantee to the people in need.

Third, build a government under rule of law. As the first pilot city for building a government under rule of law in China, in order to check the excessive exercise of governmental powers and regulate the government’s administrative powers, Shenzhen has issued *Several Regulations of Shenzhen on Regulating the Discretionary*

---

<sup>5</sup>Tu Sheng, “1+6” Plan Boosts the Construction of the First-class City under the Rule of Law, *Shenzhen Special Zone Daily*, 2014-12-04.

*Power of Administrative Punishment* to guide and urge municipal administrative law enforcement departments to earnestly develop, immediately report and strictly implement the criteria for the discretionary power of administrative punishment. Shenzhen became the first in China to establish the indicator system and evaluation criteria for building a government under rule of law; Shenzhen has developed the evaluation criteria involving 12 major items, 50 items and 268 sub-items, including the criteria that “the government’s legislative work is carried out under rule of law” and “major administrative decisions are made under rule of law”, so that various departments have some criteria to follow. In 2015, Shenzhen municipal administrative law enforcement departments developed a list of departmental powers and responsibilities showing the flow chart of internal and external administrative functions and powers so as to comprehensively ensure an open and transparent operation of administrative law enforcement functions and powers. Shenzhen has improved the indicator system for the building of a government under rule of law, it has intensified evaluation by taking effective building of a government under rule of law as the important unit for measuring the work performance of the leading group and leading cadres of administrative bodies at various levels. As from 2010, Shenzhen incorporated the building of a government under rule of law into the system for evaluating the annual city-wide government performance. In 2014, Shenzhen also developed the first negative list of service purchase by the government on the Chinese Mainland, which presents 240 items involving the government’s purchase of services in 40 sub-categories under 2 categories and specifies the forbidden zone for the government’s purchase of services. The list controls administrative powers within a certain scope, reduces the government’s redundant powers and increases the vitality of the market and non-governmental forces. Thanks to the indicator system for the building of a government under rule of law and the government counseling system, Shenzhen was given the China Award for the Government under Rule of Law in 2012 and 2014.

Fourth, intensify innovations in rule of law. In September, 2014, based on advanced international experience, the Shenzhen Court of International Arbitration under the corporate governance structure with the council as the core was officially established in Qianhai, Shenzhen. A diversified mechanism for international dispute arbitration and mediation was built in Qianhai, Shenzhen by drawing upon experience from New York, London, Singapore, Dubai and Hong Kong. There are more than 200 overseas arbitrators from 42 countries and territories. Remarkable achievements have been made in the innovations in rule of law in Qianhai, Shenzhen. Qianhai, Shenzhen became the first in China to allocate jurisdiction over cases across administrative divisions, and separate adjudication from execution, the right to manage judicial administrative affairs from the adjudication power. Qianhai was the first in China to develop the system of mediation through arbitrators from Hong Kong and introducing arbitrators from Hong Kong to serve as jurors. Qianhai is the only rule of law demonstration zone approved by the Central Government. In Qianhai, international experience is referred to in order to accelerate the adoption of the internationally-recognized rules and foster an international business environment under rule of law, and offer a referential path for making innovations in rule of law in China.

## 2. The Zhuhai Special Economic Zone

Zhuhai has always given great importance to the development of rule of law. An institutional environment which has a fine tradition of rule of law, a fair market mechanism and encourages innovation has taken shape in Zhuhai. In recent years, Zhuhai has fully used the advantages it gained from two legislative powers to carry out innovative legislation in key fields; Zhuhai has further streamlined administration and delegated power to the lower levels, and it has intensified the building of the government under rule of law; Zhuhai has experimented with the reform of the judicial system and has become the first to carry out pilot comprehensive reforms in the courts and in the procuratorate, thus providing the special zone experience in the development of rule of law in Guangdong Province and across China.

First, develop a work plan. In order to put into practice the work arrangements made by the State Council and Guangdong Province, Zhuhai worked out a work plan for building a first-class environment of rule of law in 2015, which states that by 2015, breakthroughs will be made in the improvement of the quality of legislation, administration under rule of law, the development of rule of law in the Hengqin Pilot Free Trade Zone, experimentation with judicial reform and grass-roots governance under rule of law; moreover, various tasks for building the city under rule of law will be finished, advanced experience in the development of rule of law will be gathered and a number of outstanding achievements in the development of rule of law will be made. By late 2017, the quality of the legislation, the capability of administration under rule of law, judicial credibility and the extent to which rule of law is developed in social governance will be significantly improved; state functionaries will have a line of thought based on rule of law, the citizens will have rule of law on their minds and the quality of the rule of law talent team will be markedly improved. By the 100th anniversary of the founding of the Party, scientific legislation, strict law enforcement, impartial judicial work and law observance by all of the people will have been basically achieved; the modern governance system and governance capability will have basically taken shape in order to provide a solid legal guarantee for building a new eco-civilized special zone and a model city of scientific development.<sup>6</sup> The work plan specifies work goals and work priorities. The Leading Group for City Governance under Rule of Law under the Standing Committee of the Municipal Party Committee was established; it includes six special groups for scientific and democratic legislation, the building of the government under rule of law, impartial judicial work, social governance, popularization of laws among all of the people, the building of a rule of law work force. Work items and progress requirements have been subdivided to orderly push forward the work on various aspects.

Second, strengthen legislation in social fields. The Zhuhai Special Economic Zone has paid particular attention to legislative work in social construction, it has actively promoted the legislative work in social fields and has further made social

---

<sup>6</sup>Work Plan of the Zhuhai Municipal Party Committee for Carrying Out the Spirit of the Fourth Plenary Session of the 18th Central Committee of the Communist Party of China to Build a First-class Environment based on Rule of Law. [http://www.zhshgz.gov.cn/shjs/fzsh/201511/t20151126\\_8455576.html](http://www.zhshgz.gov.cn/shjs/fzsh/201511/t20151126_8455576.html).

management legitimate and normative. In 2012, the municipal people's congress collected legislation items, conducted a survey and feasibility study in social fields, extensively solicited Zhuhai's proposals for local legislation items of 2014–2016 throughout the city; 43 proposals for legislation items were received, including 22 proposals involving social fields. In 2013, the municipal people's congress deliberated and adopted 9 regulations including 5 regulations involving social fields – regulations on the management of taxis, regulations on fire protection, regulations on the promotion of talent development, regulations regarding social construction and regulations on the promotion of the construction of an ecological civilization. In 2015, 53 valid local regulations were made in Zhuhai, half of which involved social fields. These regulations were based on the *Social Construction Regulations*; special legislation was passed in multiple fields of social construction; the local regulation system involving social fields preliminarily took shape. All of the regulations made in 2015 involve social fields, including voluntary actions against injustice, the management of dog domestication, relatively concentrated administrative punishment power and the management of outdoor advertising facilities.

Third, promote the development of rule of law in grass-roots governance. In recent years, the Zhuhai Municipal Party Committee and the Zhuhai Municipal Government have energetically carried forward the development of rule of law in grass-roots governance and have comprehensively made legal counsels accessible to villages. Pilot experimentation was carried out in 2010, and this work was carried out in an all-round way in 2012. At present, 26 law firms and 152 lawyers serve as legal counsels for villages and communities, 317 villages (communities) have been covered by practicing lawyers as legal counsels in Zhuhai. According to relevant information, in 2015, Zhuhai's legal counsels for villages entertained the people for 30,264 person-times, provided legal services 8763 times, conducted legal publicity 751 times, examined 413 village (community) contracts, participated in self-governance activities 28 times, drafted, examined and revised 280 village (community) legal documents, issued 62 legal opinions, offered legal assistance 106 times, mediated 520 disputes, and handled 631 other matters.<sup>7</sup> Zhuhai has vigorously boosted the development of rule of law in grass-roots governance; this is an important step for the development of rule of law in the entire society.

Fourth, establish joint law firms. On July 8, 2016, the ZLF Law Office, the first joint law firm between the Chinese Mainland and Hong Kong on the Chinese Mainland, was officially opened in the Hengqin Free Trade Zone, Zhuhai. More than 20 lawyers from the Chinese Mainland, Macao and Hong Kong unprecedentedly work in one place to provide cross-border legal services to the businesses from the Chinese Mainland, Macao and Hong Kong. For a long time, as the Chinese Mainland, Macao and Hong Kong are governed by different legal systems, enterprises had to separately appoint lawyers from the law firms on the Chinese Mainland, Macao and Hong Kong to address cross-border legal issues, thus leading to “cross-border trou-

---

<sup>7</sup>Zhuhai's 317 Villages (Communities) Have Been Covered by Legal Counsels, Lawyers Help Grass-roots Democratic Self-governance, *Zhuhai Special Zone Daily*, 2016-06-01.

bles”. The emergence of joint law firms based on CEPA reflects Zhuhai’s spirit of experimentation and innovation in the legal services field.

### 3. The Xiamen Special Economic Zone

After many years of concerted efforts, Xiamen has laid a good foundation for the development of rule of law, and the building of Xiamen under rule of law comes out in front nationwide. In recent years, Xiamen has made great achievements in the development of rule of law and has been listed among the first batch of national advanced units for city governance under rule of law; Xiamen has been awarded the titles “Four Five”, “Five Five” Law Popularization, National Advanced City for Legal Publicity and Education, National Civilized City, National Excellent Prefecture-level City for Comprehensive Treatment of Social Security and it is one of China’s Top Ten Cities for Service-oriented Government. Siming District, Huli District, TongAn District, and XiangAn District are listed among the first batch of National Advanced Units for Building Counties (Cities, Districts) under Rule of Law. Jimei District and Haicang District are listed among the second batch of National Advanced Units for Building Counties (Cities, Districts) under Rule of Law. The social development of rule of law in Xiamen has mainly contributed the following experiences.

First, strengthen publicity and education regarding rule of law. The publicity and education regarding rule of law is “the No.1 project” in judicial administrative work. In 2013, the Xiamen Office for City Governance under Rule of Law and the Municipal Education Bureau jointly held a city-wide meeting on deepening “Laws in Schools” in Xiamen No.6 High School. Every year, Xiamen witnesses the holding of great legal publicity activities including the “12·4” National legal Publicity Day, Science, Technology, Culture, Health and Laws in the Countryside, Comprehensive Treatment Month, the “6·26” International Day Against Drug Abuse and Illicit Trafficking, and various legal cultural activities including the Taiwan-related Legal Publicity Van, the Community Law Morning Market, the Citizens’ Legal Forum, the Case and Law Forum and the Community Storytelling Forum. Xiamen is home to the first legal cultural square in Fujian Province, the largest legal cultural square in Fujian Province and the first juvenile legal education base in Fujian Province; a 10 m-long standardized legal publicity column has been built in every village and community nationwide.<sup>8</sup> Xiamen has actively carried out legal publicity and education, thus giving great impetus to the social development of rule of law.

Second, develop the first system for examination and evaluation of city governance under rule of law in Fujian Province. In order to conduct unified evaluation of city governance under rule of law, Xiamen built the first system for examination and evaluation of city governance under rule of law—*Detailed Rules for Evaluating the Building of Xiamen under Rule of Law (Trial)*—in Fujian Province, and developed the evaluation and acceptance standard for law popularization and governance under rule of law in the districts, towns (sub-districts) under rule of law, villages (communities) under democracy and rule of law, state organs, and the system of quantifying and

---

<sup>8</sup>Jointly Build Xiamen under the Rule of Law, [www.chinapeace.gov.cn](http://www.chinapeace.gov.cn); [http://www.chinapeace.gov.cn/2013-04/24/content\\_7420809.htm](http://www.chinapeace.gov.cn/2013-04/24/content_7420809.htm).



evaluating city governance under rule of law. Xiamen became the first to build the contact point system, the contact person system and the information statistical system for city governance under rule of law throughout the city. Forty units were chosen from various social organizations to serve as the contact points for city governance under rule of law. Social forces, including law popularization lecturer groups and legal publicity volunteers, were expanded. Per capita funds for spreading the law among the people increased by more than 60%. Certain achievements have been made in making laws known to the people and ensuring that they are abided by.

Third, carry out the responsibility system under which whosoever enforces laws shall spread their knowledge among the people. In Xiamen, based on summarizing the many years of practical experience in making laws known to all of the people, the traditional manner of making laws known to the people was broken, and the responsibility system under which whosoever enforces laws shall spread the knowledge of them to the people was implemented in various organs at various levels, and thus the new work philosophy of extensively making laws known to the people gradually took shape. On October 18, 2012, 40 municipal organs, including the Office of Xiamen's Leading Group for City Governance under Rule of Law and the Xiamen Municipal Public Security Bureau signed the responsibility statement that whosoever enforces laws shall make them know to the people. It required responsible units to develop and improve their respective working systems according to their functions and characteristics, relevant laws and regulations, and to introduce the measures for supervising and evaluating the working system of responsibility under which whosoever enforces laws shall spread their knowledge among the people; the Office of District Governance under Rule of Law and the Efficiency Office jointly evaluated the performance of the units under evaluation in organization and leadership in law popularization and governance under rule of law, institution building and fund guarantee.<sup>9</sup> Great achievements were made in evaluation under the responsibility system for law popularization in Xiamen. Xiamen has been awarded the title of National Advanced City for Legal Publicity and Popularization in "Four Five" and "Five Five" Law Popularization.

#### 4. The Shantou Special Economic Zone

Shantou is the well-known hometown of overseas Chinese in China. It is the only city with an inland sea in the central urban area on the Chinese Mainland. Thanks to its unique geographical location and distinctive relationships with the people overseas, Shantou enjoys special excellent conditions and a huge potential for development regarding opening up.

First, give importance to the legislation in social fields. Over the 30 years of reform and opening up, as a special economic zone, Shantou has better played the role of window and experimental field in multiple fields and has made a certain amount of progress in the development of rule of law. As early as 1993, Shantou took city governance under rule of law as an important strategy. Since Shantou was

---

<sup>9</sup>In Xiamen, The System under Which Whosoever Enforces Laws Shall Popularize Them Is Implemented to Promote Management under Rule of Law, *Xiamen Daily*, 2012-11-21.

granted the legislative power of a special economic zone in 1996 and enjoyed great municipal legislative power in 2000, Shantou has made, revised and annulled 99 laws and regulations and 156 rules. Shantou has carried out innovations in legislation in administrative management, corruption prevention and management of non-governmental organizations, thus exploring experience for the development of rule of law throughout the province. Shantou has also continuously intensified the reform of the administrative examination and approval system, gradually standardized its law enforcement behavior and actively promoted the building up of an e-government.

Second, push forward the building of a transparent and open “sunshine” service-oriented government under rule of law. In recent years, in order to create a good living environment for citizens, Shantou has adopted the goal of a “Safe Shantou” and has comprehensively and actively boosted the building of a “sunshine” service-oriented government under rule of law; it has become the first in China to introduce *Shantou’s Regulations on Administrative Procedure, Regulations of the Shantou Special Economic Zone on Corruption Prevention*, etc. Shantou has energetically made innovations in the public service mode and administrative examination and approval mode, and has launched a one-stop online service hall, the Shantou Government Online, the 12345 Government Service Hotline, and the WeChat public platform Shantou Enterprise Service; it has turned an 8-hour government into an all-weather government, and 148,000 public security video surveillance points have been set up throughout the city so as to better serve the people in a more convenient way.

In 2015, the Shantou Municipal Party Committee released the *Implementation Opinions of the Shantou Municipal Party Committee on Accelerating Shantou’s Construction under Rule of Law* to focus on administration under rule of law and strict law enforcement, and to strengthen the building of a government under rule of law. In 2015, the Municipal Office of City Governance under Rule of Law signed *Shantou’s Responsibility Statement Concerning Pilot Work on Resolving Grass-roots Contradictions under the Framework of Rule of Law* with the offices of district (county) governance under rule of law. In 2016, the work on resolving grass-roots contradictions under the framework of rule of law was carried out throughout the province. In 2015, the Shantou Municipal Government issued *Several Implementation Opinions of the Shantou Municipal Government on Intensifying Administration under Rule of Law*, which calls for comprehensively, correctly performing government functions according to laws, improving the mechanism of making decisions according to laws, strengthening and improving government legislation, strictly standardizing impartial and civilized law enforcement, and perfecting the long-term mechanism for promoting the building of a government under rule of law. In 2016, the Municipal Government unveiled *Shantou’s 13th Five-Year Plan for the Building of the Government under Rule of Law (2016–2020)*, which states that by 2018, Shantou will become the first to basically build an open, just, clean, efficient, law-abiding and trustworthy government under rule of law which performs scientific functions, statutory powers and responsibilities, and strictly enforces laws; by 2020, Shantou will be at the forefront throughout the province at the level of administration under rule of law and the building of a government under rule of law.

Third, build a brand of legal publicity. In the past two years, Shantou in Guangdong Province has carried out various activities to incorporate law popularization into the local cultural channel, develop a legal culture with local characteristics. With a brand-based law popularization as the working theme, the construction of a legal culture for allowing various participants to thrive was performed. Media, including TV, radio, newspapers and magazines, conducted legal publicity through legal public service advertisements, legal lectures, legal stories and legal TV drama series. A variety of literary and artistic activities were carried out to perform the function of legal literature and art; various contests and theme activities relating to calligraphy, painting, lantern riddles, photography and literature were launched to attract participants so that the people could receive a legal education while appreciating literary and artistic works. Actions were also taken to publicize laws and regulations among the people, provide legal services and legal advice to the people on the International Working Women's Day, the Consumer Rights Day, the World Intellectual Property Day, the International Children's Day, the International Day Against Drug Abuse and Illicit Trafficking, the days of commemorating the promulgation and implementation of important laws and regulations, and festivals. In 2016, Shantou City and the Municipal Committee on the Comprehensive Treatment of Social Security jointly carried out a series of special educational activities involving the Education and Publicity Month for the Comprehensive Treatment of Social Security and Law Popularization, including "Care for Rural Migrant Workers", "Fire Protection and Work Safety in Households", "Everyone Observes Laws to Ensure Traffic Safety", which provided services to the people and imparted legal knowledge to them, better fostered a good legal environment throughout the society. In 2016, the Shantou Law Society held a small legal speaker appraisal and selection activity called "Thrive in the Spring of Rule of Law", in which a Small Legal Speaker Group was established through competition; this group delivered touring reports in schools, enterprises and state organs, and built a new brand of powerful legal publicity and education of the Shantou Law Society. In the same year, the Shantou Law Society also established the Public Legal Service Volunteer Group to regularly carry out activity days; 75 members from legislative, judicial, law enforcement and legal service organizations went to grassroots units, roads, streets and communities to help the people resolve contradictions and disputes, provide legal assistance to the groups in need and guide them to safeguard their rights through legal channels.

### **5. The Hainan Special Economic Zone**

Hainan started its development of rule of law at a relatively low level, and progress on it was slow. In recent years, in order to improve the image of the special zones, and create a practical model of socialism with Chinese characteristics, Hainan has taken effective actions in developing rule of law and has made some achievements.

First, Hainan has strengthened the development of rule of law in rural areas. For an all-round implementation of the strategy of governing the country under rule of law, the foundation and priority of action are in the grass-roots areas. Hainan is a large agricultural province where farmers make up the largest part of the population. Rule of law is less developed in rural areas. Given this provincial condition,

strengthening the development of rule of law in rural areas plays a very important role in Hainan's development of it. In 2015, the Forum on the Development of Rule of Law in Rural Areas was held in Hainan; it was organized by the Hainan Law Society and co-organized by a number of units, including the Qionghai Law Society and the Law School of Hainan University, to study the innovations in the mode of governance under rule of law in rural areas. The book *300 Questions Concerning Rural Legal Knowledge*, a series of articles involving the development of rule of law in rural areas, including *Rural Social Governance and Grass-roots Institutional Innovations—Survey Report on Social Governance in Qionghai City*, *A Study of the Power of Distributing the Compensation for Land Acquisition and Its Legal Guarantee* were published; efforts were made to vigorously carry out legal publicity and education in rural areas, conscientiously solve problems in the development of rule of law in rural areas, speed up the improvement of the agricultural and rural legal system, concurrently promote the development of rule of law in both urban and rural areas so that farmers will be able to benefit from rule of law in their life.

Second, Hainan has propelled legal publicity and education. In 2013, with a breakthrough made by law popularization and education among juveniles, the touring activity of legal literature and art on campuses was continuously carried out in Hainan. As of late 2015, 260 touring performances were conducted throughout the province, while about 400,000 middle school (secondary vocational school) students watched these performances; a good effect was produced in law popularization, a brand was built.<sup>10</sup> In 2015, Hainan carried out an activity of legal publicity month to launch legal publicity at important nodes, and also deepened theme publicity activities involving national security laws and fire protection laws in coordination with the “4·15” National Security Education Day and the “11·9” National Fire Protection Day. Innovations in the contents of legal publicity and education were intensified, actions were taken to learn about and publicize the laws and regulations involving the construction of the Hainan International Tourism Island and closely related to posts and duties, and local laws and regulations including the *Regulations of Hainan Province on Legal Publicity and Education*, to make legal publicity and education more targeted and effective. In order to carry out the important demands made by General Secretary Xi Jinping with respect to legal publicity and education, *Hainan's Work Priorities of Legal Publicity and Education 2016* were released in 2016 to launch and implement the 7th Five-Year Plan for Law Popularization, thus fostering a good legal environment for carrying out the 13th Five-Year Plan, promoting the development of rule of law in Hainan and building a harmonious Hainan. In Hainan, law popularization platforms, including Hainan Law Popularization Online and Legal Affairs Online, were also built to spread the philosophy of rule of law and develop a legal atmosphere.

Third, Hainan has expanded law popularization platforms. Hainan gave full scope to the role of government websites, Hainan Law Popularization Online, microblog,

---

<sup>10</sup>100 Activities of Hainan “Legal Literature and Art in Campus” Will Be Conducted Nationwide, [www.wenming.cn](http://www.wenming.cn); [http://www.wenming.cn/syjj/dfcz/hn\\_1683/201604/t20160419\\_3299190.shtml](http://www.wenming.cn/syjj/dfcz/hn_1683/201604/t20160419_3299190.shtml).

WeChat and clients in law popularization through new media, which further aroused the enthusiasm of sectors, industries and various parts of the society for leveraging new media to carry out legal publicity and education; Hainan has also experimented with the mode of Internet Plus legal publicity and improved the content of law popularization in new media. Innovations were made in the law popularization and publicity mode, and services were purchased by the government to introduce mass innovation and crowdsourcing modes, to stimulate the social forces to address hot issues from a legal perspective, so that law popularization and publicity would become more effective. Various legal contests have been held in various forms, including calligraphy and painting, photography, article solicitation and competitive answering, in Hainan since 2013. External legal publicity was carried out. In 2015, the Hainan Court established the first legal cultural corridor, made innovations in the new carriers of law popularization publicity and education to instill the laws in the minds of the people. With a focus on the strategy of the Belt and Road, Hainan actively carried out external legal publicity, fully leveraged the advantages of traditional media, adopted new media and technologies, including government websites, Hainan Law Popularization Online, microblog, WeChat and clients, to intensify the publicity for and education of laws and regulations involving the construction of an international tourism island and closely related to posts and duties, local laws and regulations, to give prominence to Hainan's law popularization characteristics, and to enhance the international community's understanding of the development of rule of law in Hainan and the construction of the Hainan International Tourism Island.

### **5.3 Outlook for the Development of the System of Rule of Law in the Special Economic Zones**

Overall, since the *Decision* was adopted in the Fourth Plenary Session of the 18th Central Committee of the Communist Party of China, five special economic zones, Shenzhen, Zhuhai, Xiamen, Shantou and Hainan, have carried out first-ever experiments and innovations in developing the system based on rule of law, improving legislation in social fields and legal services, conducting legal publicity and education and building a government under rule of law, which have produced certain effects. In particular, Zhuhai, Shenzhen and Shantou have separately developed the work plans for building a social system of rule of law, which specify the overall goal, main tasks, working bodies, responsibility and duty assignment for building a first-class legal environment, while government departments have actively carried out work and formulated the corresponding action plans, thus remarkable achievements have been made in the social development of rule of law.

The special economic zones also evidence some problems and drawbacks in the building of the rule of law system. First, interception of the people who plan to visit higher authorities for lodging complaints still occurs in some parts of the special economic zones; restricting the freedom of citizens and stripping citizens of the

right to visit higher authorities for lodging complaints by interception, and even unlawful detention, has not yet been completely eradicated; this exerts a severe social impact; second, building up an efficient, transparent and clean government under rule of law takes a long time and requires heavy responsibilities. The people in power have not yet fully realized the importance of building a government under rule of law; the mechanism of making administrative decisions under rule of law needs to be improved; administrative decision-making is not subject to effective legal constraints; the mechanisms involving hearing, risk evaluation and the study of needs are not well-developed; norms are unavailable in administrative law enforcement on many occasions; third, government information is not promptly given nor completely disclosed; the information on government budget fund expenditure and items which the people hope to obtain is basically unavailable, some information has not been updated for a long time.

In the future, it will be necessary for the special economic zones to continue emancipating their minds, innovate their methods of thinking and working and strengthen top-level design in the development of rule of law; they will also need to adopt the line of thought based on the system theory to design various parts involving the building of the rule of law system, and continuously take the lead in China in city governance under rule of law.

1. Comprehensively promote administration under rule of law, become the first to complete the building of the government under rule of law

The government should become the first priority in building a first-class city under rule of law. The leading cadres and functionaries of state organs should first develop an awareness and a sense of responsibility for administration under rule of law, and learn and understand laws, consider adopting a legal way of thinking and means to address issues. At present, the functionaries of state organs in the special economic zones have an insufficient awareness of the laws and administration under rule of law; they are still apt to adopt administrative rules to address the issues which are governed by laws, so it is essential to vigorously push forward administration under rule of law. The innovations in system and mechanism should be actively conducted. Once a comprehensive law enforcement system for city management has been established and improved, the level of law enforcement efficiency and civilization will be increased.

2. Speed up judicial reform, safeguard equity and justice

A consensus on judicial reform has been reached. Judicial reform has been long carried out in some provinces and municipalities for pilot reform, such as Jilin, Hainan, Qinghai, Shanghai, Guangdong and Hubei, but progress is slower than expected. Shenzhen has made some attempts at judicial reform; for example, the First Circuit Court of the Supreme People's Court is located in Shenzhen, Qianhai Court has been established, judges and prosecutors have been professionalized. In Hainan, the chief judge responsibility system has been implemented, judicial personnel are under classified management, there is a professional guarantee for judges and ancillary judicial

personnel, but the intensity of the overall reform is not high. No significant actions have been taken in the other special economic zones. In the future, the special economic zones should serve as the first movers in judicial reform. It is necessary to break the existing power and interest pattern, vigorously reduce the administrative staff within state organs, and properly reposition personnel. It is imperative to energetically carry out the judicial responsibility system, ensure a coordinated arrangement of responsibilities, rights and interests, and build a lifelong responsibility system. Efforts should be actively made to adopt a separate sequence of the positioning of judges so as to increase the professional guarantee for judges. The Free Trade Zone Court in the special zones should be based on the one-country two-system mode and the successful experience from the courts in Hong Kong, Macao, Taiwan, the Chinese Mainland and Western countries. The overall direction of judicial reform should consist in making the judicial system more independent and minimizing interference from various factors in order to guarantee equity and justice.

### 3. Carry forward the culture of rule of law, enhance the quality of rule of law

The building of cities under rule of law cannot be separated from participation by all of the people in addition to institutional innovation in the legislation mechanism, the building of a government under rule of law and the establishment of the judge responsibility system. It is necessary to strengthen legal education among the leading cadres and the functionaries of state organs, intensify the knowledge of laws and education about them among all the people, incorporate legal education into the process, starting from basic education and foster a good legal environment so that the people learn, observe and apply laws.

## Reference

Aristotle. (1965). *Politics* (S. Wu, Trans., p. 169). The Commercial Press.

# Chapter 6

## Report on the Development of Social Security in China's Special Economic Zones



Xingmin Gao and Qin Guo

Social security serves as a “stabilizer” in social operations, a “regulator” of income distribution and a “safety net” for the people; it can promote social equity, optimize resource allocation and guarantee lasting national stability. At present, the Chinese society has entered a period of unprecedented great transformations and an era of increasing uncertainties and risks. There are risks in the market economy, the structure of social resource allocation is not rational, advantages and disadvantages exist in familial “heredity”, and personal abilities are different, thus members of the society are inevitably subject to various risks in survival and development. Therefore, it is necessary for the society to establish and improve a social security system covering social insurance, social assistance, social welfare and social special care so as to ensure that members of the society can effectively cope with social risks at a reasonable level of basic living standards.

In order to build a moderately well-off society in an all-round way, there is the necessity to establish a fairer, more perfect social security system. The year 2015 was the concluding year for completing the implementation of the 12th Five-Year Plan. During the period of the 12th Five-Year Plan, in China, remarkable achievements have been made in social security development, the overall framework of connection among social insurance, social assistance, social welfare and charitable causes basically took shape, and the largest social security network covering the largest population in the world was built. The period of the 13th Five-Year Plan is decisive for building a moderately well-off society in an all-round way and crucial for the reform of China's social security system. According to the 13th Five-Year Plan, actions will be taken to establish a fairer, more sustainable social security system, make a series of arrangements having a vital bearing on increasing the level of social security, including the implementation of the plan for insurance coverage of all the people, a national pooling of basic pension funds for workers, the gradual increase in the proportion of state-owned capital gains turned over to public finance, the all-round

---

X. Gao (✉) · Q. Guo

China Center for Special Economic Zone Research, Shenzhen University, Shenzhen, China



implementation of the serious illness insurance system for urban and rural residents, and a comprehensive reform of public hospitals. This presents opportunities and challenges for the development of social security in the five major special economic zones during the new period.

In recent years, with the all-round intensification of reform, great progress has been made in the social security undertaking of five major special economic zones; social security coverage, social security benefit standards, the levels of social assistance and social welfare have been continuously increased in these special economic zones. However, with economic development under the new normal, new-type urbanization, population ageing and accelerated Internet Plus development, some new contradictions and problems are becoming increasingly acute within the development of social security in the special economic zones; they have become the factors that are restricting the economic and social development of the special economic zones. The report on the development of social security in China's special economic zones is used to understand the current development of social security in five major special economic zones, to summarize the developmental experience, and to follow the developmental trends so as to offer some thought to and suggestions for the development of social security in the special economic zones. This report focuses on the development of social insurance, social assistance and social welfare in five major special economic zones in 2015, and outlines the achievements in the development of social security in the special economic zones and explains some problems and challenges in that development; based on this, this report finally presents some policy suggestions concerning the reform and improvement of the social security system in five major special economic zones.

## **6.1 Social Security Development in the Special Economic Zones**

### ***6.1.1 The Development of Social Insurance in the Special Economic Zones***<sup>1</sup>

Social insurance is an important cornerstone for the cause of the people's livelihood and also an important part of the national economic system. With the current economic development under the new normal, social insurance undertakes a historically heavy responsibility for guaranteeing the people's livelihood and promoting development. In 2015, in five major special economic zones, social insurance coverage

---

<sup>1</sup>Source: 2015 Shenzhen Social Insurance Information Disclosure Report, Shenzhen Bureau of Human Resources and Social Security, 2015 Zhuhai Social Insurance Report, Zhuhai Bureau of Human Resources and Social Security, Zhuhai Social Insurance Fund Authority, Xiamen Bureau of Human Resources and Social Security, Hainan Department of Human Resources and Social Security, Hainan Social Insurance Administration, 2015 Report on the Income and Expenditure of Hainan's Social Insurance Funds, Shantou Bureau of Human Resources and Social Security.

was increased, the payment standard for social insurance and the benefits standard were adjusted, the number of people covered by social insurance steadily increased, and social insurance funds were operated in a safe and sound way to speed up the development of the social insurance undertaking.

## 1. Shenzhen

### (1) Coverage of social insurance

A total of 52,075,700 people were covered by social insurance in Shenzhen in 2015, up 14.1% from the previous period. Specifically, 9,543,400 people were covered by endowment insurance, up 9.6%; 9,536,300 people were covered by basic endowment insurance for workers, including 9,280,800 employed workers and 255,500 retirees; 7075 people were covered by endowment insurance for residents; 9,746,900 people were covered by unemployment insurance, up 3.5%; 12,131,600 people were covered by basic medical insurance, up 4.8%. Moreover, 3,643,700, 4,478,500 and 4,009,300 people were covered by tier-one, tier-two and tier-three medical insurance, respectively. A total of 10,329,000 people were covered by maternity insurance, including maternity health insurance, up 73.7%. The number of workers who were covered by maternity insurance (employer shall make payment according to relevant provincial maternity insurance regulations as from March) was 9,833,900, 495,000 people were covered by the original maternity medical insurance. And finally, 10,324,900 people were covered by work-related injury insurance, up 3.4%.

### (2) Payment standard for social insurance

The social insurance expenses that were actually collected amounted to 93,007 million yuan in Shenzhen in 2015, up 13,068 million yuan or 16.3%. Social insurance payments totaled 27,134 million yuan, up 3.1 billion yuan or 12.9%. The lower and upper limits for the payment bases and payment proportions of various types of social insurance in 2015 are shown in the table.

The upper limit for basic endowment insurance payment for urban workers was 300% of the average monthly wages for employed workers at non-private units in urban areas throughout the previous year, while the lower limit for payment was the minimum wages during the current month, the actual average monthly wages on which payment was based was 3107 yuan; the employer payment rate and individual payment rate were 13 and 8%, respectively; the lower and upper limits for basic endowment insurance payment for urban workers were 120 yuan/year and 3600 yuan/year, respectively; the actual average annual payment was 1747 yuan/year. As from September, 2015, the fiscal subsidy standard for urban residents covered by basic medical insurance in Shenzhen increased from 324 yuan/person/year to 384 yuan/person/year. The work-related injury insurance payment was based on the total monthly wages of employees, the lower limit for payment was the minimum wages during the current month, the actual average monthly wages on which payment

**Table 6.1** The income and expenditure of social insurance funds in Shenzhen in 2015 (unit: 100 million yuan)

Social insurance fund	Fund income	Fund expenditure	Current balance	Accumulated balance
Basic endowment insurance fund for enterprise workers	698.993	166.200	532.793	2790.114
Basic endowment insurance fund for urban and rural residents	0.288	0.309	-0.021	0.410
Basic medical insurance fund for urban workers	190.394	101.576	88.818	540.754
Basic medical insurance fund for urban and rural residents	16.770	13.659	3.111	14.176
Work-related injury insurance fund	16.851	11.454	5.397	51.552
Unemployment insurance fund	59.432	6.458	52.974	171.419
Maternity insurance fund	27.951	5.792	22.159	52.144

was based throughout the year was 2947 yuan; the industrial benchmark payment proportion during the period October-December, 2015 became 0.2, 0.4 and 0.6% after a staged downward adjustment. The unemployment insurance payment was based on the minimum monthly wage standard in the city; the employer payment rate and individual payment rate were 1 and 0.5%, respectively in December, 2015. As from January 1, 2015, employers should have paid maternity insurance expense according to the *Regulations of Guangdong Province on Maternity Insurance for Workers*; the payment rate was decreased from 1 to 0.5% as from October 1, 2015.

### (3) Income and expenditure of social insurance funds

In 2015, the income, expenditure and current balance of social insurance funds in Shenzhen totaled 105015.4 million yuan, 32903.4 million yuan and 72,112 million yuan, respectively. The year-end accumulated balance of funds totaled 373,499.7 million yuan. The income and expenditure of social insurance funds are shown in the following table (Table 6.1).

## 2. Zhuhai

### (1) Coverage of social insurance

As of late 2015, 5,350,800 people were covered by social insurance in Zhuhai, up 0.8% from the previous period; 1,119,700 people were covered by basic endowment insurance for urban workers including retirees, up 1.96%; 1,582,600 people were covered by basic medical insurance for urban and rural areas (towns), up 1.83%; 1,105,000 people were covered by basic medical insurance for urban workers, up 0.40%; 477,600 people were covered by basic medical insurance for urban and rural areas (towns), up 5.31%. 552,700 rural migrant workers were covered by basic medical insurance for urban workers, up 4.74%. A total of 908,700 people were covered by work-related injury insurance, up 0.5%, including 515,200 rural migrant workers, up 0.61%. Moreover, 902,800 people were covered by maternity insurance, up 0.6%. Finally, 895,900 people were covered by unemployment insurance, up 0.4%.

### (2) Income and expenditure of social insurance funds

The income of social insurance funds totaled 14,215,090,000 yuan in Zhuhai in 2015, up 29.2%; the expenditure was 7,670,390,000 yuan, the accumulated balance was 39,911,870,000 yuan, up 19.6%. The income and expenditure of social insurance funds are shown in the following table (Table 6.2).

### (3) Payment standard for social insurance and benefits standard

For the employer involved in endowment insurance for workers, the payment rate was adjusted from 11 to 13%; for urban individual businesses and flexibly-employed personnel involved in endowment insurance for workers, their payment rate was adjusted from 19 to 20%, including the individual payment proportion. The individual payment standard for medical insurance for urban and rural residents was per capita 188 yuan. The amounts involving the general population, the special population and juveniles were 360 yuan/person/year, 200 yuan/person/year and 130 yuan/person/year, respectively. The work-related injury insurance, maternity insurance and unemployment insurance payment rates declined dramatically. The work-related injury insurance payment rate was decreased from 0.4, 0.8 and 1.2 to 0.2, 0.5 and 0.8% for class one, class two and class three enterprises, respectively. The maternity insurance payment rate was decreased from 0.7 to 0.5%. The unemployment insurance payment rate was decreased from 2 to 1%. The employer and individual payment rates were adjusted from 1.5 and 0.5% to 0.8 and 0.2%, respectively.

In 2015, the basic pension for urban and rural residents was increased from 330 yuan/month to 350 yuan/month; the monthly per capita basic pension for retirees was increased by 238 yuan; per capita basic pension reached 2754 yuan/month; the subsidy standard for medical insurance for urban and rural residents and juveniles was increased from 340 yuan/person/year to 400 yuan/person/year; the individual payment concerning groups in difficulties, including the elderly above the age of

**Table 6.2** The income and expenditure of social insurance funds in Zhuhai in 2015 (unit: 10,000 yuan)

Social insurance fund	Fund income	Fund expenditure	Current balance	Accumulated balance
Basic endowment insurance fund for enterprise workers	960,320	396,827	563,493	3,206,818
Basic endowment insurance fund for urban and rural residents	36,193	34,911	1282	75,058
Basic medical insurance fund for urban workers	301,816	252,656	49,160	285,799
Basic medical insurance fund for urban and rural residents	27,329	24,127	3202	14,404
Work-related injury insurance fund	19,736	15,909	3827	76,778
Unemployment insurance fund	48,629	19,794	28,835	256,572
Maternity insurance fund	22,407	25,309	-2902	24,477

60 and juveniles who enjoy minimum subsistence allowance, five guarantees, or are low-income seriously-ill patients, severely handicapped people or from low-income households, was fully made by finances at the municipal and district levels; the standard for unemployment benefits reached 1320 yuan/month, up 19.6%. A total of 4735 people received unemployment insurance benefits at the end of this year, up 54.1%.

### 3. Xiamen

#### (1) Coverage of social insurance

The numbers of people covered by basic endowment insurance, basic medical insurance, work-related injury insurance, unemployment insurance and maternity insurance in late 2015 were 2,371,700, 3,321,200, 1,839,300, 1,824,100 and 1,718,000, respectively, up 4.5, 5.7, 4.9, 2.9 and 4.6%, respectively. The numbers of non-native employed people covered by basic endowment insurance, basic medical insurance, work-related injury insurance, unemployment insurance and maternity

insurance were 1,150,400, 1,150,000, 1,201,900, 1,149,400 and 1,147,000, respectively, up 2.9, 4.4, 5.2, 2.9 and 4.4%, respectively.

(2) The standard for social insurance payment and benefits standard

The standard for basic medical insurance payment for urban and rural residents was adjusted from 120 yuan/person/year to 130 yuan/person/year. The rate of employer payment of unemployment insurance for workers with Xiamen's registered permanent residence was adjusted from 2 to 1.5%, while the individual payment rate was adjusted from 1 to 0.5%. The rate of employer payment of unemployment insurance for workers without Xiamen's registered permanent residence was adjusted from 2 to 1.5%. Three categories of industrial work-related injury risks were adjusted to eight categories; the industrial benchmark payment rates for Category I to Category VIII work-related injury risks were 0.2, 0.4, 0.7, 0.9, 1.1, 1.3, 1.6 and 1.9% of the total wages for workers from the employers in the industry, respectively. After the monthly payment for the individuals separately covered by insurance was increased, the new annual individual payment bases involving social insurance were 3036.6 yuan, 3542.7 yuan, 4048.8 yuan, 4554.9 yuan, 5061 yuan, 10,122 yuan and 15,183 yuan. The monthly payment of endowment insurance and medical insurance for the flexibly-employed people and unemployed people ranged from 910.98 yuan to 4554.9 yuan; the monthly payment of endowment insurance, medical insurance and unemployment insurance for the people with difficulties in finding jobs ranged from 971.71 yuan to 4858.56 yuan.

The standard of social insurance benefits was adjusted in 2015. For endowment insurance, the monthly basic pension for urban and rural residents was increased from 230 yuan/person/month to 245 yuan/person/month; the basic pension for enterprise employees was increased from 1814 yuan to 3118 yuan; the standard old-age allowance for the retirees and the people who retire early for various reasons at an age between 70–74 and 75–79 and 80 were increased to 100 yuan, 150 yuan and 200 yuan, respectively. The standard for basic medical insurance fund pooling for urban and rural residents was increased from 550 yuan/person/year to 600 yuan/person/year, among which the fiscal subsidy standard concerning medical insurance for residents was increased to 470 yuan. The deductibles of the socially-pooled medical fund for outpatient treatment costs involving the employed workers, retirees and urban and rural residents covered by basic medical insurance was decreased to 500 yuan. Moreover, originally, the excess of the actual accumulated balance in individual medical accounts carried forward at each social insurance year over 8000 yuan was transferred to the health accounts involving basic medical insurance for the insured, while the amount of 8000 yuan was adjusted to 3000 yuan. For work-related injury insurance, the increase in the monthly disability allowance for the workers with Grade I–Grade IV disability was 366 yuan, 346 yuan, 325 yuan and 305 yuan for Grade I, Grade II, Grade III and Grade IV, respectively in 2015. The increase in disability allowance for the workers with Grade V–Grade VI disability paid monthly by the employer was 285 yuan and 244 yuan for Grade V and Grade VI disability, respectively.

### (3) Income and expenditure of social insurance funds

The income and expenditure of social insurance funds were 26,309 million yuan and 14,302 million yuan, respectively as of late 2015. The income and expenditure of basic endowment insurance funds were 15,323 million yuan and 7125 million yuan. The income and expenditure of basic medical insurance funds were 8569 million yuan and 5591 million yuan. The income and expenditure of unemployment insurance funds were 498 million yuan and 365 million yuan. The income and expenditure of work-related injury insurance funds were 1323 million yuan and 655 million yuan. The income and expenditure of maternity insurance funds were 594 million yuan and 566 million yuan.

## 4. Shantou

### (1) Coverage of social insurance

Shantou's permanent resident population was 5552,100 as of late 2015. As of late 2015, in Shantou, 195.82 people were covered by endowment insurance for urban and rural residents; 9.10 people were covered by endowment insurance for state organs and public institutions; 1,243,100 people were covered by endowment insurance for enterprise workers, up 5.0% from the previous period; 51.60 people were covered by medical insurance for workers; 460.86 people were covered by medical insurance for urban and rural residents; 750,400 people were covered by unemployment insurance, up 3.4%; 725,400 people were covered by work-related injury insurance, up 3.1%; 494,300 people were covered by maternity insurance, up 11.4%.

### (2) Standards for social insurance payment and benefits

The lower and upper limits for payment bases involving basic endowment insurance for urban workers, unemployment insurance, work-related injury insurance and maternity insurance were 2408 yuan and 14,958 yuan, respectively. The employer payment rate and individual payment rate involving basic endowment insurance of enterprises were 15 and 8%, while the payment rate involving flexibly-employed people and individual businesses was 20%. The employer payment rate and individual payment rate involving unemployment insurance were 1.5 and 0.5%, respectively. The employer payment rates involving work-related injury insurance and maternity insurance were 0.5% and 1%, respectively. The individual payment rate involving endowment insurance for working personnel governed by the system of individual payment of endowment insurance at Shantou's state organs, non-governmental organizations and public institutions was 8%.

For the basic medical expenses, which are incurred by hospitalization of the people covered by medical insurance and exceed the deductible, the proportion of payment made by pooled funds is as follows: 90% at Grade I designated medical institutions, 80% at Grade II designated medical institutions, 63% at Grade III designated medical institutions and 48% at non-designated medical institutions. The proportion of reimbursement insurance for serious illnesses was 60%, the deductible was 15,000 yuan,

**Table 6.3** The income and expenditure of social insurance funds in Shantou in 2015 (unit: 10,000 yuan)

Social insurance fund	Total fund income	Total fund expenditure	Fund balance
Endowment insurance for enterprise workers	495,594	539,532	-43,938
Endowment insurance for state organs and public institutions	26,553	4210	22,343
Medical insurance for workers	125,620	113,939	11,681
Pooling account	62,940	64,019	-1079
Individual account	62,680	49,920	12,760
Unemployment insurance for workers	33,388	5392	27,996
Work-related injury insurance for workers	8480	3234	5246
Maternity insurance for workers	15,394	13,025	2369
Medical insurance for urban and rural residents	232,064	124,789	107,275
Endowment insurance for urban and rural residents	95,686	62,133	33,553

and the annual limit was 500,000 yuan. The standard of unemployment insurance benefits was adjusted to 1080 yuan/person/month, much higher than the original standard of 904 yuan/person/month. Furthermore, the meal allowance for hospitalization of the workers with work-related injuries was increased to 70 yuan/person/day, and the standard payment of expenses for transportation, meals and lodging for non-local treatment of the workers with work-related injuries were specified.

### (3) Income and expenditure of social insurance funds

The funds of endowment insurance for enterprise workers, endowment insurance for state organs and public institutions, unemployment insurance, work-related injury insurance, maternity insurance, medical insurance for workers, medical insurance for urban and rural residents and endowment insurance for urban and rural residents were under sound operations. Overall, there were balances in the social insurance funds. Two insurance funds were deficit—the expenditure of the funds for endowment insurance for enterprise workers exceeded its income by 439.38 million yuan; the expenditure in the pooling account of medical insurance for workers exceeded its income by 10.79 million yuan. The income and expenditure of social insurance funds are shown in the following table (Table 6.3).



## 5. Hainan

### (1) Coverage of social insurance

Five social insurances in Hainan have developed steadily. As of late November, 2015, 5,272,600, 3,914,900, 1,302,600 and 1,264,000 people had been covered by basic endowment insurance, basic medical insurance, work-related injury insurance, and maternity insurance, respectively. The number of people covered by insurance for urban and rural residents has grown steadily. In the first half of 2015, 2,767,000 people were actually covered by insurance for urban and rural residents in Hainan, accounting for 98.3% of the people who should be covered by insurance, up 0.72 percentage points from the previous period. In 2015, 4,862,500 people were covered by the New Rural Cooperative Medical System in Hainan, accounting for 97.3%, higher than 95% for seven consecutive years.

### (2) Standard payments for social insurance and benefits

The upper limit for the base payment of social insurance was 12,647 yuan. As from October 1, 2015, the employer payment rate involving maternity insurance has decreased from 0.6% of total wages on which payment is based for workers to 0.5%. For the benchmark payment rate involving work-related insurance, industries have been divided into categories, from Category I to Category VIII rather than the original classification from Category I to Category III, which is in line with the increasing degrees of work-related injury risks in different industries according to the *Classification of Industries in the National Economy*. The industries under different categories of work-related injury risks were governed by different benchmark payment rates of work-related injury insurance; the benchmark payment rates involving the work-related injury insurance in industries belonging to Categories I to VIII were respectively 0.2, 0.4, 0.7, 0.8, 0.9, 1.0, 1.2 and 1.5% of the total wages on which payment is based for workers.

The social insurance benefit standard has been adjusted. The basic endowment insurance standard for urban and rural residents was increased from 130 yuan/person/month and 135 yuan/person/month to 145 yuan/person/month and 145 yuan/person/month, respectively. The monthly per capita pension for enterprise retirees was increased to 1931 yuan; the basic pension was increased by 75 yuan/person/month, while the living expenses for the people who retire early for various reasons was increased by 45 yuan/person/month. Moreover, the benefit standard was increased by 1.5% of the basic pension for retirees and living expenses for the people who retire early for various reasons. In 2015, the basic medical insurance for urban residents and the fiscal subsidy standard under the New Rural Cooperative Medical System was adjusted from 320 yuan/person/year to 380 yuan/person/year. According to the administrative measures for outpatient-related special diseases under basic medical insurance, the original 14 and 26 categories of outpatient-related special diseases under medical insurance for urban workers and urban residents were adjusted to 24 and 30 categories, respectively; the benefit standards for all the original disease categories were increased.

### **6.1.2 Social Assistance, Social Welfare, Entitled Group Benefits and Placement in Special Economic Zones<sup>2</sup>**

#### **1. Shenzhen**

In 2015, the accumulated expenditures of social service funds was 1,792,427,000 yuan, including 172,353,000 yuan of social assistance expenditures, 57.07 million yuan of urban minimum subsistence allowance expenditures, 7.54 million yuan of direct expenditures for medical assistance, 81,054,000 yuan of entitled group benefit expenditures, 455,784,000 yuan of social welfare expenditures. There were 7404 beds at social service organizations with accommodation provision and 29 social service organizations with accommodation provision. A total of 6309 people were covered by the minimum subsistence allowance for residents; the civil affairs department subsidized the people covered by insurance for 1022 person-times in terms of medical assistance. Social donations amounted to 152,171,000 yuan; 3615 people were covered by national benefits and subsidies for the entitled groups. The social assistance and other developments in the various quarters of 2015 are shown in the following table (Table 6.4).

The standard for nursing expenses for disabled soldiers and the standard for regular living subsidies with fixed quantity for the entitled groups were adjusted. The nursing expense standard for the soldiers who suffer from Grade I and Grade II disabilities due to wars or in line of duty was 3027 yuan, while that for the soldiers who suffer from Grade III and Grade IV disabilities due to wars or in line of duty was 2422 yuan and that for the soldiers who suffer from Grade I—Grade IV disabilities due to diseases was 1816 yuan. Adjustments were made in the unemployment subsistence allowance for the disabled soldiers (including disabled police, disabled functionaries of state organs and disabled militia workers, the same below) and regular subsidies in fixed quantities for family members of martyrs, of soldiers who died on duty or of illness, demobilized soldiers, veterans who made contributions in the Anti-Japanese War and the Liberation War, veterans returning home with illness and some veterans participating in wars and tests involving national defense in Shenzhen in 2015.

#### **2. Zhuhai**

As of late 2015, the civil affairs department subsidized the people covered by insurance for 6368 person-times, 8712 people in difficulty enjoyed subsistence allowance assistance, including 3558 people in urban areas and 5154 in rural areas. Medical assistance was provided for 34,320 person-times in 2015, up 61.7%. There were 3446 beds at social service organizations with accommodation provision, including old-age care organizations, assistance organizations and social welfare centers, and 2986 vagrants and beggars were assisted. A total amount of 633 million yuan was

---

<sup>2</sup>Source: Shenzhen Statistical Yearbook from Shenzhen Bureau of Statistics (2015), Shenzhen Civil Affairs Online, Zhuhai Civil Affairs Bureau, Special Zone Yearbook (2015) from Xiamen Bureau of Statistics, Xiamen Civil Affairs Bureau, Shantou Civil Affairs Bureau, Shantou Statistical Information Online, Hainan Civil Affairs Department, Hainan Bureau of Statistics.

**Table 6.4** Social assistance and other developments in Shenzhen in 2015

Indicator	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
<b>I. General</b>					
<i>1. Administrative division</i>					
Number of sub-district offices		57	57	57	59
<i>2. Social service funds</i>					
Accumulated expenditures of social service funds during the period January - December	× 10 <sup>4</sup> Yuan	22897.7	56103.1	94971.5	179242.7
Social assistance expenditures	× 10 <sup>4</sup> Yuan	1383.7	3194.4	5144.2	17235.3
Urban minimum subsistence allowance expenditures	× 10 <sup>4</sup> Yuan	1104.1	2644.9	4073.6	5707
Direct expenditures for medical assistance	× 10 <sup>4</sup> Yuan	208.7	394.7	536.1	754
Entitled group benefit expenditures	× 10 <sup>4</sup> Yuan	1394.1	2970.0	5928.8	8105.4
Social welfare expenditures	× 10 <sup>4</sup> Yuan	2961.8	7773.8	11473.8	45578.4
Welfare lottery fund	× 10 <sup>4</sup> Yuan	350.0	2652.1	5195.5	34,696
<b>II. Social work</b>					
<i>(1) Social service for accommodation</i>					
Number of beds at social service organizations with accommodation provision		7289	7289	7289	7404
1. Number of beds which serve the elderly and the disabled		5583	5583	5583	5638
2. Number of beds which serve intellectually handicapped people and mental patients		104	104	104	94
3. Number of beds which serve children		732	732	732	590
4. Number of beds at other social service organizations with accommodation provision		870	870	870	1082

(continued)

Table 6.4 (continued)

Indicator	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
Number of social service organizations with accommodation provision		29	29	29	29
Number of service organizations which serve the elderly and the disabled		17	17	17	17
Number of people as adopters and assistance providers who provide accommodation		3593	3618	3649	3877
Number of people who serve the elderly and the disabled		2303	2328	2359	2603
<b>(II) Social service without accommodation</b>					
<i>1. Child adoption and assistance</i>					
Number of orphans		1224	1196	1176	1181
Orphans under centralized support		1203	1175	1157	1152
Orphans who live on a decentralized basis		21	21	19	29
Number of adoption registrations		5	15	26	42
Foreign-related adoptions		0	0	0	
Homeless child assistance	Person-times	543	1318	2075	737
<i>2. Welfare enterprises which provide the disabled with posts</i>					
Number of welfare enterprises		20	20	20	16
Number of the disabled at welfare enterprises		1186	1186	1186	1075
<i>3. Assistance service for people in difficulty</i>					
<i>Assistance for poor urban people</i>					
Number of people who enjoy minimum subsistence allowance for residents		6667	6506	6365	6309

(continued)

Table 6.4 (continued)

Indicator	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
Number of households with minimum subsistence allowance for residents		2762	2702	2657	2653
Monthly expenditure for urban minimum living guarantee	×10 <sup>4</sup> Yuan	282.9	385.6	377	368.3
<i>Medical assistance</i>					
Number of people covered by insurance subsidized by the civil affairs department	Person-times	926	1362	2046	1022
Person-times of direct assistance from the civil affairs department		655	1220	1730	2393
Assistance for the people without means of livelihood	Person-times	10,634	22,563	33,248	22,116
Temporary assistance	Household-times	859	1296	1772	3041
<i>4. Activities of raising funds for the disadvantaged groups</i>					
<i>Donations</i>					
Amount of social donations	×10 <sup>4</sup> Yuan	1506.56	5696.7	9626.5	15217.1
Total number of donated clothes and quilts	×10 <sup>4</sup>	14.04	23.3	33.4	33.9
Value of other donated materials	×10 <sup>4</sup> Yuan	29.14	74.7	93.5	118.8
Number of social donation receiving stations, points and charity supermarkets		499	499	499	617
<i>5. Entitled group benefits and placements</i>					
Number of national benefits and subsidies for the entitled groups		3426	3430	3497	3615
Accumulated number of early retired and retired cadres received this year		22	22	22	58
<i>6. Community service for all residents</i>					
Number of community service facilities		8243	8276	8276	8604

(continued)

Table 6.4 (continued)

Indicator	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
Community service centers		576	571	571	668
Community institutions for old-age care		86	86	86	99
Other community service organizations		7619	7619	7619	7837
Number of beds for day care at communities		1593	1593	1593	1872
Number of beds for accommodation-based care at communities		768	768	768	769
Total number of people for care at communities		391	391	391	1129
<b>III. Member organizations</b>					
<i>1. Non-governmental organizations</i>					
Non-governmental groups		2858	3005	3137	3280
Private non-enterprise organizations		3878	4028	4135	4260
Foundations		132	146	158	182
<i>2. Self-governing organizations</i>					
Neighborhood committees		795	795	795	798
<b>IV. Other social services</b>					
<i>1. Marriage registrations</i>					
Marriage registrations	Couples	14,127	27,504	40,449	60,091
Foreign, Hong Kong, Macao and Taiwan-related	Couples	170	350	523	719
Divorce registrations	Couples	4098	10,774	16,174	226,64
<i>2. Funeral and interment service</i>					
Number of cremated remains		3804	7601	11,252	15,001

distributed in welfare lotteries and sold, a sum of 186 million yuan was raised in welfare funds, and 9,090,500 yuan of social donations was received directly. As from May 1, 2015, Zhuhai's standard minimum wage for enterprise workers was adjusted from 1380 yuan/month to 1650 yuan/month. As from June 1, the minimum standard for five guarantees in rural areas was 11,037 yuan/year.

### 3. Xiamen

In 2015, an amount of 83,624,000 yuan in subsistence allowance was granted, of which 61,733,000 and 21,891,000 yuan were granted to the low-income people in urban and rural areas for 129,500 and 64,900 person-times, respectively. The amount of 38,951,500 yuan in medical assistance funds was provided for 106,000 person-times. Moreover, 19,312,000 yuan in temporary assistance funds was provided for 9319 household-times. Vagrants and beggars were assisted for 7241 person-times, including juveniles who were assisted for 206 person-times. In Xiamen, there were 32 old-age care service organizations with 8280 beds, of which 6 were public old-age care organizations with 1828 beds and 26 were private old-age care organizations with 6452 beds. In 2015, the standard minimum wage of enterprises was adjusted to 1500 yuan/person/month; the minimum hourly wage for part-time employment was adjusted to 16 yuan/h, the highest in Fujian Province. The new standard became effective as from July 1, 2015.

In June, 2015, 10,863 urban residents and 5503 rural residents enjoyed the minimum subsistence allowance; 568 people in urban areas who were without the ability to work, legal support obligor and source of income were assisted; 247 people in rural areas were supported by five guarantees. The civil affairs department directly assisted the people for 29,466 person-times by means of medical assistance. A total of 5333 people as entitled groups enjoyed national benefits and subsidies. Social services are shown in the following table (Table 6.5).

### 4. Shantou

The fund expenditure for the minimum subsistence allowance was 308 million yuan in 2015, up 26 million yuan or 9.1% from the previous period; 112,800 people enjoyed the minimum subsistence allowance, up 1.5%; relief stations assisted 4607 people, up 17.8%. As of late 2015, there were 11 social welfare institutes with 808 adoptees and 45 urban and village nursing homes with 468 adoptees. There were 16,523 old-age care beds, 30 old-age care beds were available for every 1000 old people. The coverage of urban and rural home-based old-age care services was 100 and 87.8%, respectively. In 2015, Shantou's standard minimum wage for enterprise workers was adjusted to 1350 yuan/month, while the standard minimum hourly wage for part-time workers was adjusted to 13.3 yuan/hour.

### 5. Hainan

A total of 199,200 people enjoyed the minimum subsistence allowance for rural residents in late 2015, down 7.2% from the previous period; 88,300 people enjoyed the minimum subsistence allowance for urban residents, down 20.3%; 30,000 people

**Table 6.5** Statistical quarterly statement of social services in June, 2015

Indicator	Unit	Amount
<b>I. Social assistance</b>		
<b>(1) Number of urban residents who enjoyed the minimum subsistence allowance</b>		
<i>Classified by the nature of people</i>		
Female		4449
Disabled people		3347
People without the ability to work, legal support obligor and source of income		392
<i>Classified by the age of people</i>		
<i>a. Adults</i>		
The elderly		1756
Employed workers		96
Flexibly-employed		1534
Registered as unemployed		2032
Unemployed but not registered as such		3075
<i>b. Juveniles</i>		
Students		1665
Other juveniles		705
The increased number of urban residents who enjoyed the minimum subsistence allowance in the current month		16
The decreased number of urban residents who enjoyed the minimum subsistence allowance in the current month		93

(continued)



Table 6.5 (continued)

Indicator	Unit	Amount
The number of urban households which enjoyed the minimum subsistence allowance		6339
The increased number of urban households which enjoyed the minimum subsistence allowance in the current month		22
The decreased number of urban households which enjoyed the minimum subsistence allowance in the current month		58
The monthly planned expenditure of the urban subsistence allowance fund	× 10 <sup>4</sup> Yuan	402.5
<b>(2) Number of rural residents who enjoyed the minimum subsistence allowance</b>		5503
Female		2574
The elderly		960
Juveniles		1082
Disabled people		1461
The increased number of rural residents who enjoyed the minimum subsistence allowance in the current month		6
The decreased number of rural residents who enjoyed the minimum subsistence allowance in the current month		11
The number of rural households which enjoyed the minimum subsistence allowance		2530
The increased number of rural households which enjoyed the minimum subsistence allowance in the current month		3
The decreased number of rural households which enjoyed the minimum subsistence allowance in the current month		4
The monthly planned expenditure of rural subsistence allowance fund	× 10 <sup>4</sup> Yuan	138.4
<b>(3) Assistance for the people without the ability to work, legal support obligor and source of income in urban areas</b>		568
<b>(4) Support through five guarantees in rural areas</b>		247
(1) Number of people under centralized support		56

(continued)

Table 6.5 (continued)

Indicator	Unit	Amount
Female		7
The elderly		50
Juveniles		0
Disabled people		12
The monthly planned expenditure of the centralized support fund		6.0
(2) Number of people under decentralized support	× 10 <sup>4</sup> Yuan	191
Female		25
The elderly		170
Juveniles		4
Disabled people		30
The monthly planned expenditure of the decentralized support fund	× 10 <sup>4</sup> Yuan	15.0
<b>(5) Medical assistance</b>		
<b>(1) Medical assistance identified and implemented by the civil affairs department</b>		
1. Number of subsidized people covered by basic medical insurance		97
The number of people covered by basic medical insurance who were subsidized by the civil affairs department		97
the number of people covered by the New Rural Cooperative Medical System who were subsidized by the civil affairs department		0
2. The number of people directly assisted by the civil affairs department		29,466
Person-times of inpatient assistance		3109

(continued)

Table 6.5 (continued)

Indicator	Unit	Amount
Person-times of outpatient assistance		26,357
<b>(2) Medical assistance identified by the civil affairs department and implemented by the relevant department</b>		
1. Number of subsidized people covered by basic medical insurance		0
2. Person-times of direct assistance		0
Person-times of inpatient assistance		0
Person-times of outpatient assistance		0
3. Assistance fund expenditure involving basic medical insurance		0.0
4. Fund expenditure of inpatient assistance	× 10 <sup>4</sup> Yuan	0.0
5. Fund expenditure of outpatient assistance	× 10 <sup>4</sup> Yuan	0.0
<b>(6) Assistance for the people without means of livelihood</b>		
Person-times of assistance		40,204
Person-times of child assistance		170
<b>(7) Traditional assistance</b>		0
<b>(8) Temporary assistance</b>	Household-time	347
<b>(1) Classified by the nature of registered permanent residence</b>		
Number of urban households		206
Number of rural households		141
<b>(2) Classified by place</b>		

(continued)

Table 6.5 (continued)

Indicator	Unit	Amount
Native registered permanent residence	Household-time	317
Non-native registered permanent residence	Household-time	30
<b>(3) Classified by the type of assistance</b>		
Expenditure	Household-time	331
Emergency	Household-time	16
<b>2. Entitled group benefit and placement</b>		
(1) Number of people as entitled groups who enjoyed national benefits and subsidies		5333
(2) Accumulated number of army retirees (including local retirees) received during this year		35

came from rural households enjoying five guarantees, down 4.5%; 27,400 people as entitled groups enjoyed benefits and subsidies, down 9.5%. Medical assistance was provided for 353,800 person-times in urban and rural areas in 2015, down 25.1%. Rural and urban medical assistance was provided for 278,100 and 75,700 person-times, down 12.2 and 51.3%, respectively. In 2015, 57 million yuan was put into disaster relief and assistance funds, disaster victims were assisted for 446,400 person-times.

As of late 2015, there were 33,586 old-age care beds in Hainan, an average of 26.7 old-age care beds were available for every 1,000 old people; there were 177 public old-age care organizations with 17,074 beds and 36 private old-age care organizations with 16,512 beds. In 2015, pilot community home-based old-age care service was performed in 421 pilot communities in 18 cities and counties in Hainan, accounting for 78% of the urban communities in Hainan, and 12,000 elderly people enjoyed services purchased by the government. A total of 408 million yuan was raised via the social welfare lottery fund in Hainan in 2015, up 4.1%.

## **6.2 Achievements in the Social Security Development of the Special Economic Zones<sup>3</sup>**

In 2015, in the special economic zones, a number of policy documents relating to social security were introduced to further improve the social security system, actions were taken to increase the coverage of social security, social insurance benefits and the level of social security agency services, improve social assistance, provide more help to the entitled groups and enhance social welfare; outstanding achievements were made regarding social security in the special economic zones.

### ***6.2.1 Achievements in the Development of Social Insurance in the Special Economic Zones***

#### **1. Shenzhen**

Carry out supplementary medical insurance for serious illness in an all-round way. In Shenzhen, all of the people covered by social medical insurance can, regardless of registered permanent residence, age or illness, seek the coverage of supplement-

---

<sup>3</sup>Source: Shenzhen Government Work Report (2016), Hainan Government Work Report (2016), Zhuhai Statistical Communique on National Economic and Social Development (2015), Xiamen Statistical Communique on National Economic and Social Development (2015), Shantou Statistical Communique on National Economic and Social Development (2015), Zhuhai Bureau of Human Resources and Social Security, Xiamen Bureau of Human Resources and Social Security, Hainan Department of Human Resources and Social Security, [www.spicezee.com](http://www.spicezee.com); [www.hinews.cn](http://www.hinews.cn), electronic edition of *Shantou Daily*.

tary medical insurance for serious illness under the principle of voluntariness. The insurance expense is 20 yuan/person/year; in case of serious illness, 70% reimbursement can be made with respect to the drugs within the *Shenzhen Drug Directory for Supplementary Medical Insurance for Serious Illness*, no deductible is specified, the reimbursement limit within one medical insurance year is 150,000 yuan. Compared with other areas of China, Shenzhen adopted the principle of voluntariness in seeking insurance coverage and various funding channels including individual account transfer with regard to supplementary medical insurance for serious illness, so the coverage was higher and it became universal since insurance expenses were low and guarantee was high. Shenzhen witnessed the preliminary formation of a medical insurance system covering basic medical insurance, local supplementary medical insurance and supplementary insurance for serious illness.

Strengthen and standardize the management of designated medical institutions for social insurance. *Shenzhen's Administrative Measures for Credit Rating of Designated Medical Institutions for Social Insurance* was introduced to classify the credit level of the designated medical institutions into AAA, AA, A and B, and to require classified management of designated medical institutions according to the credit level. Municipal organizations of social insurance agency services comprehensively evaluated the designated medical institutions according to their daily workload, service volume and service satisfaction of the designated medical institutions in medical services under medical insurance, and their violations of the regulations. The designated medical institutions at high credit levels were rewarded by funds linked to the quality of full-amount payment, advance allocation of funds for medical insurance payment and proper reduction of the frequency of supervision and examination.

Comprehensively increase the level of the services of social insurance agencies. The social insurance service was standardized and pilot city-wide one-stop social insurance service was launched. A total of 400 social insurance self-service terminals were made available, and 140 items can be handled on a self-service basis. There were 8.18 million financial social insurance cards issued, and 38 service functions were added. There were 1931 designated medical institutions and designated retail drugstores, making it convenient for the insured to receive medical treatment and purchase drugs nearby. Social insurance registration was incorporated into the commercial registration platform to enable one-time verification, mutual recognition of information, concurrent issuance of certificates and licenses and archive sharing. Pilot city-wide one-stop social insurance service was performed, 32 services are available through online appointments; the application fields of the one-card service involving social insurance cards were increased; postal organizations were entrusted to conduct door-to-door free fingerprint verification of 50,000 retirees, so the level of agency services increased significantly.

## 2. Zhuhai

Intensify the construction of the social insurance anti-fraud system. *Zhuhai Social Insurance Anti-fraud Measures (2006)* were revised to further identify fraudulent conduct in collection and payment, benefit payment and service operations, and to

require social insurance expense collection bodies, social insurance agencies, management bodies for special fiscal accounts of social insurance funds, social insurance service organizations to establish and improve the internal monitoring and control system; moreover, the *Measures* state that a system for the prevention of fraudulent conduct involving social insurance should be built, a medical insurance service agreement should be signed to strengthen in-process and post-mortem supervision, and the whistle-blowing reward payment should be improved. The revised *Zhuhai Social Insurance Anti-fraud Measures* will become currently the strictest regulations of the same kind in China and further guard against the risks of social insurance fraud and regulate social insurance anti-fraud work.

Increase the level of old-age care benefits for farmers and land-expropriated farmers. Zhuhai is an area which became the first in China to carry out the new type of rural social endowment insurance work. At present, Zhuhai ranks No. 1 in Guangdong Province and comes out in front throughout China in the level of old-age care benefits for farmers and land-expropriated farmers. In 2015, the basic pension for farmers and land-expropriated farmers was increased from 100 yuan/person/month to 350 yuan/person/month, 5 times the national standard and 3.7 times the provincial standard. In Zhuhai, the eligible land-expropriated farmers were incorporated into the basic endowment insurance for workers, and 47,000 land-expropriated farmers can now seek coverage of the basic endowment insurance for workers at a relatively high benefit level by making a supplementary payment. In Zhuhai, the monthly per capita pension involving endowment insurance for urban and rural residents was about 476 yuan; after one-off supplementary payment, the old-age care benefit level of land-expropriated farmers was significantly increased, the elderly over the age of 70 can enjoy a maximum monthly pension of 881.8 yuan.

Adjust the unemployment insurance benefit conditions for the workers under the farmer contract system. The conditions under which the workers under the farmer contract system receive a one-off living allowance were adjusted. After that adjustment, the conditions for the workers under the farmer contract system to receive unemployment insurance benefits are the same as those for urban workers. The conditions are the following: the employer and individual have paid unemployment insurance for one year before unemployment, or that payment has not yet been made for one year but there is a period for the individual to receive unemployment insurance benefits; the terms of the labor contract expire where employment is suspended not due to the individual's will; unemployment registration has been made and there is a need to find a job.

Consider the length of a veteran's military service as the period of coverage and payment of the basic endowment insurance for urban and rural residents: Where a veteran has obtained the coverage of Zhuhai's endowment insurance for urban and rural residents but was not covered by the endowment insurance for soldiers during his/her term of military service, the length of his or her military service should be regarded as the period of coverage and payment of the endowment insurance for urban and rural residents; where he or she was covered by endowment insurance for soldiers, the period of paying the endowment insurance for soldiers and the period of paying the endowment insurance for urban and rural residents are combined,

insurance expense is included in the individual account of endowment insurance for urban and rural residents, and payment continues to be made according to the regulations of the endowment insurance for urban and rural residents, and the period of paying the endowment insurance for soldiers no longer entitles him or her to the government payment subsidy specified in the regulations of the endowment insurance for urban and rural residents. Where a veteran is covered by endowment insurance for more than 15 years, including the length of his or her military service (15 years exclusive), an additional 3 yuan/month basic pension for every 1 year of insurance coverage and payment is provided.

Regulate the management of the designated medical institutions for medical insurance. The *Circular Concerning the Issues Involving the Agreement on the Management of the Designated Medical Institutions for Basic Medical Insurance* was printed and distributed to cancel the qualification examination of the designated medical institutions for basic medical insurance and retail drugstores for basic medical insurance. After that cancellation, municipal social insurance agencies sign a medical insurance service agreement with the medical institutions willing to perform municipal medical insurance services in line with the needs for service management so that the medical institutions are under the conditions of the agreement.

### 3. Xiamen

The intelligent medical insurance information management platform becomes the national model. In Xiamen, 481 designated medical institutions have been fully covered by the intelligent medical insurance information management platform, which connects 7206 medical workstations on a real-time basis, and creates a smooth connection with 99.06% of the medical workstations. This platform can regulate the medical service behavior and the medical treatment-seeking behavior of the insured, inhibit an excessively rapid increase in medical costs and prevent violations of laws and regulations. From January, 2015 when this platform was launched, to late September, 2015, it presented prompts before doctors for 558,700 times, the rate of effective prompts under residual dosage rules reached 81.2%, overdose intentions were effectively avoided for 444,000 person-times. Xiamen's total medical costs and medical insurance expense declined by 3 and 4%, respectively and drug costs as an inpatient focus decreased by 20,783,700 yuan at Grade III hospitals. As of December, 2015, Xiamen's intelligent medical insurance information management platform was imitated in 96 prefecture-level cities nationwide, resulting in 4 provincial platforms and 60 municipal platforms.

Investigate the new method for certifying the life of the people entitled to regular benefits of work-related injury insurance. The social insurance agencies have worked with the Xiamen Branch of Ping An Endowment Insurance Co., Ltd. as the main underwriter of supplementary work-related injury insurance to develop a plan for surveying the living conditions of the relatives supported on a non-local basis. With the national well-developed network and professional services of Ping An Endowment Insurance Co., Ltd., relevant personnel extend door-to-door regards to the people entitled to regular benefits and survey their living conditions so as to obtain first-hand information. This helps to promptly and accurately get access to the



life information of the people entitled to regular benefits, to ensure accurate payment of benefits from work-related injury funds, and to mitigate the economic burden on the people entitled to regular benefits, thus laying the foundation for institutionalizing the system of certifying the life of the people entitled to regular benefits.

Pioneer in establishing the new mode of cooperation between the social insurance agencies and commercial insurance companies. One-stop settlement of medical insurance costs in non-local medical treatment was a priority in the national medical insurance work in 2015. As a national unified settlement platform for medical insurance had not yet been built, innovations were made in non-local reimbursement of medical insurance costs, and pilot one-stop reimbursement for medical treatment outside the province was officially launched. As Xiamen's social insurance agencies strengthened their cooperation with Ping An Insurance, thanks to Ping An Insurance's advantages of a network platform, service windows were extended to pilot hospitals and areas. Where the insured in Xiamen, who are put on records on a non-local basis, are hospitalized at 12 pilot hospitals or receive medical treatment in pilot areas, all of the self-paid costs within the scope of Xiamen's basic medical insurance payment can be reimbursed at the service outlets of commercial insurance companies. This method of cooperation represents an innovation in the medical insurance agency mode; it not only reduces the reimbursement cost for the insured, but it also speeds up cost reimbursement. It is unprecedented in China.

#### 4. Shantou

Intensify the management of the medical treatment of the workers with work-related injuries, regulate the medical treatment practice involving work-related injuries. First, a worker should get medical treatment of work-related injuries at a designated municipal medical institution for medical insurance, while emergency treatment can be sought at a nearby medical institution; after the traumatic condition becomes relatively stable, the worker should be transferred to a designated medical institution according to the regulations. Second, after the worker with a work-related injury receives medical treatment, where the medical institution believes that hospitalization is necessary, the employer should, within 7 days, report the cause of the work-related injury, the place of its occurrence, the traumatic condition and the medical institution to the work-related injury insurance agency at the place where the coverage of insurance has been obtained. Where the worker with a work-related injury needs to be transferred or needs to undergo rehabilitation due to the work-related injury in line with the traumatic condition during hospitalization, the employer should promptly report the situation to the administrative department for work-related injury insurance and the work-related injury insurance agency at the place where the coverage of insurance has been obtained, and complete the application procedure according to the relevant regulations. Where medical treatment is not sought according to regulations, medical costs cannot be paid by the work-related injury insurance fund.

Comprehensively carry out the system of electronic prescription for special outpatient diseases, and regulate drug sale practice. According to the *Circular Concerning Further Implementation of Electronic Prescription for Special Outpatient Diseases*, the system of online filing and electronic prescription for special outpatient diseases

was carried out in an all-round way in Shantou on January 1, 2015. Where the people covered by the insurance for workers suffer from special outpatient diseases, they can swipe cards for billing and real-time settlement on the strength of their electronic prescription when receiving medical treatment or purchasing drugs at the designated organizations; this method is conducive to ensuring that the drugs purchased by the insured at the designated organizations are safe and effective, and it will eliminate the irregular conduct of placing drugs with materials in drug sales. In this regard, the designated medical institutions should intensify the establishment of an information system, improve the process of electronic prescription management and strictly perform electronic prescription management in the case of drug purchase from them after medical treatment.

Take a number of actions and measures to strengthen ability to create social insurance agencies. First, push forward the standardization of social insurance agency services. According to the industrial standard specified in the *Visual Identification System of Social Insurance*, Shantou gradually promoted the standardization of agency windows, self-service areas, archive management areas and service support areas. Second, computerize the management of the system of social insurance services. Efforts have been made to build up the information management system covering five kinds of insurance, boost the construction of an online service platform and mobile application terminal to ensure that the people can seek information and advice concerning social insurance services and receive social insurance services through websites and mobile devices such as mobile phones. Third, improve the method of the management of medical insurance settlements. The intelligent settlement verification mode has been launched, the sophisticated information means from the developed areas have been adopted to develop and build up the local system for intelligent verification of medical insurance costs. Fourth, improve the operational mechanism of social insurance service agencies. The service management functions, including policy, finance, information and audit, were elevated to the municipal social security bureau for unified management, so as to intensify centralized supervision of funds and reduce the levels of coordination and management.

## 5. Hainan

Increase the coverage of social insurance. The number of people from the permanent resident population covered by basic endowment insurance, urban basic medical insurance, unemployment insurance, work-related injury insurance and maternity insurance in Hainan at the end of the 12th Five-Year Plan period were 5,309,200, 3,897,700, 1,653,800, 1,314,700 and 1,270,700, respectively, up 27.38, 20.54, 45.07, 37.18 and 37.22% respectively, compared with the end of 11th Five-Year Plan period. Universal insurance registration was comprehensively made in Hainan in 2015; 8,164,000 people with local registered permanent residence were covered by insurance in Hainan by July, 2015. According to the relevant plan, universal insurance registration will be completed in Hainan before late 2016; the people covered by the basic endowment insurance will account for more than 90%; the basic medical insurance will entitle everyone to the basic medical guarantee; the number of people

covered by unemployment insurance, work-related injury insurance and maternity insurance will exceed 1.70 million, 1.27 million and 1.23 million, respectively.

Improve the management of medical insurance involving special outpatient diseases. The Hainan Department of Human Resources and Social Security developed the *Administrative Measures of Hainan Province for Special Outpatient Diseases Involving Basic Medical Insurance for Urban Residents* to incorporate 30 diseases into the management of special outpatient diseases involving basic medical insurance for urban residents. Special outpatient diseases refer to the chronic or serious diseases in a relatively stable condition which need to be put into long-term outpatient treatment and are included into the scope of payment from Hainan's pooled funds of basic medical insurance for urban residents. For all of the diseases that the people covered by Hainan's basic medical insurance for urban residents have and which fall into the scope of the special outpatient diseases specified in the Measures, the people concerned can apply for completing the relevant procedure relating to special outpatient diseases so as to enjoy the benefits relating to the specified special outpatient diseases.

Actively push forward direct settlement of non-local medical treatment. Hainan became the first in China to initiate trans-provincial non-local settlement in 2009. As of late 2015, Hainan established the cooperative relationship concerning trans-provincial non-local settlement with 104 pooling areas in 17 provinces, autonomous regions, municipalities directly under the Central Government and Xinjiang Production and Construction Corps nationwide. In 2015, the amount of service involving direct settlement of trans-provincial non-local medical treatment was 10,912 person-times, the highest in China; the people have enjoyed the convenience from direct settlement of trans-provincial non-local medical treatment for 42,700 person-times. In the process of promoting direct settlement of non-local medical treatment, Hainan participated in drafting the relevant national policy documents. Hainan's trans-regional networked settlement mode has been recommended as the preferred mode by the Central Government and provides the replicable sample for the settlement of trans-provincial non-local medical treatment across the country.

Establish the mechanism for social insurance audit and risk management. In order to standardize and unify province-wide social insurance audit service operations, Hainan Social Insurance Administration worked out the *Operating Procedure for the Audit of Employer's Participation in Social Insurance Coverage and Payment* so that there are regulations for governing social insurance audit, the province-wide audit operation has been unified and standardized. In line with the arrangement made by the Ministry's Center and actual work on risk management, Hainan Social Insurance Administration printed and distributed the *Circular of Hainan Social Insurance Administration Concerning Strengthening Social Insurance Risk Management*, which specifies the requirements for intensifying social insurance risk management from the perspectives of organizational leadership, working body, institutional construction, service management and coordination. These measures will help standardize Hainan's social insurance audit and risk management.

## 6.2.2 *Achievements in the Development of Social Assistance and Social Welfare in the Special Economic Zones*

### 1. Shenzhen

Reinforce the assistance involving special difficulties for the disabled people. *Shenzhen's Measures for Assistance Concerning Special Difficulties for the Disabled People* were issued in December, 2015. According to these Measures, the care subsidy for the severely disabled people with Shenzhen's registered permanent residence, the living allowance for the disabled people in difficulties, the standard tuition and fees subsidy for the institutions of higher learning which the disabled people attend were comprehensively increased as from January 1, 2016. The care subsidy for the severely disabled people was increased from 200 yuan/person/month to 400 yuan/person/month; the living allowance for the disabled people in difficulties was increased by 100% from 100 yuan/person/month to 200 yuan/person/month; the tuition and fees subsidy for the institutions of higher learning which the disabled people attend was increased by 30–60% from 3000 yuan for junior college students, 4000 yuan for undergraduate students and 5000 yuan for graduate students to 4000 yuan, 6000 yuan and 8000 yuan, respectively. The standard subsidy for the disabled people in temporary difficulties was increased to 4000 yuan/year. The person-times of the disabled people as beneficiaries were increased by 74%, the funds allocated for assistance in Shenzhen were increased by 284%.

Accelerate the development of the old-age care service industry. In December, 2015, *Shenzhen's 13th Five-Year Plan for the Development of the Old-age Care Service Industry (Exposure Draft)* was released. According to the plan, Shenzhen will establish a body to build an electronic and physical network system of home-based old-age care service with the big data management service center for old-age care service as the core, so as to provide the old people with different types of health management, sci-tech old-age care, function rehabilitation and housekeeping services, and ensure that home-based old-age care service, community-based old-age care service and institution-based old-age care service are delivered to 90% of the elderly people, 7% partially incapacitated elderly people and fully incapacitated elderly people, respectively. Shenzhen will also investigate the new method of property-based old-age care of elderly people, and introduce a relevant preferential tax policy to conditionally exempt not only elderly people under the housing-based old-age care mode from house property taxes, but also the transfer of housing by the elderly people for the purpose of old-age care from business tax and individual income tax. The preferential policy is adopted for the children who live with elderly people, and the cost deduction from wage taxes for the children who live with elderly people is properly increased, support cost is deducted before taxes.

Regulate the supervision and management of the welfare lottery fund. *Shenzhen's Administrative Measures for the Welfare Lottery Fund* were developed. According to these Measures, the welfare lottery fund shall not be used to start a business, effect lending or offer entrusted loans, participate in stock and futures trading and provide

guarantee. No organization and individual is permitted to occupy, embezzle and retain the welfare lottery fund in any way. Where an organization or individual uses the welfare lottery fund in violation of regulations, municipal financial and civil affairs departments will order that organization or individual to make rectification within a specified time, and suspend appropriation of the welfare lottery fund according to relevant regulations.

## 2. Zhuhai

Speed up the development of the old-age care service industry. In March, 2015, the *Implementation Plan of the Zhuhai Municipal Government for Accelerating the Development of the Old-age Care Service Industry (Draft)* was released to solicit public opinions. According to the plan, by 2020, a fully functional home-based old-age care service system on a moderate scale which is supported by communities and institutions and covers both urban and rural areas will have been completely built. The community old-age care service facilities which conform to standards or the qualified community old-age care service organizations will cover all urban communities, 100% of the towns (sub-districts) and 90% of the rural areas; more than 35 old-age care beds will be available for every 1000 elderly people in Zhuhai. As the old-age care service industry significantly expands, it will become a new point of growth for the development of the service industry in Zhuhai; the institution-based old-age care, home-based community daily life care and nursing services provide more than 1000 jobs every year in Zhuhai.

Intensify medical assistance for the people in difficulties. The *Circular Concerning the Printing and Distribution of Zhuhai's Measures for Providing Medical Assistance to the People in Difficulties* became effective as from July 1, 2015. According to the circular, with respect to the people in special difficulties, besides medical insurance benefits, assistance is provided to fully bear the part of the verified hospitalization costs that are paid by individuals; assistance is provided to bear the part paid by individuals in the verified outpatient medical costs, but the annual accumulated assistance amount shall not exceed 3600 yuan. For the people as the priorities of assistance, besides medical insurance benefits, assistance is provided to fully bear the part of the verified hospitalization costs that are paid by individuals, but the annual accumulated assistance amount shall not exceed 50,000 yuan. For other people as the basic assurance targets, besides medical insurance benefits where they are covered by medical insurance, assistance is provided to bear 80% of the part paid by individuals in the verified hospitalization costs, but the annual accumulated assistance amount shall not exceed 50,000 yuan.

Incorporate orphans into the scope of medical security for the people in special difficulties. With the implementation of *Zhuhai's Measures for Providing Medical Assistance to the People in Difficulties*, the orphans under the age of 18, the people covered by five guarantees in rural areas and the people without the ability to work, legal support obligor and source of income in urban areas are also incorporated into the scope of medical security for the people in special difficulties. For the people in special difficulties, besides medical insurance benefits, assistance is provided to

fully bear the part of the verified hospitalization costs that are paid by individuals; assistance is provided to bear the part of the verified outpatient medical costs that are paid by individuals, but the annual accumulated assistance amount shall not exceed 3600 yuan. Orphans are incorporated into the basic medical insurance for juveniles, the insurance expenses for orphans is fully borne by the government; this thoroughly changes the previous situation in which there was no basic medical insurance in the case of centralized support of orphans at welfare institutions and decentralized support of orphans, and builds a connection between the orphan medical security system and the medical assistance system.

### 3. Xiamen

Intensify social assistance. In 2015, Xiamen issued the *Opinions Concerning Further Improving the Social Assistance Work* and the *Circular Concerning the Adjustment of the Standard of Assistance for those Receiving Social Assistance from the Civil Affairs Department* to increase the level of social assistance. First, increase the number of people who can receive assistance. Those to whom the minimum subsistence allowance is provided recently include the households whose only child is dead, disabled, or suffers from complications of family planning operations; Those people added to the list of Category I medical assistance recently included members of special households under family planning, those receiving assistance for pneumoconiosis; the original special outpatient assistance was expanded into outpatient assistance; the number of Category II people receiving assistance was enlarged to include all of the members of low-income households; the original quota-based assistance was expanded into inpatient assistance. Second, increase the degree of assistance. The full-amount minimum subsistence allowance for the people without the ability to work, legal support obligor and source of income was increased to 140% of the minimum standard subsistence allowance; the difficulty assistance fund for the severely handicapped people was increased to two times the minimum standard subsistence allowance; the proportion of the part, for which assistance is provided, paid by the individual in outpatient medical costs and hospitalization costs for people in the list to receive Category I medical assistance was increased to 85%, while the proportion of the part, for which assistance is provided, paid by the individual in hospitalization costs for those receiving Category II assistance was 70%. The annual limit of hospitalization assistance was increased from 20,000 yuan to 40,000 yuan; the annual limit of newly added outpatient assistance was 30,000 yuan. Third, specify the standard of assistance. The urban and rural minimum standards of subsistence allowance were based on 36–42% of Xiamen's minimum standard wage, while the income standard for low-income households was two times the minimum standard subsistence allowance; the property standard was 24 times the income standard. After adjustment, the income standard for low-income households was increased to 1100 yuan/person/month, the household property standard was increased to 26,400 yuan/person.

Better assist and help the groups entitled to assistance. In 2015, Xiamen issued relevant circulars and documents including the *Circular Concerning Adjustment of the Standard for Benefit and Living Allowance for Some Groups Entitled to Assistance*

*in Xiamen and the Circular Concerning Increasing the Regular Living Allowance Standard for the Revolutionaries Who Made Contributions in the Anti-Japanese War and Liberation War and Their Spouses* to better carry out the work on benefits and placement for entitled groups. First, incorporate the professional training of the relatives of members of the army into the scope of social professional skill training, encourage the relatives of members of the army who are willing to be employed, reemployed, or have the need to start a business to participate in various kinds of professional skill training and entrepreneurship training, allow them to enjoy the subsidy for professional skill training and entrepreneurship training according to the policy. The basic living allowance is provided to the unemployed relatives of members of the army, and the allowance is linked to Xiamen's minimum standard of subsistence allowance, the accumulated period of providing the allowance shall not exceed five years. Second, increase the standards of disability benefits for the disabled soldiers, disabled police officers, disabled functionaries of state organs, disabled militiamen and workers in public projects in Xiamen, the regular benefits, living allowance standards for some major groups entitled to it and the standard of living allowance for some martyrs' children at the age of 60 in Xiamen. Third, increase the regular standard of living allowance for the veterans who made contributions in the Anti-Japanese War and Liberation War by 110 yuan from 1020 yuan/person/month to 1130 yuan/person/month, the standard of living allowance for the spouses of the revolutionaries who made contributions in the Anti-Japanese War and Liberation War by 60 yuan from 540 yuan/person/month to 600 yuan/person/month.

Guarantee the health and safety of the elderly. First, start the happiness and well-being insurance for the elderly, give scope to the old-age security role of commercial insurance. In 2015, all of the elderly at and above the age of 60 in Xiamen can enjoy the happiness and well-being insurance for the elderly without an age limitation. The happiness and well-being insurance is 27 yuan/person/year; in the first year following its launch, 1/3 of the expenses of each insurance is subsidized by municipal finance, the elderly with Xiamen's general registered permanent residence need to pay only 18 yuan/year, while the resident elderly without Xiamen's registered permanent residence need to pay only 27 yuan/year of full-amount insurance expenses. For the elderly who enjoy the minimum of urban and rural subsistence allowance including those without the ability to work, legal support obligor and source of income, the people covered by five guarantees in rural areas, the groups entitled to it who are enjoying regular benefit allowance and the elderly whose only child has died in Xiamen, their insurance expenses are paid by municipal fiscal resources. Second, strengthen the fire safety standardization at the social welfare institutions for the elderly. In social welfare institutions, homes for the elderly, apartments for the aged, gerocomium, nurseries for the aged, service centers for the elderly and other social welfare organizations for the elderly in Xiamen, capacity building involving fire safety was carried out in checking and eliminating hidden fire hazards, eliminating the risk of early-rising fires, evacuating people for escape and launching fire control publicity and education.

#### 4. Shantou

Carry out the Yinling Well-being Campaign involving comprehensive accident insurance for the elderly to guarantee their health and safety. This campaign is an important part of the efforts to care for the health of the elderly and build up the old-age security system; it breaks the age limit as it is difficult for the elderly over-65s to get commercial insurance; the municipal financial department allocates funds to procure comprehensive accident insurance for the elderly between the ages of 60 and 79 who are covered by five guarantees and enjoy the minimum subsistence allowance, and also the elderly above the age of 80, while the elderly who have suffered from serious illness or have become bedridden and cannot take care of themselves do not fall within the insurance coverage. The insurance expense is 100 yuan/person/year, the maximum compensation and payment amount can reach 15,000 yuan. As of late December, 2015, the coverage of this comprehensive insurance reached 23.93%, the difficulty regarding the fact that the costs for accidental hospitalization and care of the elderly could not be paid by medical insurance had been overcome.

Speed up the development of the old-age service industry. The *Opinions Regarding the Shantou Municipal Government's Implementation of Accelerating the Development of the Old-age Care Service Industry* were released. These opinions call for accelerating the construction of the facilities for old-age care services and old-age care institutions. When the authorities in various areas develop the urban master plan and regulatory plan, it will be necessary to plan and arrange for the facilities for old-age care services in subareas and at various levels according to the standard of per capita 0.1–0.3 m<sup>2</sup> land. Where urban areas, residential areas and communities are newly built, the facilities for old-age care services should be built at the same time; after they pass the acceptance inspection, they shall be under unified management by the district (county) governments and handed over to their sub-districts (town governments). Meanwhile, play should be given to the role of public old-age care service institutions in providing the basic security; the basic support and care services should focus on the elderly without the ability to work, legal support obligor and source of income in urban and rural areas, the elderly with low incomes, those of them who are incapacitated and partially incapacitated in economic difficulties and the those of them whose only child has died.

Carry out the pilot moderately universal child welfare system. In Longhu District, Shantou, children are divided into orphans, children in trouble and ordinary children. The allowance standards are specified according to different levels and types. According to the mechanism of the natural growth of the minimum rearing standard for basic life needs of orphans, the minimum rearing standards for the orphans supported in a centralized way at welfare institutions and those who lived on a scattered basis in the society were increased from 1240 yuan/month and 760 yuan/month to 1450 yuan/month and 880 yuan/month for three consecutive years. The basic living allowance for the children in trouble including those whose guardians are unable to (cannot) guard or who are severely handicapped or suffer from serious illness is granted monthly on the basis of 100% minimum rearing standard for the orphans who live on a scattered basis in the society. For other children in need, such as vagrant



children, the children from single-parent families and the children going astray, the living allowance is granted monthly on the basis of 30% minimum rearing standard for the orphans who live on a scattered basis in the society.

## 5. Hainan

Increase the degree of security for the groups in difficulties. First, increase the minimum wage standard. Specifically, in Grade I areas, the minimum monthly standard wage and the minimum hourly standard wage were adjusted to 1270 yuan and 11.2 yuan, respectively; in Grade II areas, the minimum monthly standard wage and the minimum hourly standard wage were adjusted to 1170 yuan and 10.3 yuan, respectively; in Grade III areas, the minimum monthly standard wage and the minimum hourly standard wage were adjusted to 1120 yuan and 9.9 yuan, respectively. Second, increase the minimum living security standards for urban and rural residents. The minimum living security standards for urban and rural residents were increased to 420 yuan/month and 280 yuan/month, respectively. The minimum living security standards for urban and rural residents in Haikou City and Sanya City were determined and released by both municipal governments in line with local levels of economic and social development. Third, increase the living allowance standards for some retired demobilized army cadres at enterprises. Each of the living allowance standards was increased by 200 yuan on the basis of the allowance standards specified in the Q.B.F. (2004) No.7 Document—the living allowance standards for division, regiment, battalion and company cadres, including the corresponding technical cadres, were 1400 yuan/person/month, 1300 yuan/person/month, 1200 yuan/person/month and 1100 yuan/person/month, respectively. Fourth, increase the living allowance for the handicapped people in difficulties and the nursing allowance for the severely handicapped people. As from January 1, 2016, the living allowance for the handicapped people in difficulties is 60 yuan/person/month, the nursing allowances for the severely handicapped people are governed by two standards: the allowance standards for Grade I and Grade II handicapped people are 150 yuan/person/month and 100 yuan/person/month.

Launch the minimum living security information system. According to the *Circular of the Civil Affairs Department of Hainan Province Concerning Accelerating the Application of the Minimum Living Security Information System*, the authorities of cities and counties must enter the information on all those people who are to receive the urban and rural minimum subsistence allowance and those to receive support based on five guarantees in rural areas within cities and counties, and deliver the information to the data server of the Civil Affairs Department of Hainan Province for data verification. When setting the evaluation indicators involving the performance of the minimum living security work in Hainan in 2015, the Civil Affairs Department of Hainan Province placed emphasis on increasing the score of the projects of information development, and carried out comprehensive scoring by considering a number of factors, including the system deployment and application, the cycle for updating the data, the quality of the data upload and exchanges in cities and counties. As from 2016, the data concerning the information systems for urban and

rural minimum subsistence allowances in the municipal and county minimum subsistence allowance will be taken as the basic data for calculating and distributing social assistance funds from higher authorities; the urban and rural minimum subsistence allowances will be granted through information systems.

Standardize and improve social assistance. The *Regulations of Hainan Province on Social Assistance (Draft)* were issued in Hainan in November, 2015. First, these regulations specify the duties which shall be performed by the people's municipal and county governments, the people's town government, sub-district offices, village (neighborhood) committees in social assistance, and they add constraints on relevant departments to more effectively promote social assistance; second, these regulations cover specific provisions concerning the standard of social assistance, its procedure and its mode. These regulations define the power and authority for developing the standards for the minimum living security, support for the people in special difficulties and educational assistance; they clarify the procedure for the minimum living security application, examination and approval as well as the medical assistance mode; third, these regulations specify the social supervision and legal responsibilities; they stress the establishment of social assistance complaint-related letters and visits, complaint whistle-blowing verification systems; they also state that the information on fraudulent obtaining of assistance can be entered into the credit reference system according to regulations; moreover, they ascertain the corresponding legal responsibilities according to relevant laws and regulations, including the *Interim Measures for Social Assistance*.

### **6.3 Problems and Challenges in the Social Security Development of the Special Economic Zones**

In recent years, with the all-round intensification of reform, great progress has been made in the social security cause of five major special economic zones. However, against the background of the new normal of the economy, population aging, the development of the rule of law in the country and accelerated Internet Plus development, some new contradictions and problems are becoming increasingly acute in the social security development of the special economic zones and have become the factors that restrict the social and economic development of the special economic zones.

#### **6.3.1 *Economic Development has Entered the New Normal, the Social Security Fund Gap has Widened***

At present, China's economic development has entered the new normal. In order to actively adapt to the new normal of economic development, the development rate was

moderately lowered in the special economic zones in 2015; the growth rates of the regional GDPs in Xiamen, Zhuhai, Shantou and Hainan, except Shenzhen, declined from 9.2, 10.3, 9.0 and 8.5% in 2014 to 7.4, 10.0, 8.4 and 7.8% in 2015, respectively. The economic structural adjustment under the new normal led to production and operation difficulties in some enterprises; moreover, the prevailing social insurance rate and payment base were high, many enterprises and individuals were subject to a heavy burden for payment, making it difficult to pay social insurance expenses in full according to the laws, thus resulting in widening the gap in the social security fund. For example, in Shantou as an old industrial city, there were many retirees at the enterprises in difficulties, the gap in the enterprise pension fund widened. In late December, 2015, there was a deficit of 439.38 million yuan and 10.79 million yuan in the pension insurance fund for enterprise workers and the medical insurance fund for workers, respectively. In recent years, in Hainan, the increase in insurance expenses has decreased, while benefit expenditure has grown rapidly; after the benefit standard was increased by 10% during many consecutive years, Hainan's basic endowment insurance for enterprise workers was at the critical point of income and expenditure unbalance as from 2014; it is urgently necessary to reinforce the foundation for the safe operation of social insurance funds.

### ***6.3.2 The Population Aging in the Special Economic Zones has Accelerated, the Social Burden of Old-Age care Has Increased***

Since the establishment of the special economic zones, massive numbers of non-native youth have flowed into the special economic zones in order to start a business and get a job, to the population has tended to become young. With more than 30 years of development since the reform and opening up, the massive young population flowing into the special economic zones will certainly become elderly all at once; furthermore, more and more elderly people have moved to the special economic zones together with their children, the proportion of the elderly in the special economic zones has risen, it has become difficult for the existing system of old-age care services to meet the service needs of the elderly. The degree of aging of Shenzhen's population was about 6.9% in 2015; Shenzhen is expected to become an aging society by 2020. However, currently, the situation of old-age care is still severe, beds are structurally inadequate at the old-age care institutions, the old-age care service specifications and standards are not unified, there is severe shortage of old-age care service professionals. In Zhuhai, the degree of the aging of the population was about 13.11%, the old-age care industry, old-age security, old-age care service, old-age care system and old-age education failed to satisfy the needs of an aging society. In Shantou, the degree of the aging of the population was about 11.8%, insufficiency of operating funds was widespread at the social old-age care institutions, their operation was difficult, the quantity and scale of social old-age care welfare institutions h

lagged far behind the social needs. The increase in the proportion of the population that is aging has led to a gradual increase in the dependency ratio and the old-age care burden has increased. In 2014, Xiamen's degree of aging was 14.22%, the overall dependency ratio of its resident population was 27.8%, its old-age dependency ratio was 7.2%; Hainan's degree of aging was 13.7%, the overall dependency ratio of its population reached 38.10%.

### ***6.3.3 The Social Security Information System has been Underdeveloped, the Development of the Internet Plus Social Security Has Met With Challenges***

In July, 2015, the State Council issued the *Guiding Opinions Concerning Actively Pushing Forward the Internet Plus Action*. As a new form of economic and social development, Internet Plus presents new requirements for social security work while providing unlimited possibilities for the cause of social security. Speeding up the construction of the social security information system and enhancing the capability of the services of the social security agency amidst the new opportunities in the Internet era has become the key task in social security work. At present, the social security information system in the special economic zones is generally underdeveloped, the efficiency of the work of the social security agencies is not high, so the social security work faces a developmental dilemma against the background of Internet Plus. For example, currently, Shenzhen's social security information system is less sophisticated, out-of-date, under slow operations and it has an excess load, so it fails to provide prompt and effective technical support for the fast-developing social insurance cause, and it also easily incurs complaints from the insured. In December, 2014, Hainan comprehensively upgraded the provincial system of social security agencies, while the new system was unstable, a large quantity of data errors occurred and the operation interface was irrational, thus the workload of the working personnel was greatly increased.

Against the background of Internet Plus social security, agency-based collection and payment involving social security has become one of the traditional outsourcing items. In the past two years, a number of social security websites or mobile clients have emerged in the special economic zones. At present, these social security websites mainly provide such services as visual social security account management and agency service to small and micro enterprises including start-ups and individual businesses. As the Internet has just been used in the social security sector, the government has not yet developed a complete standard of supervision and relevant supporting measures, so these social security websites are developing slowly and are less standardized.

### **6.3.4 *The Legal System of Social Security is Less Developed***

At present, China's legal system of social security is relatively underdeveloped, most rules and regulations concerning social security have not yet been elevated to the legal level and are still at the policy level. As China's social security involves more and more groups and they are subject to various problems, the existing changeable laws, regulations and policies at low levels, such as guiding opinions and interim regulations, will restrict the development of China's social security system. The development of rule of law in social security is an important aspect of the development of rule of law in China. The Fourth Plenary Session of the 18th Central Committee of the Communist Party of China vowed to strengthen legislation in key fields, especially the legislation aimed at improving and safeguarding the people's livelihood. This requires the special economic zones to seize the period of opportunity to comprehensively promote rule of law, fully utilize the legislative power of the special economic zones, reinforce innovations in the social security system and continue to improve the construction of a legal system for social security.

### **6.3.5 *Fraudulent, Illegal and Criminal Behavior has Increased in the Social Insurance Field***

As the coverage of social insurance and the scale of social insurance funds have increased, kinds of fraudulent, illegal and criminal behavior within the social insurance field have been on the increase, thus causing damage to the sustainable development of the social insurance system. In March, 2015, the Ministry of Human Resources and Social Security issued the *Circular Concerning Strengthening the Investigation, Handling and Transfer of Social Insurance Fraud Cases*. The circular calls for transferring, investigating and handling the criminal cases of social insurance fraud according to the laws, strengthening the effective connection between supervision, administrative law enforcement and criminal justice involving social security funds, and severely punishing the illegal and criminal behavior in the social insurance field according to the laws. In recent years, with the accelerated construction of the social security system covering urban and rural residents in the special economic zones, the fraudulent, illegal and criminal behavior within the social insurance field in the special economic zones has increased, some organizations and individuals have adopted fraudulent means and forged evidentiary materials to seek benefits from social insurance funds; in some areas, the organized fraudulent and criminal activities in the social insurance field have continued despite repeated prohibitions, which have severely undermined the safety of social insurance funds. This poses new requirements for the current social security work in the special economic zones; the social insurance agencies in the special economic zones should carry out the spirit of the circular issued by the Ministry of Human Resources and Social Security to

work with the law enforcement department to further supervise and crack down on fraudulent behavior relating to social insurance.

## **6.4 Policy Suggestions on Promoting the Development of Social Security in the Special Economic Zones**

### ***6.4.1 Preserve and Increase the Value of Social Security Funds***

As the pooling level of social insurance funds the sustained growth of balance are gradually increasing in the special economic zones and, the task for preserving and increasing the value of social security funds has become increasingly burdensome. On the one hand, the fund investment channels need to be rationally expanded. First, the fiscal input in social security should be increased. The system of fiscal input in social security and the social security budget system need to be improved, the social security responsibilities of the government need to be defined, and a better scope needs to be given to the role of public finance in social security. Second, new funding channels for social security through state-owned assets needs to be actively developed, part of the state-owned capital needs to be allocated or part of the state-owned assets needs to be realized through the securities market to replenish the social security funds so that the social security funds are further guaranteed and can become more sustainable. Third, with respect to the investment portfolio of the social security funds, investment periods need to be rationally arranged, and short, medium and long-term investments need to be made properly subject to guaranteeing the safety and liquidity of social security funds. On the other hand, the fund management operational mode needs to be improved. First, an independent operational body for the social security funds needs to be established for fund investment operations, and for value preservation and appreciation. Second, the varieties of investment need to be enriched. Besides the existing varieties of investment, social security funds need to be invested in mortgage loans, real estate and national key projects, and the medium and long-term income of funds needs to be increased. Third, efforts in fund pooling need to be intensified, provincial financial departments need to be made to operate and supervise funds, transfer payments need to be increased by preserving and increasing the value.

### ***6.4.2 Improve the System of the Old-Age Care Service, Speed Up the Development of the Old-Age Care Service Industry***

Speeding up the development of the old-age care service industry has become one priority in the social security work in the special economic zones during the period of the 13th Five-Year Plan. The special economic zones have released the opinions and plans for accelerating the development of the old-age care service industry. First, full play should be given to the government's role in guaranteeing old-age care. The construction of public security-oriented old-age care institutions should be intensified to provide gratuitous or low-fee support and nursing services to low-income elderly people, elderly people without the ability to work, without legal support obligor and without a source of income in urban areas, elderly people covered by five guarantees in rural areas, incapacitated and partially incapacitated elderly people, better scope should be given to the role of public old-age care institutions in meeting the basic needs of old-age care. Second, full play should be given to the government's role in supporting and guiding the development of the old-age care service industry. The threshold for the inflow of private capital should be lowered, relevant procedures should be standardized and simplified, private and overseas capital should be guided and supported to participate in the development of the old-age care service industry, the aging industry should be developed in various forms and under diverse modes to satisfy the needs of the old-age care service. Third, community home-based old-age care service should be vigorously pushed forward. With the community as a platform, the elderly should have the assurance of comfortably spending their remaining years at home by receiving the catering, cleaning, bathing and medical treatment services provided by old-age care service institutions, thus they should be able to enjoy old-age care at home. Finally, social organizations should be encouraged to actively participate in developing the old-age care service industry, including energetically running non-profit old-age care service institutions, supplying more old-age care beds, performing various home-based old-age care services, zealously performing the volunteer services for elderly people.

### ***6.4.3 Energetically Push Forward the Construction of an Electronic Social Security System***

At present, the construction of the social security system has entered a new period of social security for all the people; the construction of an electronic social security system has become the essential basic support for rapidly promoting social security. First, the electronic system of social security should be standardized at the national level. Like the social security system, with an increasing pooling level of social insurance funds, it is necessary to develop, at the national level, the corresponding construction standard and standardization requirements for building an electronic

social security system. Second, capital and technical support should be increased, the building of an electronic social security system should be speeded up. The authorities in such areas as Zhuhai and Shantou, where an electronic social security system has not yet been set up, can learn from Xiamen, Shenzhen and other areas where it has been carried out and its operational effect is good, so as to design the construction of a local electronic social security system while applying to the financial department for special funds and working with professional system development companies to accelerate its construction. Finally, the building of an information development team should be intensified. A good employment environment should be created in order to attract, retain and utilize professional talents and give full scope to their strong points; the working system should be improved, a training and evaluation mechanism should be developed, and the overall quality and capacity of the information development team should be enhanced.

#### ***6.4.4 Reinforce the Construction of the Social Security Information System, Innovate the Social Security Service Mode***

In the special economic zones, a large number of people are covered by social insurance, there are a great variety of social insurance services and the workload is large, it is necessary to rebuild the social security information system and develop a new mode of social security agency. Efforts are being made to achieve online one-stop handling of social security services, a paperless agency-based processing of social security matters, electronic archiving of insurance participation and automatic printing of lists. New media platform applications are being extended to all of the people, WeChat, Alipay and mobile phone APPs are used to register insurance participation and make individual payments. The cooperation with postal departments is being intensified so that the insured can handle relevant social security matters at any postal outlet throughout the city, and social security fund settlement can be made through postal savings banks. Commercial insurance institutions are entrusted to carry out cash reimbursement of medical insurance and verification of non-local medical treatment. Commercial banks are entrusted to perform the services concerning children's participation in medical insurance and individual payments. The functions of financial social security self-service terminals are being expanded. The mechanism of the trans-departmental sharing of social security information is being improved to enable automatic examination and real-time comparison of information.



### 6.4.5 Accelerate the Building of a Social Security Team

The fast-developing cause of social security in the special economic zones needs a large number of social security professionals. On the one hand, the social security departments should strengthen the professional education of social security, train the existing working personnel, make them learn, summarize their experiences and seek improvement by doing, so that they can master the basic theory, policies and professional knowledge of social security. On the other hand, the social security departments should cultivate professional management talents in line with the actual work, promote and utilize the management personnel with the pioneering spirit. Considerations are being given to the diversified structure of social security work so as to foster and introduce (recruit through examination) the personnel adept at accounting, statistics, planning, secretary work, computer management and medical services. Moreover, the social security departments should evaluate the working personnel in terms of virtue, capability, diligence and performance in strict compliance with the specified employment standards and in line with the working needs, and the preferred personnel should be chosen from the candidates who have passed the evaluation.

## References

- Cui, F., & Lei, X. (2015) A study of the development of rule of law in China's social security field against the background of comprehensively developing rule of law in China. *Study and Practice*,(2).
- Gao, X., et al. (2010). *A study of Shenzhen's social insurance system*. People's Publishing House.
- Hainan Establishes Cooperative Relationship with 104 Medical Insurance Fund Pooling Areas in China with Respect to the Settlement of Non-local Medical Treatment, [www.hinews.cn](http://www.hinews.cn). 2016-03-16.
- Hainan Statistical Communiqué on National Economic and Social Development. (2015).
- Luo, J. (2015). Problems in social security work under the new normal and countermeasures, *Renshi Tiandi*,(6).
- Peng, L., Jin, J., & Zuo, Z. (2015) Countermeasures and suggestions for promoting social security information development under the new situation. *Construction of Old Revolutionary Base Areas*, (22).
- Qi, Y. (2016). The lind of thought regarding several issues on improving the management service capability of social insurance agencies. *Science and Technology*, (9).
- Report on the Income and Expenditure of Social Insurance Funds. (2015). Special column of social insurance information disclosure at the Shantou Bureau of Human Resources and Social Security. 2016-03-30.
- Shantou Government Work Report. (2016). Shantou Municipal Government Online. 2016-02-25.
- Shenzhen Bureau of Statistics. (2015). Shenzhen Statistical Yearbook.
- Shenzhen Government Work Report. (2016). *Shenzhen Special Zone Daily*. 2016-02-06.
- Strategic Line of Thought of the Development of the Old-age Care Service Industry, [ww.rmlt.com.cn](http://ww.rmlt.com.cn). 2014-12-08.
- Tang, K. (2014). Opportunities and challenges for social security work in the era of big data. *China's Human Resources and Social Security*,(4).

- Tao, Y., & Zhong, J. (2014). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.
- Wang, Y. (2014). A brief analysis of how to build an innovative mechanism for preserving and increasing the value of social security funds. *Labor Security World*,(2).
- Wu, R. (2015). Adapt to the new normal of economic development, intensify the reform of the social security system. *The People's Congress of China* (3).
- Xiamen Bureau of Statistics (2015). Special Zone Yearbook.
- Xiamen's Innovative Measures for Research and Development of the Platform for the Management of the Information Regarding Intelligent Medical Treatment. *China's Insurance Quote*. 2016-04-12.
- Xiamen's Intelligent Medical Insurance Innovation Becomes the National Model, the Intelligent Medical Security Information Management Platform Has Been Awarded the First Prize for Financial Innovation, [www.spicezee.com](http://www.spicezee.com). 2016-01-06.
- Yinling Well-being Campaign Benefits 130,000 Old People. *Shantou Daily*. 2016-03-30.
- Zhuhai Statistical Communiqué on National Economic and Social Development. (2015).

# Chapter 7

## Report on the Development of the Financial Industry in China's Special Economic Zones



Guo Maojia

Under the dual pressure from the complex and changing external environment and downward economic development domestically, hard-won achievements were made in the rapid-scale expansion of the financial industry in China's special economic zones, but the quality of assets continued to decline and risks increased. In 2016, the important task for the financial industry in China's special economic zones lies in strictly controlling the operating risks and improving the quality of assets amidst the sustained expansion of the asset scale.

### 7.1 New Progress in the Development of the Financial Industry in China's Special Economic Zones in 2015

#### 7.1.1 *The Asset Scale of the Financial Industry in the Special Economic Zones Still Rapidly Expanded*

1. Overall, the asset scale showed rapid expansion

The total asset scale of the financial industry in "5 + 2" special economic zones significantly expanded and hit 35 trillion yuan in 2015, up more than 40% compared with 2014 (see Table 7.1).

According to Table 7.1, only 92 financial enterprises in the special economic zones were listed among China's top 500 financial enterprises in 2015, accounting for only 18.4% of China's top 500 financial enterprises, but the total asset scale reached 32.7 trillion yuan in 2015, up 46.81% compared with 2014.

---

G. Maojia (✉)

Center for Special Economic Zone Research, Shenzhen University, Shenzhen, China

**Table 7.1** Statistics on the asset scale of the financial enterprises in China's special economic zones among China's top 500 financial enterprises and the growth rates of their assets in 2015

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
1	7	Bank of Communications	Bank	Shanghai Pudong	71,553.62	14.15
2	8	China Merchants Bank	Bank	Shenzhen	54,749.78	15.71
3	11	Shanghai Pudong Development Bank	Bank	Shanghai Pudong	50,443.52	20.22
4	16	Ping An Bank	Bank	Shenzhen	25,071.49	14.67
5	21	Ping An Life Insurance of China	Insurance	Shenzhen	16,322.54	18.39
6	22	Bank of Shanghai	Bank	Shanghai Pudong	14,491.40	22.04
7	24	Hang Seng China	Bank	Shanghai Pudong	11,172.25	6.00
8	31	China Pacific Life Insurance	Insurance	Shanghai Pudong	7615.42	12.75
9	46	Citic Securities	Negotiable securities	Shenzhen	4841.26	38.94
10	47	Xiamen International Bank	Bank	Xiamen	4592.05	31.60
11	52	Sino Life	Insurance	Shanghai Pudong	4091.56	71.25
12	53	HSBC China	Bank	Shanghai Pudong	3896.55	-8.48
13	60	Guotai Junan Securities	Negotiable securities	Shanghai Pudong	3515.67	43.65

(continued)

**Table 7.1** (continued)

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
14	62	Tai Ping Life	Insurance	Shanghai Pudong	3300.89	12.41
15	72	Merchants Securities	Negotiable securities	Shenzhen	2696.65	52.15
16	74	Huaxia Life Insurance	Insurance	Tianjin Binhai	2638.44	102.41
17	76	Ping An Property Insurance	Insurance	Shenzhen	2520.67	29.67
18	83	BEA China	Bank	Shanghai Pudong	2197.79	1.37
19	84	Guosen Securities	Negotiable securities	Shenzhen	2196.45	49.95
20	93	Shenzhen Rural Commercial Bank	Bank	Shenzhen	1843.14	15.90
21	96	Standard Chartered Bank of China	Bank	Shanghai Pudong	1792.10	-14.39
22	99	Tianan Insurance	Insurance	Shanghai Pudong	1692.19	274.03
23	102	Ping An Trust	trust	Shenzhen	1655.94	27.38
24	106	Citibank China	Bank	Shanghai Pudong	1633.27	3.61
25	107	Xiamen Bank	Bank	Xiamen	1603.20	34.60
26	112	Foresea Life Insurance	Insurance	Shenzhen	1559.43	178.43
27	118	Sunshine Insurance	Insurance	Hainan	1476.05	53.99
28	122	Mitsubishi China	Bank	Shanghai Pudong	1419.35	-7.42

(continued)

**Table 7.1** (continued)

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
29	127	Binhai Rural Commercial Bank	Bank	Tianjin Binhai	1299.17	32.35
30	129	Chinese Mercantile Bank	Bank	Shenzhen	1272.86	39.06
31	132	CPIC Property Insurance	Insurance	Shanghai Pudong	1250.11	9.17
32	134	Essence Securities	Negotiable securities	Shenzhen	1236.76	55.17
33	139	China Resources Bank Of Zhuhai Co., Ltd.	Bank	Zhuhai	1163.94	8.24
34	143	Mizuho China	Bank	Shanghai Pudong	1092.48	15.47
35	147	Guangdong Huaxing Bank	Bank	Shantou	1060.32	55.38
36	155	Nanyang Commercial Bank (China)	Bank	Shanghai Pudong	966.67	3.30
37	156	Mitsui China	Bank	Shanghai Pudong	965.89	-2.40
38	157	DBS China	Bank	Shanghai Pudong	953.29	-2.78
39	161	China Investment Securities	Negotiable securities	Shenzhen	922.10	49.25
40	163	Xiamen Rural Commercial Bank	Bank	Xiamen	919.11	48.79
41	168	Ping An Securities	Negotiable securities	Shenzhen	893.70	47.85

(continued)

**Table 7.1** (continued)

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
42	172	Guohua Life	Insurance	Shanghai Pudong	857.13	65.18
43	178	Haikou Rural Commercial Bank	Bank	Hainan	823.16	137.63
44	183	Fist Sino Bank	Bank	Shanghai Pudong	736.47	19.55
45	191	CCB Life	Insurance	Shanghai Pudong	691.90	70.48
46	194	ICBC-AXA Life	Insurance	Shanghai Pudong	665.67	64.29
47	243	Great Wall Securities	Negotiable securities	Shenzhen	459.27	51.82
48	246	Bohai Securities	Negotiable securities	Tianjin Binhai	451.96	96.57
49	250	UOB China	Bank	Shanghai Pudong	431.57	-11.97
50	264	China Continent Property & Casualty Insurance	Insurance	Shanghai Pudong	386.02	27.20
51	267	OCBC China	Bank	Shanghai Pudong	373.33	-31.22
52	287	Sino-US United MetLife Insurance	Insurance	Shanghai Pudong	326.38	23.36
53	319	First Capital Securities	Negotiable securities	Shenzhen	253.85	37.04
54	338	Taiping General Insurance	Insurance	Shenzhen	211.31	27.31
55	344	Manulife-Sinochem Life	Insurance	Shanghai Pudong	193.32	23.16

(continued)

**Table 7.1** (continued)

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
56	346	China Resources SZITIC Trust	trust	Shenzhen	192.83	26.74
57	351	Shanghai Life	Insurance	Shanghai Pudong	183.11	15
58	355	Cigna & Cmb Life Insurance	Insurance	Shenzhen	180.06	24.67
59	356	China Fortune Securities	Negotiable securities	Shenzhen	179.87	88.88
60	357	Chinalin Securities	Negotiable securities	Shenzhen	179.77	136.71
61	364	Goldstate Securities	Negotiable securities	Hainan	163.35	26.78
62	368	Yingda Securities	Negotiable securities	Shenzhen	156.21	63.42
63	369	Zhongshan Securities	Negotiable securities	Shenzhen	152.63	46.15
64	371	Allianz China Life Insurance	Insurance	Shanghai Pudong	151.14	18.97
65	375	Sinosafe General Insurance	Insurance	Shenzhen	139.63	1.19
66	382	Hwabao Securities	Negotiable securities	Shenzhen	130.79	164.86
67	395	Aegon THTF Life Insurance	Insurance	Shanghai Pudong	114.70	18.36
68	398	AXA Tianping P&C Insurance	Insurance	Shanghai Pudong	112.12	9.52
69	405	Alltrust Property Insurance	Insurance	Shanghai Pudong	101.10	0.02
70	407	Bohai Life	Insurance	Tianjin Binhai	96.43	15
71	414	Century Securities	Negotiable securities	Shenzhen	87.53	62.37

(continued)



**Table 7.1** (continued)

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
72	416	Hwabao Trust	trust	Shanghai Pudong	86.11	12.53
73	424	Yintai Securities	Negotiable securities	Shenzhen	77.94	39.17
74	435	Huatai United Securities	Negotiable securities	Shenzhen	69.55	14.71
75	436	Royal Bank of Scotland (China)	Bank	Shanghai Pudong	67.52	-54.61
76	438	Taiping Pension	Insurance	Shanghai Pudong	66.11	17.45
77	442	Aijian Securities	Negotiable securities	Shanghai Pudong	63.52	65.74
78	446	Minmetals Securities	Negotiable securities	Shenzhen	61.25	19.25
79	449	Dinghe Property Insurance	Insurance	Shenzhen	59.93	34.73
80	450	PKU Founder Life	Insurance	Shanghai Pudong	58.82	30.62
81	453	Great Wall Glory Securities	Negotiable securities	Xiamen	56.25	43.61
82	454	Wanho Securities	Negotiable securities	Hainan	55.44	215.00
83	457	HSBC Life	Insurance	Shanghai Pudong	51.95	40.44
84	474	Xiamen International Trust	trust	Xiamen	44.88	17.92
85	477	Funde Property & Casualty Insurance	Insurance	Shenzhen	43.07	544.76
86	479	Lianchu Securities	Negotiable securities	Shenzhen	42.70	215.36

(continued)

**Table 7.1** (continued)

Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Region	Total assets in 2015 (100 million)	Total asset growth rate (%)
87	480	Northern International Trust	trust	Tianjin Binhai	42.65	14.01
88	486	Huajin Securities	Negotiable securities	Shanghai Pudong	39.79	74.77
89	491	Asia-Pacific Property & Casualty Insurance	Insurance	Shenzhen	36.12	-8.90
90	495	Zurich General Insurance	Insurance	Shanghai Pudong	34.39	151.02
91	498	Cathay Lujiazui Life Insurance	Insurance	Shanghai Pudong	32.61	9.54
92	500	Morgan Stanley Bank (China)	Bank	Zhuhai	32.37	16.40
Total					326,884.7	46.81

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

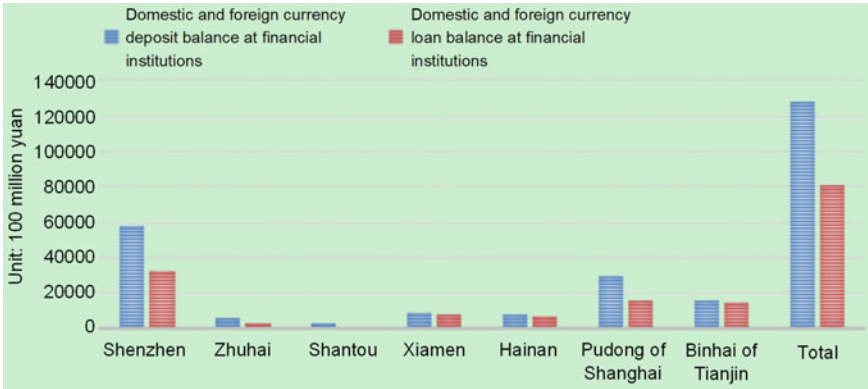
## 2. From the perspective of structure, the asset scale also rapidly expanded

In 2015, the rapid expansion of the asset scale of the financial industry in the special economic zones was reflected not only in the general condition, but also in the sectors within the financial industry of the special economic zones and each of the special economic zones.

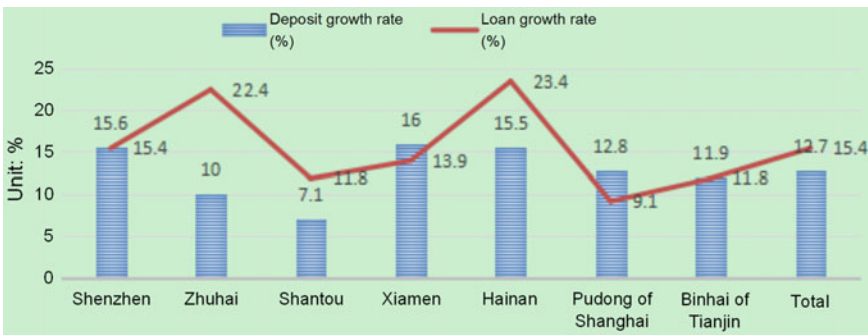
(1) From the perspective of industrial structure, there was a rapid expansion of the asset scale.

A. The asset scale of the banking sector showed a markedly rapid expansion (see Figs. 7.1 and 7.2).

As shown by the information in Figs. 7.1 and 7.2, the scale of domestic and foreign currency deposits at the financial institutions in the special economic zones surpassed 12 trillion yuan for the first time to hit 12,823,597 million yuan in 2015, up 12.7% from the previous period; the balance of domestic and foreign currency



**Fig. 7.1** Domestic and foreign currency deposit and loan balance at financial institutions in the special economic zones in 2015



**Fig. 7.2** Growth rates of domestic and foreign currency deposit and loan balances at financial institutions in the special economic zones in 2015

loans exceeded 8 trillion yuan for the first time to reach 8,081,981 million yuan, an average growth rate of 15.4%; double-digit growth rates of both the deposit scale and the loan scale were much higher than the average economic growth rate in the special economic zones in the same period.

As the banking sector in the special economic zones generally became larger and stronger, the asset scale of several listed banks in the special economic zones also increased (see Figs. 7.3 and 7.4).

According to Figs. 7.3 and 7.4, the total assets, total liabilities, deposits and loans of the listed banks in the special economic zones grew at relatively high rates above double digits in 2015.

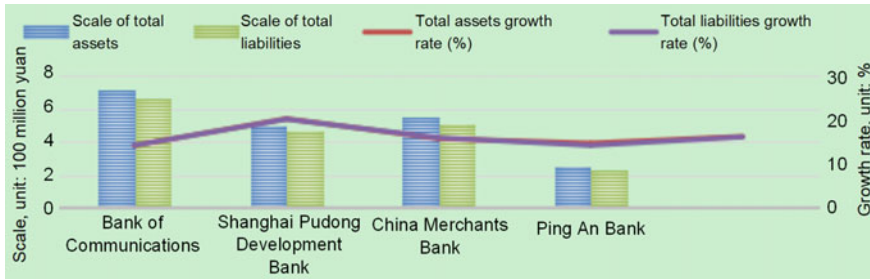


Fig. 7.3 Statistics on the scale expansion of listed banks in the special economic zones in 2015

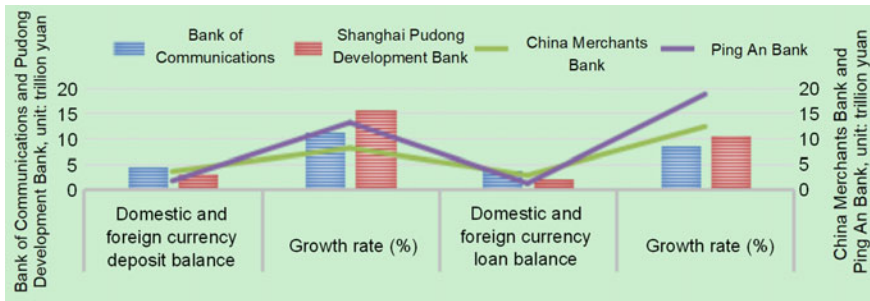


Fig. 7.4 Statistics on the expansion of domestic and foreign currency deposits and loans at listed banks in the special economic zones in 2015

Thanks to the rapid expansion of the overall scale of the banking sector in the special economic zones, the banks there continued to rise in the ranking in the world banking circles in 2015 (see Table 7.2).

As shown by the information in Table 7.2, five banks in China’s special economic zones were listed among the top 100 banks from among the top 1000 world banks released by *The Banker* based in the UK in 2015 as compared to four banks in 2014, they moved up six places in the ranking, suggesting that the banks in China’s special economic zones still maintained a good momentum of rising in their position in the world banking sector.

B. The scale of the securities industry in the special economic zones showed an apparent rapid expansion (see Tables 7.3 and 7.5).

According to Table 7.3 and Fig. 7.5, the asset scale of securities companies in the special economic zones reached 1.8 trillion yuan with a growth rate of 55.9% in 2015. As Goldstate Securities was introduced to Hainan, the asset scale of securities companies in Hainan expanded by 12.4 times.

**Table 7.2** Statistics on the changes in the ranking of the banks in the special economic zones among the top 100 banks from the top 1000 world banks, 2012–2015

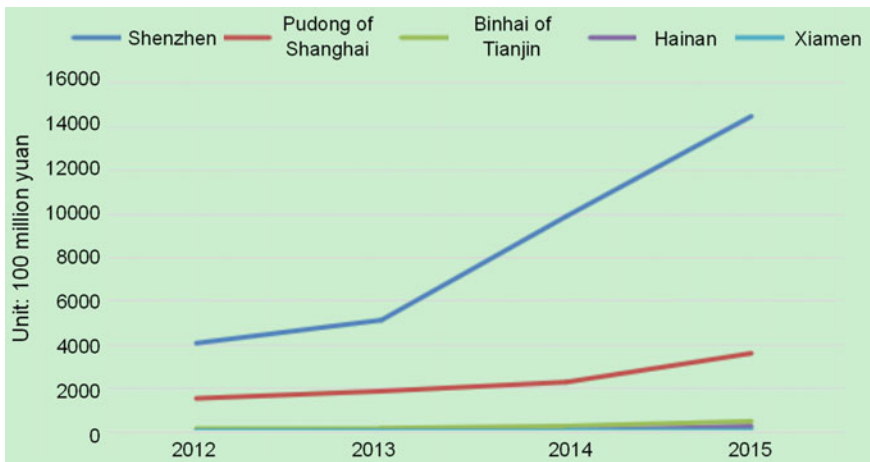
Name of financial enterprise	2012		2013		2014		2015		Registration place
	Ranking	Increase	Ranking	Increase	Ranking	Increase	Ranking	Increase	
Bank of Communications	23	7	19	4	17	2	13	4	Shanghai Pudong
China Merchants Bank	50	6	36	14	28	8	27	1	Shenzhen
Shanghai Pudong Development Bank	53	4	44	9	35	9	29	6	Shanghai Pudong
Ping An Bank	–	–	83	–	51	9	60	9	Shenzhen
Bank of Shanghai	–	–	–	–	–	–	91	10	Shanghai Pudong
Average increase		6		9		7		6	

Source: top 1000 world banks in terms of tier one capital released by *The Banker* based in the UK during the period 2013–2016

**Table 7.3** Statistics on the trend of asset expansion in securities companies in the special economic zones, 2012–2015 (unit: 100 million yuan)

Name of special economic zone	2012		2013		2014		2015	
	Asset scale	Growth rate (%)	Asset scale	Growth rate (%)	Asset scale	Growth rate (%)	Asset scale	Growth rate (%)
Shenzhen	4037	7.9	5093	26.2	9859.2	93.6	14,447.7	46.5
Shanghai Putong	1501	18.1	1832.7	18.5	2248.5	102.0	3569.5	63.0
Tianjin Binhai	116	7.4	141	21.6	229.9	63.0	452.0	96.6
Hainan	6.4	-13.5	8.5	32.8	17.6	107.0	218.7	1142.6
Xiamen	14.6	-8.2	13.4	-8.2	39.1	191.8	56.3	43.9
Total	5675		7088.6		12,394.3		18,744.2	
Average		12.5		22.0		96.3		55.9

Source Ranking of the Operating Performance of Securities Company Members during the period 2012–2015 posted on the official website of the Securities Association of China. There were no local securities companies in Zhuhai and Shantou, so relevant statistical data were unavailable



**Fig. 7.5** Statistics on the expansion of assets at securities companies in the special economic zones, 2012–2015

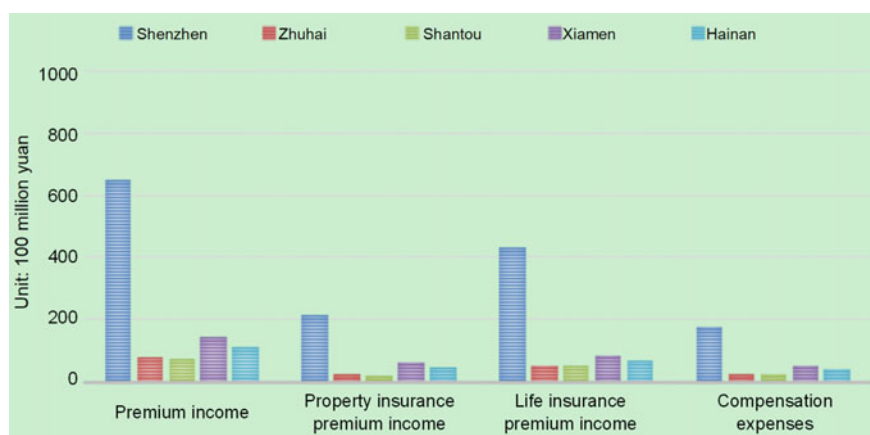
C. An obvious rapid expansion occurred in the scale of the insurance industry in the special economic zones (see Table 7.4 and Fig. 7.6).

According to Table 7.4 and Fig. 7.6, the premium income of insurance companies in five traditional special economic zones surpassed 100 billion yuan for the first time to hit 106,048 million yuan in 2015, up 17.7% compared with 2014; the amount of compensation expenses exceeded 30 billion yuan for the first time, to reach 32.04 billion yuan in 2015, up 12.5% compared with 28.47 billion in 2014. In particular, the average growth rate of life insurance income reached 22.92%.

**Table 7.4** Statistics on insurance income and claim settlement in the insurance industry in the special economic zones in 2015 (unit: 100 million yuan)

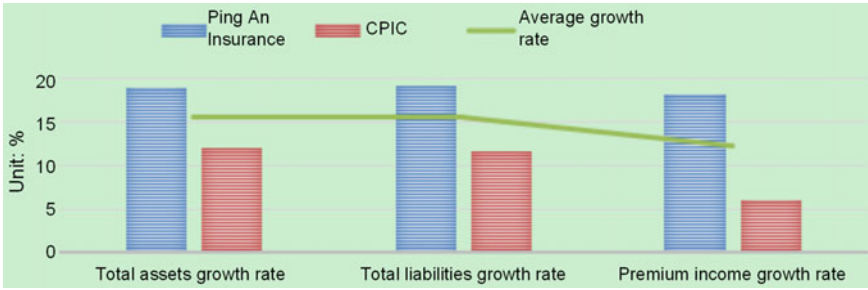
Name of special economic zone	Premium income	Growth rate (%)	Property insurance premium income	Growth rate (%)	Life insurance premium income	Growth rate (%)	Amount of compensation expenses	Growth rate (%)
Shenzhen	647.55	18.0	214.55	3.7	433.00	26.7	176.74	13.5
Zhuhai	78.61	8.3	25.23	6.8	53.38	9.0	25.01	24.4
Shantou	73.71	16.6	20.03	17.3	53.68	16.3	27.05	-0.2
Xiamen	146.36	11.6	61.36	7.5	85.00	14.7	52.74	17.3
Hainan	114.25	34.2	44.28	17.1	69.97	47.9	38.86	5.3
Total	1060.48		365.45		695.03		320.4	
Average		17.74		10.48		22.92		12.06

Source Statistical Communiqué on the National Economic and Social Development of the special economic zones in 2015. No independent statistical data on the insurance industry in Pudong of Shanghai and Binhai of Tianjin were available, thus they are not reflected in this table

**Fig. 7.6** Statistics on premium income and claim settlement in the insurance industry of the special economic zones in 2015

The scale of the insurance industry in the special economic zones increased rapidly in 2015, which can be proved by relevant data concerning the listed insurance companies in the special economic zones (see Fig. 7.7).

As indicated by Fig. 7.7, the total assets, total liabilities and premium income of all of the listed insurance companies in the special economic zones, which are three indicators reflecting the scale growth of insurance companies, grew at double-digit rates being 15.5, 15.45 and 12.15%, respectively, making 2015 one of the years with a relatively rapid growth in the past six years.



**Fig. 7.7** Statistics on the scale expansion of listed insurance companies in the special economic zones in 2015



**Fig. 7.8** Statistics on the scale expansion of the listed trust and leasing companies in the special economic zones in 2015

D. The scale of the trust and leasing industry in the special economic zones showed an apparent rapid expansion (see Fig. 7.8).

As shown in Fig. 7.8, the scale of the total assets, total liabilities and net assets of Anxin Trust, Aijian Group and BohaiCapital continued to grow rapidly in an all-round way at the average rates of 112.17, 98.25 and 146.63%, respectively in 2015. Although the scale expansion of the listed trust companies and leasing companies is not completely equal to that of the trust companies and leasing companies in the special economic zones, but it can at least reflect one side of the scale expansion of the trusted companies and leasing companies in the special economic zones.

(2) From the perspective of regional structure, the asset scale rose rapidly.

A. The financial industry in Shenzhen witnessed a rapid expansion of the asset scale (see Table 7.5).

As shown by the information in Table 7.5, 33 financial enterprises in Shenzhen were listed among China’s top 500 financial enterprises in 2015, accounting for 6.6% of China’s top 500 financial enterprises, a net increase of three financial enterprises



**Table 7.5** Statistics on the asset scale of Shenzhen's financial enterprises listed among China's top 500 financial enterprises and their asset growth rates in 2015 (unit: 100 million yuan)

Ranking in Shenzhen's financial industry	Ranking in special economic zone top 92	Ranking in China top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
1	2	8	China Merchants Bank	Bank	54,749.78	15.71
2	4	16	Ping An Bank	Bank	25,071.49	14.67
3	5	21	China Ping An Life Insurance	Insurance	16,322.54	18.39
4	9	46	Citic Securities	Negotiable securities	4841.26	38.94
5	15	72	Merchants Securities	Negotiable securities	2696.65	52.15
6	17	76	Ping An Property Insurance	Insurance	2520.67	29.67
7	19	84	Guosen Securities	Negotiable securities	2196.45	49.95
8	20	93	Shenzhen Rural Commercial Bank	Bank	1843.14	15.90
9	23	102	Ping An Trust	trust	1655.94	27.38
10	26	112	Foresea Life Insurance	Insurance	1559.43	178.43
11	30	129	Chinese Mercantile Bank	Bank	1272.86	39.06
12	32	134	Essence Securities	Negotiable securities	1236.76	55.17
13	39	161	China Investment Securities	Negotiable securities	922.10	49.25
14	41	168	Ping An Securities	Negotiable securities	893.70	47.85

(continued)

**Table 7.5** (continued)

Ranking in Shenzhen's financial industry	Ranking in special economic zone top 92	Ranking in China top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
15	47	243	Great Wall Securities	Negotiable securities	459.27	51.82
16	53	319	First Capital Securities	Negotiable securities	253.85	37.04
17	54	338	Taiping General Insurance	Insurance	211.31	27.31
18	56	346	China Resources SZITIC Trust	trust	192.83	26.74
19	58	355	Cigna & Cmb Life Insurance	Insurance	180.06	24.67
20	59	356	China Fortune Securities	Negotiable securities	179.87	88.88
21	60	357	Chinalin Securities	Negotiable securities	179.77	136.71
22	62	368	Yingda Securities	Negotiable securities	156.21	63.42
23	63	369	Zhongshan Securities	Negotiable securities	152.63	46.15
24	65	375	Sinosafe General Insurance	Insurance	139.63	1.19
25	66	382	Hwabao Securities	Negotiable securities	130.79	164.86
26	71	414	Century Securities	Negotiable securities	87.53	62.37
27	75	424	Yintai Securities	Negotiable securities	77.94	39.17
28	74	435	Huatai United Securities	Negotiable securities	69.55	14.71
29	78	446	Minmetals Securities	Negotiable securities	61.25	19.25
30	79	449	Dinghe Property Insurance	Insurance	59.93	<b>34.73</b>

(continued)

**Table 7.5** (continued)

Ranking in Shenzhen's financial industry	Ranking in special economic zone top 92	Ranking in China top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
31	85	477	Funde Property & Casualty Insurance	Insurance	43.07	544.76
32	86	479	Lianchu Securities	Negotiable securities	42.70	215.36
33	89	491	Asia-Pacific Property & Casualty Insurance	Insurance	36.12	-8.90
Total					120,497.1	
Average						67.36

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

compared with 30 financial enterprises in 2014, up 10%, the total asset scale exceeded 12 trillion yuan in 2015, an average growth rate of 67.36%.

B. The asset scale of the financial industry in Zhuhai and Shantou increased rapidly (see Table 7.6).

As shown by the information in Table 7.6, three financial enterprises in Zhuhai and Shantou were listed among China's top 500 financial enterprises in 2015, accounting for 0.6% of China's top 500 financial enterprises, a net increase of one financial enterprise compared with two financial enterprises in 2014, up 5%; the total asset scale was more than 220 billion yuan, an average growth rate of 26.67%.

C. The asset scale of Xiamen's financial industry grew rapidly (see Table 7.7).

As shown by the information in Table 7.7, five financial enterprises in Xiamen were listed among China's top 500 financial enterprises in 2015, accounting for 1% of China's top 500 financial enterprises, a net increase of two financial enterprises compared with three financial enterprises in 2014, up 66.7%; the total asset scale was more than 720 billion yuan, an average growth rate of 35.30%.

D. The asset scale of the financial industry in Hainan expanded rapidly (see Table 7.8).

As shown by the information in Table 7.8, four financial enterprises in Hainan were listed among China's top 500 financial enterprises in 2015, accounting for 0.8% of China's top 500 financial enterprises, a net increase of two financial enterprises

**Table 7.6** Statistics on the asset scale of Zhuhai and Shantou's financial enterprises listed among China's top 500 financial enterprises and their asset growth rates in 2015 (unit: 100 million yuan)

Ranking in Zhuhai and Shantou's banking sector	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Special economic zone	Total assets in 2015	Total asset growth rate (%)
1	33	139	China Resources Bank of Zhuhai Co., Ltd.	Bank	Zhuhai	1163.94	8.24
2	35	147	Guangdong Huaxing Bank	Bank	Shantou	1060.32	55.38
3	92	500	Morgan Stanley Bank (China)	Bank	Zhuhai	32.37	16.40
Total						2256.63	
Average							26.67

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

compared with two financial enterprises in 2014, up 50%; the total asset scale was more than 250 billion yuan, an average growth rate of 108.35%.

E. The asset scale of the financial industry in Pudong New Area of Shanghai increased rapidly (see Table 7.9).

As shown by the information in Table 7.9, 42 financial enterprises in Pudong New Area of Shanghai were listed among China's top 500 financial enterprises in 2015, accounting for 8.4% of China's top 500 financial enterprises, a net increase of 3 financial enterprises compared with 39 financial enterprises in 2014, up 7.7%; the total asset scale was about 19 trillion yuan, an average growth rate of 25.99%.

F. The asset scale of the financial industry in Binhai New Area of Tianjin increased rapidly (see Table 7.10).

As shown by the information in Table 7.10, 5 financial enterprises in the Binhai New Area of Tianjin were listed among China's top 500 financial enterprises in 2015, accounting for 1% of China's top 500 financial enterprises, a net increase of 1 financial enterprise compared with 4 financial enterprises in 2014, up 25%; the total asset scale was more than 450 billion yuan, an average growth rate of 52.07%.

**Table 7.7** Statistics on the asset scale of Xiamen's financial enterprises listed among China's top 500 financial enterprises and their asset growth rates in 2015 (unit: 100 million yuan)

Ranking in Xiamen's banking sector	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
1	10	47	Xiamen International Bank	Bank	4592.05	31.60
2	25	107	Xiamen Bank	Bank	1603.20	34.60
3	40	163	Xiamen Rural Commercial Bank	Bank	919.11	48.79
4	81	453	Great Wall Glory Securities	Negotiable securities	56.25	43.61
5	84	474	Xiamen International Trust	Trust	44.88	17.92
Total					7215.49	
Average						35.30

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

### ***7.1.2 The Financial Industry in the Special Economic Zones Exerted a Rapidly Increasing Influence at Home and Abroad***

1. The financial industry in the special economic zones rose rapidly in the domestic ranking (see Table 7.11)

As shown by the information in Table 7.11, 10 financial enterprises in the special economic zones were listed among FORTUNE's list of China's top 500 in 2015, an increase of 2 financial enterprises compared with 2014; 6 financial enterprises were listed among FORTUNE's list of China's top 100, suggesting that the large financial enterprises became larger and the degree of concentration increased continuously in the financial industry in the special economic zones.

**Table 7.8** Statistics on the asset scale of Hainan's financial enterprises listed among China's top 500 financial enterprises and their asset growth rates in 2015 (unit: 100 million yuan)

Ranking in Hainan's banking sector	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
1	27	118	Sunshine Life Insurance	Insurance	1476.05	53.99
2	43	178	Haikou Rural Commercial Bank	Bank	823.16	137.63
3	61	364	Goldstate Securities	Negotiable securities	163.35	26.78
4	82	454	Wanho Securities	Negotiable securities	55.44	215.00
Total					2518.0	
Average						108.35

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

Increasing domestic influence from the financial industry in the special economic zones in 2015 was reflected in not only traditional finance but also in Internet finance (see Tables 7.12, 7.13, 7.14 and 7.15).

Based on Tables 7.12, 7.13, 7.14 and 7.15, the following conclusions can be drawn: First, the overall development level was relatively high. Ten, fifteen and twelve enterprises among the top 30 P2P, online insurance and internet payment enterprises came from Shenzhen, Pudong of Shanghai, Binhai of Tianjin and Hainan, accounting for 33, 50 and 40%, respectively; there were 4, 3 and 2 enterprises among the top 10 enterprises specializing in internet hire purchase, internet funding and big data finance, accounting for 40, 30 and 20%, respectively. Six, eight, five and five enterprises among the top 20 enterprises specializing in internet wealth management, internet crowdfunding, internet securities and direct banking came from Shenzhen, Pudong of Shanghai and Zhuhai, accounting for 30, 40, 25 and 25%, respectively. Second, they had always been at the forefront nationwide. Thanks to many advantages of the special economic zones, first-ever implementation of pilot programs, leading-edge science and technology, strong talent foundation, vigorous support from the governments of the special economic zones, a number of policies for promoting the healthy development of internet finance and the establishment of several internet financial industry parks, internet finance enterprises increased rapidly. As of late 2015, there were more than 4000 internet financial enterprises in the special economic zones, accounting for about 50% of internet financial enterprises nationwide. Third, internet

**Table 7.9** Statistics on the asset scale of financial enterprises from Pudong of Shanghai listed among China's top 500 financial enterprises and their asset growth rates in 2015 (unit: 100 million yuan)

Ranking in the financial industry in Pudong of Shanghai	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
1	1	7	Bank of Communications	Bank	71,553.62	14.15
2	3	11	Shanghai Pudong Development Bank	Bank	50,443.52	20.22
3	6	22	Bank of Shanghai	Bank	14,491.40	22.04
4	7	24	Hang Seng China	Bank	11,172.25	6.00
5	8	31	China Pacific Life Insurance	Insurance	7615.42	12.75
6	11	52	Sino Life	Insurance	4091.56	71.25
7	12	53	HSBC China	Bank	3896.55	-8.48
8	13	60	Guotai Junan Securities	Negotiable securities	3515.67	43.65
9	14	62	Tai Ping Life	Insurance	3300.89	12.41
10	18	83	BEA China	Bank	2197.79	1.37
11	21	96	Standard Chartered Bank China	Bank	1792.10	-14.39
12	22	99	Tianan Insurance	Insurance	1692.19	274.03
13	24	106	Citibank China	Bank	1633.27	3.61
14	28	122	Mitsubishi China	Bank	1419.35	-7.42

(continued)

**Table 7.9** (continued)

Ranking in the financial industry in Pudong of Shanghai	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
15	31	132	CPIC Property Insurance	Insurance	1250.11	9.17
16	34	143	Mizuho China	Bank	1092.48	15.47
17	36	155	Nanyang Commercial Bank (China)	Bank	966.67	3.30
18	37	156	Mitsui China	Bank	965.89	-2.40
19	38	157	DBS China	Bank	953.29	-2.78
20	42	172	Guohua Life	Insurance	857.13	65.18
21	44	183	Fist Sino Bank	Bank	736.47	19.55
22	45	191	CCB Life	Insurance	691.90	70.48
23	46	194	ICBC-AXA Life	Insurance	665.67	64.29
24	49	250	UOB China	Bank	431.57	-11.97
25	50	264	China Continent Property & Casualty Insurance	Insurance	386.02	27.20%
26	51	267	OCBC China	Bank	373.33	-31.22
27	52	287	Sino-US United MetLife Insurance	Insurance	326.38	23.36
28	55	344	Manulife-Sinochem Life	Insurance	193.32	23.16
29	57	351	Shanghai Life	Insurance	183.11	15

(continued)



**Table 7.9** (continued)

Ranking in the financial industry in Pudong of Shanghai	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
30	64	371	Allianz China Life Insurance	Insurance	151.14	18.97
31	67	395	Aegon THTF Life Insurance	Insurance	114.70	18.36
32	68	398	AXA Tianping P&C Insurance	Insurance	112.12	9.52
33	69	405	Alltrust Property Insurance	Insurance	101.10	0.02
34	72	416	Hwabao Trust	trust	86.11	12.53
35	75	436	Royal Bank of Scotland (China)	Bank	67.52	-54.61
36	76	438	Taiping Pension	Insurance	66.11	17.45
37	77	442	Aijian Securities	Negotiable securities	63.52	65.74
38	80	450	PKU Founder Life	Insurance	58.82	30.62
39	83	457	HSBC Life	Insurance	51.95	40.44
40	88	486	Huajin Securities	Negotiable securities	39.79	74.77
41	90	495	Zurich General Insurance	Insurance	34.39	151.02
42	91	498	Cathay Lujiazui Life Insurance	Insurance	32.61	9.54
Total					189,868.8	
Average						25.99

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

**Table 7.10** Statistics on the asset scale of financial enterprises from Binhai New Area of Tianjin listed among China's top 500 financial enterprises and their asset growth rates in 2015 (unit: 100 million yuan)

Ranking in the banking sector in Binhai of Tianjin	Ranking in the special economic zone's top 92	Ranking in China's top 500	Name	Type	Total assets in 2015	Total asset growth rate (%)
1	16	74	Huaxia Life Insurance	Insurance	2638.44	102.41
2	29	127	Binhai Rural Commercial Bank	Bank	1299.17	32.35
3	48	246	Bohai Securities	Negotiable securities	451.96	96.57
4	70	407	Bohai Life	Insurance	96.43	15
5	87	480	Northern International Trust	Trust	42.65	14.01
Total					4528.65	
Average						52.07

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

finance was available in diverse and relatively complete business types in the special economic zones. The highly influential business types included P2P, online insurance, internet payment, internet hire purchase, internet funding, big data finance, internet wealth management, internet crowdfunding, internet securities and direct banking; furthermore, the pure internet bank WeBank also emerged in the special economic zones. Fourth, there was deep involvement of the traditional financial industry such as banks, securities, insurance and funding. Fifth, regional concentration tended to increase. The special economic zones with highly developed internet finance mainly include Shenzhen and Pudong of Shanghai. There were 2300 and nearly 300 relevant enterprises in Shenzhen and Pudong of Shanghai, respectively. Thanks to the attraction from the Shanghai Pilot Free Trade Zone, well-known domestic enterprises, including Alibaba, Baidu, Wanda, Jingdong, Vipshop, ctrip.com, NetEase, Haier and Greenland, have settled their internet financial business in Pudong of Shanghai or have established relevant internet financial companies in Pudong of Shanghai. Last year, the head office of AliPay was relocated to Shanghai. Major third-party payment organizations, such as UnionPay, ChinaPnR and 99bill.com, have gathered in Shanghai. At present, the business volume in Shanghai has accounted for more than

**Table 7.11** Statistics on the changes in the ranking of the financial enterprises in the special economic zones among China's top 500 financial enterprises in 2015 (unit: 1 million yuan)

Ranking	Ranking in 2014	Name of financial enterprise	Operating income	Profit	Special economic zone where financial enterprise is located
8	11	China Ping An	619,990	54,203	Shenzhen
21	22	CPIC	247,202	17,728	Shanghai Pudong
26	29	China Merchants Bank	201,471	57,696	Shenzhen
28	27	Bank of Communications	193,828	66,528	Shanghai Pudong
38	41	Shanghai Pudong Development Bank	146,550	50,604	Shanghai Pudong
61	77	Ping An Bank	96,163	21,865	Shenzhen
156	–	Guotai Junan Securities	37,596	15,700	Shanghai Pudong
195	384	Guosen Securities	29,139	13,949	Shenzhen
220	404	Merchants Securities	25,291	10,908	Shenzhen
493	–	BohaiCapital	9659	1304	Tianjin Binhai

Source Ranking List of China's Top 500 released by *FORTUNE* in 2016

50% in the domestic third-party payment field. Well-known domestic online financing platforms, including Lufax, ppdai.com and dianrong.com, internet sales and wealth management platforms, such as eastmoney.com, static.ifaclub.com and howbuy.com, leading domestic financial information enterprises, such as wind.com.cn and gw.com.cn, have been present in Shanghai.

2. The financial industry in the special economic zones rose rapidly in the global ranking (see Table 7.16)

As shown by the information in Table 7.16, the positions of five financial enterprises from the special economic zones among the Global 500 in 2015 greatly improved compared with 2014 in terms of their operating income. CPIC, Shanghai Pudong Development Bank and China Ping An improved by 77, 69 and 55 places respectively, even the relatively slow-moving China Merchants Bank and Bank of Communications rose by 46 and 37 places, respectively.

**Table 7.12** Statistics on the ranking of the top 30 financial enterprises specializing in P2P, online insurance and internet payment in 2015

Top 30 P2P enterprises			Top 30 online insurance enterprises			Top 30 internet payment enterprises		
Ranking	Name	Registration place	Ranking	Name	Registration place	Ranking	Name	Registration place
1	Hongling Capital	Shenzhen	1	China Ping An	Shenzhen	1	AliPay	Hangzhou
2	Lufax	Shanghai Pudong	2	China Life Insurance	Beijing	2	Tenpay	Shenzhen
3	xinhehui.com	Hangzhou	3	CPIC	Shanghai Pudong	3	Chinabank Payments	Beijing
4	PPmoney	Guangzhou	4	New China Life Insurance	Beijing	4	China UMS	Shanghai Pudong
5	CreditEase	Beijing	5	PICC	Beijing	5	99bill.com	Shanghai Pudong
6	renrendai.com	Beijing	6	Taikang Life Insurance	Beijing	6	ChinaPay e-Payment	Shanghai Pudong
7	kxjf.com	Nanjing	7	China Taiping	Shenzhen	7	Ips.com	Shanghai

(continued)

Table 7.12 (continued)

Top 30 P2P enterprises			Top 30 online insurance enterprises			Top 30 internet payment enterprises		
Ranking	Name	Registration place	Ranking	Name	Registration place	Ranking	Name	Registration place
8	iqianjin.com	Shanghai Pudong	8	Sino Life	Shanghai Pudong	8	UnionPay Network	Guangzhou
9	eloancn.com	Beijing	9	Anbang Insurance	Beijing	9	Suning Pay	Nanjing
10	haijincang.com	Beijing	10	Sunshine Insurance	Beijing	10	PayEase	Beijing
11	weidai.com.cn	Hangzhou	11	Continent Insurance	Shanghai Pudong	11	qiandai.com	Beijing
12	itouzi.com	Beijing	12	Union Life	Wuhan	12	lakala.com	Beijing
13	itouni.com	Beijing	13	Foresea Life Insurance	Shenzhen	13	All In Pay	Shanghai Pudong
14	niwodai.com	Shanghai Pudong	14	Guohua Life	Shanghai Pudong	14	Baidu Wallet	Beijing
15	xiaomiu88.com	Shenzhen	15	Tianan Insurance	Shanghai Pudong	15	shengpay.com	Shanghai Pudong

(continued)

Table 7.12 (continued)

Top 30 P2P enterprises			Top 30 online insurance enterprises			Top 30 internet payment enterprises		
Ranking	Name	Registration place	Ranking	Name	Registration place	Ranking	Name	Registration place
16	9888.cn	Beijing	16	CCB Life	Shanghai Pudong	16	KFTPAY	Shenzhen
17	jinxin99.cn	Beijing	17	zhongmin.cn	Shenzhen	17	easipay.net	Shanghai Pudong
18	rtjc.com	Shenzhen	18	ICBC-AXA	Shanghai Pudong	18	yeepay.com	Beijing
19	yooli.com	Beijing	19	Happy Life	Beijing	19	YuFu Payment	Beijing
20	haodaitao.com	Beijing	20	Huatai Insurance	Beijing	20	KLT PAY	Beijing
21	touna.cn	Shenzhen	21	Hua Insurance	Tianjin Binhai	21	Ping An Pay (electronic)	Shenzhen
22	etongdai.com	Beijing	22	Dragon Life	Beijing	22	LianLian Pay	Hangzhou
23	tdw.cn	Dongguan	23	Sinosafe Insurance	Shenzhen	23	Ping An Pay (technology)	Shenzhen

(continued)

Table 7.12 (continued)

Top 30 P2P enterprises			Top 30 online insurance enterprises			Top 30 internet payment enterprises		
Ranking	Name	Registration place	Ranking	Name	Registration place	Ranking	Name	Registration place
24	imzhongxin.com	Dalian	24	Yong An Insurance	Xi'an	24	umfintech.com	Beijing
25	ppdai.com	Shanghai Pudong	25	huize.com	Shenzhen	25	shfft.com	Shanghai
26	wsloan.com	Wenzhou	26	China Insurance	Beijing	26	sandpay.com.cn	Beijing
27	yinker.com	Beijing	27	Alltrust Property Insurance	Shanghai Pudong	27	Yinsheng E-Pay	Shenzhen
28	jinyinmao.com.cn	Shanghai Pudong	28	Cinda P&C	Beijing	28	PnR Data	Shanghai
29	jimu.com	Beijing	29	Guoyuan Agricultural Insurance	Hefei	29	New Pay Information	Hainan
30	xinrong.com	Shenzhen	30	xyz.cn	Nanjing	30	gopay.com.cn	Beijing

Source relevant statistical data released by *China Internet Week* in 2015

**Table 7.13** Statistics on the top 10 enterprises specializing in internet hire purchase, internet funding and big data finance in 2015

Internet hire purchase				Internet funding				Big data finance			
Ranking	Name	Registration place	Ranking	Name	Registration place	Ranking	Name	Registration place			
1	fenqi.com	Shenzhen	1	fund.eastmoney.com	Shanghai	1	Ant Financial Services	Hangzhou			
2	fenqi.renren.com	Hangzhou	2	account.fund123.cn	Hangzhou	2	Bangbangdai	Beijing			
3	qufenqi.com	Beijing	3	zlfun.cn	Shenzhen	3	JD Finance	Beijing			
4	ufenqi.com	Shenzhen	4	yilucaifu.com	Beijing	4	Wind Information	Shanghai Pudong			
5	fen360.com	Shenzhen	5	howbuy.com	Shanghai	5	geortm.com	Beijing			
6	99fenqi.com	Beijing	6	fund.10jqka.com.cn	Hangzhou	6	chinabigdata.com	Shenzhen			
7	renfenqi.com	Shanghai Pudong	7	myfund.com	Beijing	7	justfoun.com	Beijing			
8	renrenfenqi.com	Hangzhou	8	Noah Upright	Shanghai	8	zlw.com	Beijing			
9	juzifenqi.com	Dalian	9	erichfund.com	Shanghai Pudong	9	Wecash	Beijing			
10	jindoufenqi.com	Beijing	10	Tianshengwocai	Shanghai Pudong	10	100credit.com	Beijing			

Source relevant statistical data released by *China Internet Week* in 2015



**Table 7.14** Statistics on the top 20 internet wealth management and internet crowdfunding enterprises in 2015

Internet wealth management			Internet crowdfunding		
Ranking	Name	Registration place	Ranking	Name	Registration place
1	Ant Financial Services	Hangzhou	1	JD Crowdfunding	Beijing
2	JD Finance	Beijing	2	izhongchou.taobao.com	Hangzhou
3	rong360.com	Beijing	3	gongyi.qq.com	Shenzhen
4	tongbanjie.com	Hangzhou	4	Suning Crowdfunding	Nanjing
5	jinrong.baidu.com	Beijing	5	zhongchou.com	Beijing
6	Ezubao	Beijing	6	qingju.com	Shanghai Pudong
7	wacai.com	Hangzhou	7	demohour.com	Beijing
8	jfz.com	Shenzhen	8	dreamore.com	Shanghai
9	Suning Finance	Nanjing	9	coinvs.com	Beijing
10	solarbao.com	Nanjing	10	angelcrunch.com	Tianjin Binhai
11	zhimajinrong.com	Shanghai Pudong	11	renrentou.com	Beijing
12	lemonp2p.com	Shanghai Pudong	12	angelclub.com	Shenzhen
13	juzilicai.com	Shenzhen	13	yunchou.com	Shenzhen
14	madailicai.com	Shanghai	14	musikid.com	Beijing
15	jrj.com	Shanghai Pudong	15	yuanshihui.com	Beijing
16	licai.com	Beijing	16	tianshijie.com.cn	Beijing
17	comb.qianjing.com	Beijing	17	ihetou.com	Shenzhen
18	wind.com.cn	Beijing	18	dajiatou.com	Shenzhen
19	qianxs.com	Shanghai Pudong	19	hehuozg.com	Shijiazhuang
20	zhenrongbao.com	Beijing	20	ziben365.com	Shenzhen

Source Relevant statistical data released by *China Internet Week* in 2015

### ***7.1.3 The Aggregation of the Financial Industry in the Special Economic Zones Increased Rapidly***

In 2015, with the continuous improvement of the financial ecological environment in the special economic zones and vigorous support from the governments of the special economic zones, domestic and foreign financial resources were concentrated in the special economic zones.

**Table 7.15** Statistics on the top 20 internet securities and direct banks in 2015

Internet securities			Direct bank		
Ranking	Name	Registration place	Ranking	Name	Registration place
1	Citic Securities	Shenzhen	1	Direct bank of Minsheng Bank	Beijing
2	GF Securities	Guangzhou	2	Direct bank of Industrial Bank	Fuzhou
3	Huatai Securities	Nanjing	3	ICBC e banking	Beijing
4	Guotai Junan Securities	Shanghai Pudong	4	Direct bank of Bank of Jiangsu	Nanjing
5	Merchants Securities	Shenzhen	5	Direct bank of Huishang Bank (Huichangyoucai)	Hefei
6	Guosen Securities	Shenzhen	6	CRBC direct bank	Zhuhai
7	Caida Securities	Shijiazhuang	7	Direct bank of China Zheshang Bank	Hangzhou
8	Haitong Securities	Shanghai	8	Direct bank of Shanghai Pudong Development Bank	Shanghai Pudong
9	China Securities	Beijing	9	yiguanjinrong.com	Shenzhen
10	Galaxy Securities	Beijing	10	Direct bank of Bank of Ningbo	Ningbo
11	Founder Securities	Changsha	11	xiaomabank.com	Baotou
12	Industrial Securities	Fuzhou	12	Direct bank of Bank of Beijing	Beijing
13	Ping An Securities	Shenzhen	13	mybos.com	Shanghai Pudong
14	Soochow Securities	Suzhou	14	Direct bank of China Bohai Bank	Tianjin
15	Guoyuan Securities	Hefei	15	cz.pingan.com	Shenzhen
16	Xiangcai Securities	Changsha	16	Wenzhou Minshang Bank	Wenzhou
17	Sealand Securities	Nanning	17	Direct bank of Bank of Xi'an (New Silk Road Bank)	Xi'an

(continued)

**Table 7.15** (continued)

Internet securities			Direct bank		
Ranking	Name	Registration place	Ranking	Name	Registration place
18	Sinolink Securities	Chengdu	18	nihobank.com	Nanjing
19	Dongguan Securities	Dongguan	19	Direct bank of Bank of Chongqing	Chongqing
20	Hengtai Securities	Hohhot	20	Direct bank of Bank of Huaxia Bank	Beijing

Source Relevant statistical data released by *China Internet Week* in 2015

**Table 7.16** Statistics on the changes in the ranking of financial enterprises in the special economic zones among the world's top 500 in 2015 (unit: 1 million yuan)

Ranking in the current year	Ranking in the previous year	Increase	Company name	Operating income	Head office
41	96	55	China Ping An	110,307.9	Shenzhen
153	190	37	Bank of Communications	57,068.2	Shanghai
189	235	46	China Merchants Bank	48,459.3	Shenzhen
227	296	69	Shanghai Pudong Development Bank	42,030.0	Shanghai
251	328	77	CPIC	35,339.8	Shanghai

Source Global 500 List released by *FORTUNE* on July 20, 2016

### 1. The aggregation effect of financial enterprises was very obvious

Take Shenzhen as an example, in late 2015, 29,000 enterprises in Qianhai were financial and supporting financial service institutions, accounting for about 50% of the enterprises in Qianhai; 23 factor trading platforms were put into operation or obtained professional qualification. There were 8735 enterprises listed in the Qianhai Equity Exchange, making it No. 1 among regional equity exchange markets nationwide. Take the Binhai New Area of Tianjin as another example; it came out in front in terms of the financing business scale of new business types, such as financial leasing and commercial factoring.

### 2. The aggregation effect of financial assets was very evident

In 2015, the new assets in the financial industry in the special economic zones exceeded 7 trillion yuan, including 3.5 trillion yuan of new assets in the banking

sector, 1 trillion yuan of new assets in the securities industry, 2.5 trillion yuan of new assets in the trust, insurance, funding, futures and leasing industries.

### 3. The aggregation effect of financial market transactions was very apparent

The total market capitalization on the Shanghai Stock Exchange and the Shenzhen Stock Exchange increased from 24 and 13 trillion yuan in 2014 to 29.5 and 15 trillion yuan in 2015, respectively. According to the annual data released by World Federation of Exchanges, the volume of stock trading on the Shanghai Stock Exchange and the Shenzhen Stock Exchange increased by 186% and accounted for more than 1/3 of the total volume of stock trading in the world in 2015. Meanwhile, other factor markets and trading scales also grew rapidly; for example, the total volume of trading on the China Financial Futures Exchange, the interbank market and the Shanghai Gold Exchange reached 417.76, 704.26 and 10.78 trillion yuan and increased by 150, 94.8 and 68.8%, respectively. Moreover, the cross-border RMB amount filed for record in Qianhai exceeded 100 billion yuan.

#### ***7.1.4 The Position of the Pillar Sectors of the Financial Industry in the Special Economic Zones Was Further Consolidated and Improved (see Table 7.17 and Fig. 7.9)***

As shown by the information in Table 7.17 and Fig. 7.9, the growth rate of the added value of the financial industry in the special economic zones was 0.3 percentage points higher than the national average growth rate, the ratio of the added value of the financial industry to the GDP was 2.2 percentage points higher than the national average ratio in 2015. This suggests that the financial industry received more support from the special economic zones than other areas and the contribution from the financial industry to the economic growth of the special economic zones was much greater than that in other areas.

#### ***7.1.5 Marked Progress Was Made in the Transformation of the Financial Industry in the Special Economic Zones***

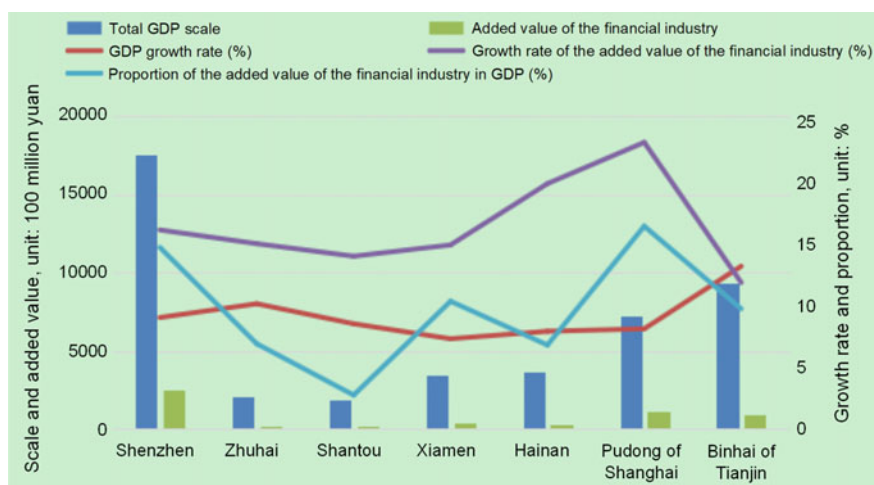
##### 1. The differentiation of the operating strategy started to appear

The Bank of Communications made its operation management flat through reform of the business division system. China Merchants Bank reformed its internal organizational structure according to the business system dominated by retail finance and supported by corporate finance and interbank finance so that its business operations

**Table 7.17** Analysis of the position of the special economic zones' financial industry in the economy of the special economic zones in 2015 (unit: 100 million yuan)

Special economic zone	Total GDP scale	GDP growth rate (%)	Added value of the financial industry	Growth rate of the added value of the financial industry (%)	Proportion of the added value of the financial industry in GDP (%)
Shenzhen	17,502.99	8.9	2542.82	15.9	14.5
Zhuhai	2024.98	10.0	138.00	14.8	6.8
Shantou	1850.01	8.4	48.71	13.8	2.7
Xiamen	3466.01	7.2	353.39	14.7	10.2
Hainan	3702.8	7.8	247.01	19.6	6.7
Shanghai Pudong	7200	8.0	1168.56	22.9	16.2
Tianjin Binhai	9300	13.0	889.28	11.7	9.6
SAR total	45,046.79		5387.77		
SAR average				16.2	9.5
National average				15.9	7.3

Source *Statistical Communiqué on National Economic and Social Development, Report on the Development of the Financial Industry in the Period of the 12th Five-Year Plan* involving the special economic zones in 2015

**Fig. 7.9** Analysis of the status of the financial industry in the economy of the special economic zones in 2015

became diversified, light, characteristic and intelligent. Shanghai Pudong Development Bank extended its business operations to a number of business types, including banking, funding, trusts, leasing, overseas investment banking, technology banking, village banking and money brokers through the arrangement of a full-license financial holding group to seek development driven by financing + wisdom pooling + business opportunities + internet finance. Ping An Bank broke away from homogenization and achieved differentiated development by going deep into professionalization, intensive operation, comprehensive finance and internet finance.

## 2. The diversification of profit sources preliminarily took shape

In 2015, as the interest rate differential declined, the profits in the banking sector in the special economic zones were greatly affected, but rapidly increasing income from intermediate business largely offset the adverse impact from the decreasing interest rate differential. For example, thanks to the all-round rapid growth of non-credit business, including investment banks, custody, bills, wealth management and gold, the non-interest income of Ping An Bank in 2015 grew by 47.65% compared with 2014, the proportion of the non-interest income in the operating income increased from 27.74% in 2014 to 31.26% in 2015. That proportion in other banks in the special economic zones did not exceed 30%, but the structural indicators involving non-interest income sources greatly improved, for example, the interbank business volume and private banking client assets at the Bank of Communications soared by 295% and 39.97% in 2015; the net charge and commission income at China Merchants Bank surged by 35.26%; the intermediate business income at Shanghai Pudong Development Bank grew by two times.

## 7.2 Major Problems in the Development of the Financial Industry in China's Special Economic Zones in 2015

### 7.2.1 *Accelerated Aggregation of Risks in the Financial Industry*

1. The aggregation of operational risks in the banking sector tended to accelerate
  - (1) The scale of non-performing loans increased (see Figs. 7.10 and 7.11).

As shown by the information in Figs. 7.10 and 7.11, the scale of non-performing loans at four listed banks within the special economic zones was on the increase and reached 73.24, 103.01 and 156.31 billion yuan, their average growth rates hit 34.4, 45.5 and 57.7% during the period of 2013–2015, suggesting that the turning point for reaching the highest scale of non-performing loans had not yet come.

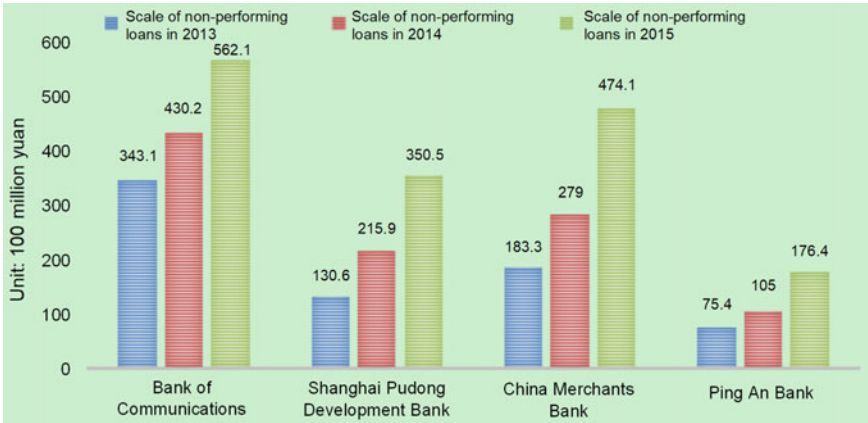


Fig. 7.10 Statistics on the changes in the scale of non-performing loans at listed banks in special economic zones, 2013–2015

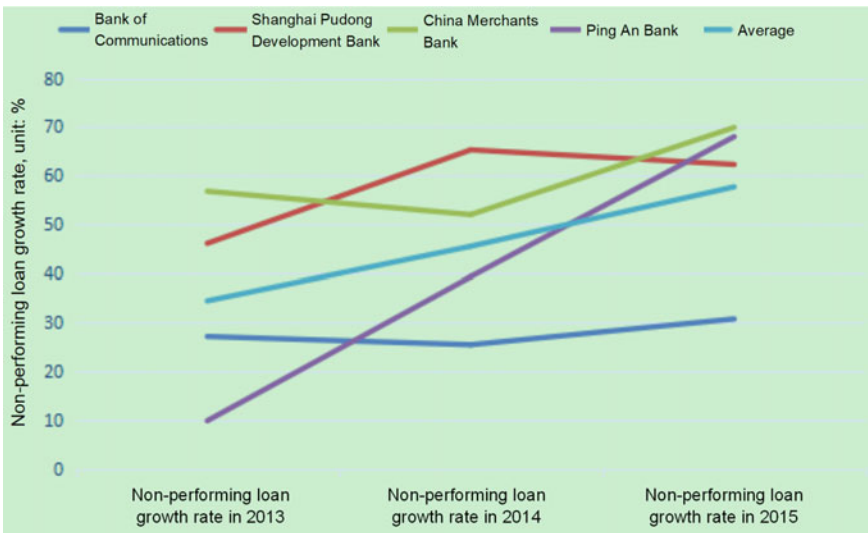
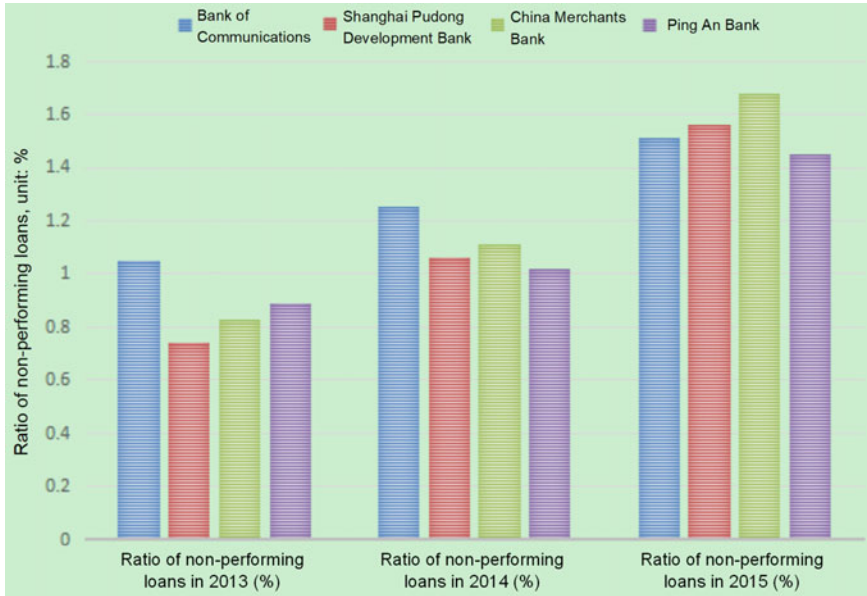


Fig. 7.11 Statistics on the changes in the scale of non-performing loans at listed banks in the special economic zones, 2013–2015

(2) The ratio of non-performing loans was on the rise (see Fig. 7.12).

As indicated by the information in Fig. 7.12, the ratio of non-performing loans at listed banks within the special economic zones climbed, their average ratios reached 0.88%, 1.11% and 1.55%, the rates of their net increases were 0.11, 0.23 and 0.44% during the period of 2013–2015, showing a sign of increase in non-performing loans in the banks within the special economic zones.



**Fig. 7.12** Statistics on the changes in the ratio of non-performing loans at listed banks in the special economic zones, 2013–2015

(3) The provision coverage was on the decrease (see Fig. 7.13).

As shown by the information in Fig. 7.13, the average provision coverage of four listed banks within the special economic zones decreased year by year and was 250.1, 215.6 and 177.94% during the period of 2013–2015, suggesting decreasing profit-making defense for the banking sector in the special economic zones and increasing risks from non-performing assets.

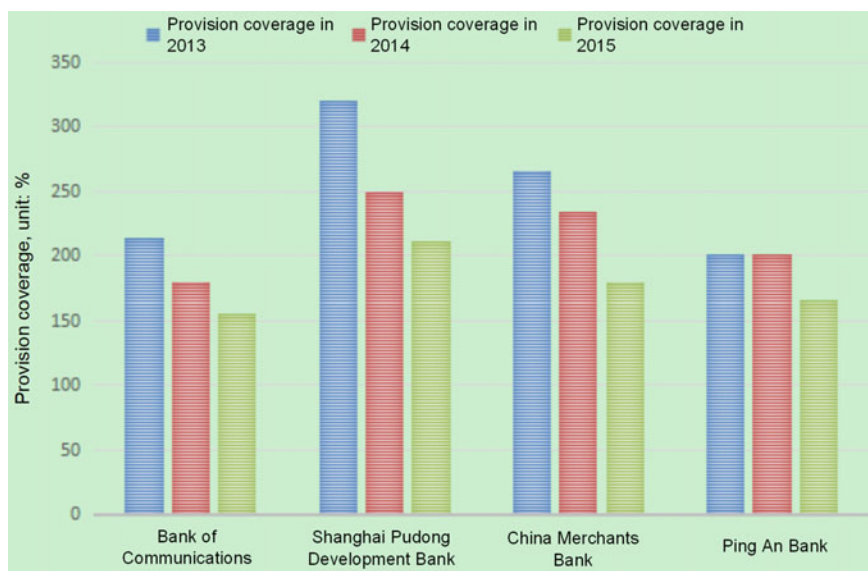
2. The aggregation of operational risks in the nonbank financial sectors tended to increase more rapidly

In early 2015, with multiple favorable factors, dual leverage of unlicensed funding and licensed financing for stock trading, the stock market surged, Shanghai securities composite index peaked at 5178; as the index was abnormally high and the regulator strictly cleared out unlicensed funding and carried out deleveraging, the stock market declined enormously, 90% of the stocks plummeted by 50% in the period June–July, 2015. As the stock market slumped, securities, insurance, trust investments and funding companies saw a decrease in the shape of the operating income and profits, some nonbank financial institutions even had operational trouble.

3. The aggregation of operational risks in internet financing tended to rise faster

As of late 2015, there were nearly 3000 internet financial enterprises and more than 2000 internet platforms in the special economic zones, among which nearly





**Fig. 7.13** Statistics on the changes in provision coverage at listed banks in the special economic zones, 2013–2015

1000 platforms were problematic, accounting for almost 50%. For example, the Shenzhen Gold Match Silver Fund, making a great impact, had recently failed to make redemption at maturity, incurring billions of losses to investors; four executives of the Dada Group were detained and its accounts were attached by police due to illegal fund raising, redemptions for investors amounting to 4 billion yuan were suspended.

### ***7.2.2 Increasing Severe Developmental Imbalance in the Financial Industry***

1. The developmental imbalance among areas in the financial industry tended to increase (see Table 7.18)

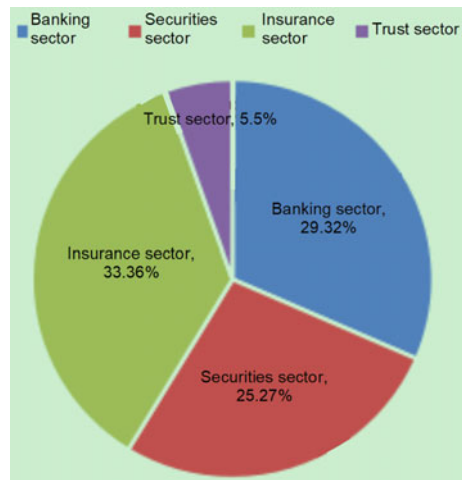
According to the information in Table 7.18, 92 financial institutions in the special economic zones were included in the Ranking List of China's Top 500 Financial Enterprises released by *NetEase Finance*, but there were 75 financial institutions registered in Shenzhen and Pudong of Shanghai, accounting for 81.5%, the distribution of assets was unbalanced, the assets in Shenzhen and Pudong of Shanghai accounted for 94.94%; only 17 financial institutions in the other special economic zones were included in the Ranking List, accounting for only 18.5%; their assets made up only

**Table 7.18** Statistics on the financial enterprises from the special economic zones listed among China’s top 500 financial enterprises in 2015 (unit: 100 million yuan)

Name of special economic zone	Number of financial enterprises listed among China’s top 500	Proportion (%)	2015 total assets	Proportion (%)
Shenzhen	33	35.88	120,497.1	36.86
Zhuhai	2	2.17	1196.31	0.37
Shantou	1	1.07	1060.32	0.32
Xiamen	5	5.43	7215.49	2.2
Hainan	4	4.35	2518.0	0.77
Shanghai Pudong New Area	42	45.65	189,868.8	58.08
Tianjin Binhai New Area	5	5.43	4528.65	1.39
Total	92	100	326,884.7	100

Source Ranking List of China’s Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

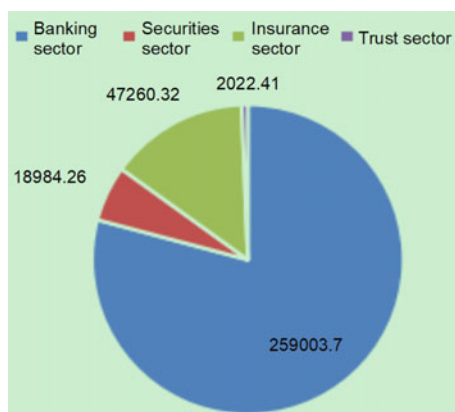
**Fig. 7.14** Proportions of financial enterprises from the special economic zones in China’s top 500 in 2015



5.06%; only two and one financial institutions in Zhuhai and Shantou, respectively, were included in the Ranking List.

2. The developmental imbalance among the sectors of the financial industry tended to become more severe (see Figs. 7.14 and 7.15)

As shown by the information in Figs. 7.14 and 7.15, the number of financial enterprises from the financial industry of the special economic zones listed among



**Fig. 7.15** Statistics on the assets scale of financial enterprises from the special economic zones among China's top 500 in 2015 (unit: 100 million yuan)

**Table 7.19** Statistics on the rate of asset growth differences among the financial enterprises from the special economic zones listed among China's top 500 in 2015 (unit: %)

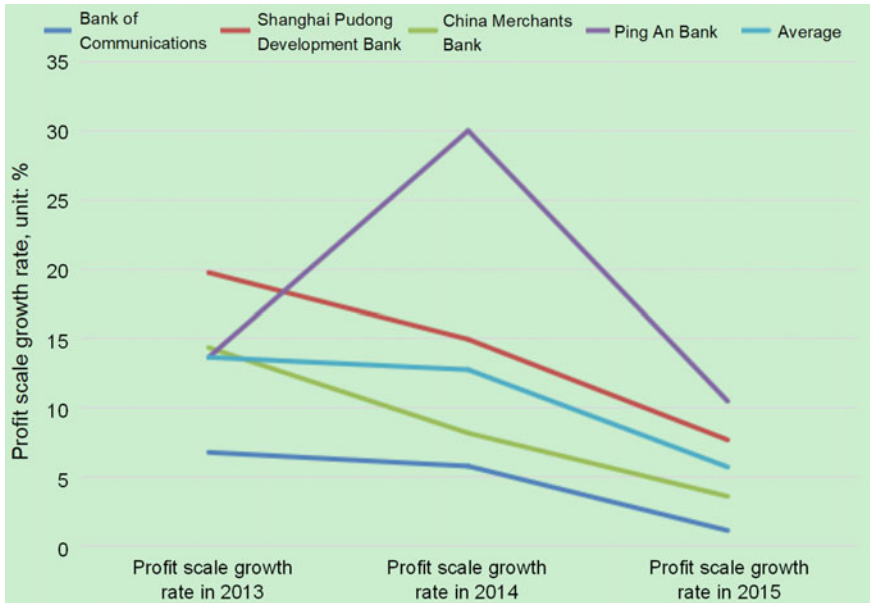
Growth rate	The banking sector		The securities sector		The insurance sector		The trust sector	
	Name	Growth rate	Name	Growth rate	Name	Growth rate	Name	Growth rate
Highest	Haikou Rural Commercial Bank	137.6	Lianchu Securities	215.4	Funde Property & Casualty Insurance		Ping An Trust	27.4
Lowest	Royal Bank of Scotland (China)	-54.6	Citic Securities	38.9	Asia-Pacific Property & Casualty Insurance		Hwabao Trust	12.5
Difference		191.9		176.8				14.9

Source Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance* on August 26, 2016

China's top 500 seemed to be distributed among banking, securities and insurance in a balanced way, but the assets of the banking sector were obviously dominant and accounted for 79.32%, while that of the securities, insurance and trust industries accounted for only 5.81, 14.16 and 0.62%, respectively.

3. There was a tendency towards an increase in the rate of the developmental imbalance among the financial sectors (see Table 7.19)

As indicated by the information shown in Table 7.19, in 2015, the assets of the financial enterprises from the trust sector listed among China's top 500 grew at a relatively stable rate, while that of other financial enterprises from the banking, securities and insurance sectors in the special economic zones listed among China's



**Fig. 7.16** Statistics on the changes in the profit scale and growth rate of listed banks in the special economic zones, 2013–2015

top 500 showed great differences in growth rate and grew by 191.9, 176.8 and 553.7%, respectively.

4. The imbalance in the survival state increased among the sectors of the financial industry

(1) It was increasingly hard for the banking sector to survive (see Fig. 7.16).

As shown by the information in Fig. 7.16, in 2015, the net profit of the listed banks in the special economic zones continued to decline and its double-digit growth rate, which lasted for many years, ended for the first time and its growth rate was only 5.64%; unless something unexpected happens, it is likely that zero growth will generally occur in 2016.

(2) The operations of the nonbank financial sectors reached the peak of their boom.

First, the operations of the securities sector generally stood at the peak of their boom (see Tables 7.20 and 7.21).

According to the statistical results shown in Tables 7.20 and 7.21, the average growth rates of the operating income and profit from the listed securities companies in the special economic zones increased by 119.77 and 143.33% in 2015 on the basis of 83.62 and 114.34% in 2014 respectively, showing that their operating income and net profit grew exponentially compared with 2014 and it was considered as the

**Table 7.20** Statistics on the changes in the operating income of the listed securities companies in the special economic zones, 2013–2015 (unit: 100 million yuan)

Name of listed securities company	2013		2014		2015	
	Scale of operating income	Growth rate	Scale of operating income	Growth rate	Scale of operating income	Growth rate
Citic Securities	161.15	37.81	291.97	81.18	560.13	91.84
Merchants Securities	60.89	30.51	110.02	80.69	252.92	129.87
Guosen Securities	67.76	11.46	117.92	74.14	291.39	147.1
Guotai Junan Securities	90.08	15.52	178.81	98.49	375.97	110.25
Average		23.82		83.62		119.77

*Source* Annual reports of the listed securities companies in the special economic zones during the period 2013–2015

**Table 7.21** Statistics on the changes in profits of the listed securities companies in the special economic zones, 2013–2015 (unit: 100 million yuan)

Name of listed securities company	2013		2014		2015	
	Profit scale	Growth rate	Profit scale	Growth rate	Profit scale	Growth rate
Citic Securities	52.43	23.75	113.37	116.2	198.00	74.64
Merchants Securities	22.29	35.46	38.50	72.70	109.09	183.29
Guosen Securities	21.08	14.05	49.27	133.75	139.49	183.08
Guotai Junan Securities	28.78	15.62	67.58	134.73	157.00	132.32
Average		22.22		114.34		143.33

*Source* Annual reports of the listed securities companies in the special economic zones during the period 2013–2015

**Table 7.22** Statistics on the changes in the operating income of the listed insurance companies in the special economic zones, 2013–2015 (unit: 100 million yuan)

Name of listed insurance company	Scale of operating income	Growth rate (%)	Scale of operating income	Growth rate (%)	Scale of operating income	Growth rate (%)	Scale of operating income	Growth rate (%)
China Ping An	2994	20.3	3626	21.1	4629	27.6	6199.90	33.92
CPIC	1714	8.5	1931	12.6	2197.8	13.8	2472.02	12.48
Average		14.4		18.0		22.8		23.2

*Source* Annual reports of the listed insurance companies in the special economic zones during the period 2013–2015

**Table 7.23** Statistics on the changes in profits of the listed insurance companies in the special economic zones, 2013–2015 (unit: 100 million yuan)

Name of listed insurance company	Profit scale	Growth rate (%)	Profit scale	Growth rate (%)	Profit scale	Growth rate (%)	Profit scale	Growth rate (%)
China Ping An	267.5	18.5	281.5	5.2	377.9	34.2	542.03	37.99
CPIC	51.3	−38.9	92.6	80.5	110.5	19.3	177.28	60.45
Average		−10.2		17.3		30.6		49.22

*Source* Annual reports of the listed insurance companies in the special economic zones during the period 2013–2015

sector with staggering profits in the financial industry of the special economic zones in 2015.

Second, the insurance sector generally operated at the peak of its boom (see Tables 7.22 and 7.23).

As shown by Tables 7.22 and 7.23, in 2015, the growth rates of the operating income and profit from the listed insurance companies in the special economic zones cannot be compared to the securities companies, but from the perspective of a vertical comparison, both operating income and profit still grew in an accelerated way.

## **7.3 New Opportunities and Challenges for the Financial Industry in the Special Economic Zones in 2015**

### ***7.3.1 New Opportunities for the Financial Industry in the Special Economic Zones in 2015***

#### **1. New opportunities from the supply-side structural reform**

The year 2016 is the opening year for implementing the 13th Five-Year Plans of the special economic zones and a year during which five tasks relating to the supply-side structural reform—reducing overcapacity, cutting excess inventory, bringing about deleveraging, lowering costs, and strengthening the points of weakness—will be vigorously promoted and remarkable results will be obtained; accordingly, on the one hand, the quality of stock assets in the financial industry of the special economic zones will significantly improve with an obvious decrease in the losses and an improvement of the profitability in the traditional industries, such as coal, iron and steel and nonferrous industries; on the other hand, “green bonds”, low-carbon securities investment funds, asset securitization and debt-to-equity swap fit for the supply-side structural reform will increase markedly.

#### **2. New opportunities from an increasing rate of contribution from the growth of the new economy**

In 2016, the growth of the traditional economy in the special economic zones may still not increase, but the development of the emerging industries may accelerate and their contribution to the economic growth of the special economic zones may continuously increase; as a result, direct and indirect financing may significantly increase in the emerging industries, including information technology, electronics and communication equipment the manufacturing industry, the aviation and aerospace manufacturing industry, cloud computing, big data, virtual reality, artificial intelligence, 3D technology, robot, new energy, new materials, medical services, biotechnology and life science, medical devices, the Internet, medical health, old-age care, sports, cultural entertainment and education.

#### **3. New opportunities from the intensification of financial reform**

In 2016, with further reform in the financial industry of the special economic zones, the following reform dividend will be generated: First, breakthroughs may be made in exploring the transformation from separate supervision to mixed supervision, and the financial holding companies will significantly improve in the freedom of financial innovation and the capability of collaborative work. Taking real estate financing as an example, the real estate enterprises can obtain financing support from direct loans offered by banks, trust financing, special fund accounts issued by the fund subsidiary and asset management plan issued by securities companies. Second, in coordination with supply-side structural reform, the space for innovating the enterprise financing mechanism will be opened, the financial service needs from

enterprise merger and reorganization will increase to some extent. Third, the extent to which the financial industry is open to private capital will continue to rise, private banks will be established, financial institutions, including securities, insurance and trust companies, consisting of private capital will also emerge. Fourth, significant breakthroughs will be made in the securitization of credit assets; this will improve the liquidity of assets in the banking sector of the special economic zones to a certain degree. Fifth, IPO progress will accelerate steadily, the Shenzhen-Hong Kong Stock Connect and the entry of old-age pensions into the stock market are expected to be gradually achieved, thus the securities sector relating to this will obtain benefits directly. Sixth, the reform of the participating insurance expense is expected to fully release policy dividends in early 2016, and tax deferred pension insurance will be introduced; on the one hand, the growth of health insurance premiums is expected to strongly support the premium income for insurance companies; on the other hand, it will further activate the individual pension insurance market.

#### 4. New opportunities from the rapid expansion of the wealth management scale

In 2016, with the growth and accumulation of residents' wealth in the special economic zones, the scale of the wealth management market may reach trillions of yuan; there will be a brisk demand for wealth insurance and inheritance, and huge needs for diversified asset allocation. This brings enormous developmental space to banks, securities, insurance, trust, funding and internet financial companies in the special economic zones for engaging in asset and wealth management. Great achievements will be made in asset securitization, entrusted overseas wealth management, investment-linked insurance, universal insurance, consumption trusts, family trusts, insurance benefit trusts, pension trusts, enterprise annuity trusts, occupational annuity trusts, state-owned assets trusts, employee stock ownership trusts, internet trusts and charitable trusts.

#### 5. New opportunities from Internet Plus penetration

Given that Internet Plus can greatly reduce intermediation, monopolization and information asymmetry, enterprise costs and enhance the experience of enterprises as users, we expect that the rate of Internet Plus penetration in the special economic zones will increase dramatically in 2016. Accordingly, this will create the following business space for the financial industry of the special economic zones: First, this will increase the financial needs concerning the construction of smart cities. In the process of further intelligentizing public services, such as urban medical treatment, health and environmental protection, it is necessary for financial institutions to provide intelligent financial services. Second, this will increase the financial needs relating to intelligent production. In an effort to promote the upgrading and transformation of the traditional enterprises in the special economic zones towards smart factories, it is essential to introduce embedded financial services so that enterprises can enjoy all-round and prompt financial services, the people in the financial industry can extensively and promptly get access to various operational management data on service objects, analyze and predict the state of production operations and the enterprises' prospects for development, and carry out early supervision and management



of financial risks. Third, this will increase the financial needs involving intelligent logistics. In the process of integrating logistics resources by means of internet and Internet of Things (IoT), IoT banks can utilize their own big data to analyze the financial positions, predict market demand, offer solutions and suggestions for its clients. Moreover, this can also help intelligent logistics enterprises provide an intelligent whole-industry-chain layout, extend upward and downward with core enterprises in the industry chain as pivot points, and offer differentiated service strategies in line with the characteristics of the upstream and downstream supporting enterprises, so that client loyalty can be enhanced and the added value of financial services can be increased.

#### 6. New opportunities from the reshuffling of the internet financial industry

In 2015, ten ministries and commissions jointly issued the *Guiding Opinions on Promoting the Healthy Development of Internet Finance*. This means that the internet financial enterprises under irregular operations will be seriously dealt with, and may even be reshuffled and eliminated in 2016. The internet financial giants with great capital strength, rich experience, a concentration of the advantages and capable of covering the upstream and downstream industry chain can enjoy the golden opportunities for achieving expansion and integrating their resources.

#### 7. New opportunities from rapidly carrying forward the Belt and Road strategy

In 2016, the Belt and Road strategy will yield tangible projects and solid achievements from the initial idea; accordingly, it will bring the financial service needs concerning international infrastructure and production capacity cooperation, while the financial industry of the special economic zones has been at the forefront nationwide thanks to reform and opening up and has established many overseas institutions, thus it is most possible for the financial industry of the special economic zones to obtain the first mover advantage.

#### 8. New opportunities from RMB internationalization

On October 1, 2016, RMB was officially included into SDR currency basket. The special economic zones will be more closely integrated into the labor division in the global industrial chain so as to establish more extensive and closer trade and economic contacts with other countries. This will at least result in an increase in four major financial service needs: First, cross-border trade financial service needs, especially RMB settlement needs, will increase; second, more qualified Chinese-funded institutions will actively go global and set up overseas branches, thus increasing the financial service needs relating to direct investments; third, more enterprises and individuals will use RMB to make outward investments, increasing the financial service needs involving outward indirect investments; fourth, more offshore RMB will cross the border to China to seek investment opportunities.

### 7.3.2 *New Challenges for the Financial Industry in the Special Economic Zones in 2016*

1. An economic slowdown may continue in the special economic zones (see Table 7.24)

As shown by the information in Table 7.24, the economic growth rates in the special economic zones declined and there was no sign of discontinuing the decline during the period 2012–2015; a 1% negative growth occurred in 2015 compared with 2014; the special economic zones, except Shenzhen with a slight acceleration, saw all-round deceleration; the economic growth in Xiamen and the Binhai New Area of Tianjin in 2015 was more than 2% slower than that in 2014. Given that there are no special means in 2016 for changing the downward trend formed over the period of many years, it is expected that the possibility of a continued economic slowdown will be high; this will exert the following adverse impact on the financial industry of the special economic zones: The quantity of loans will decrease; local debt risks and non-performing loans will increase; profits may have a negative growth.

**Table 7.24** Statistics on the changes in the economic growth rate in the special economic zones, 2012–2015 (unit: %)

Name of special economic zone	2012		2013		2014		2015	
	Growth rate	Change compared with the previous year	Growth rate	Change compared with the previous year	Growth rate	Change compared with the previous year	Growth rate	Change compared with the previous year
Shenzhen	10.0	0	10.5	0.5	8.8	−1.7	8.9	0.1
Zhuhai	7.0	4.3	10.5	3.5	10.3	−0.2	10.0	−0.3
Shantou	9.5	0.2	10.0	0.5	9.0	−1.0	8.4	−0.6
Xiamen	12.1	−3.2	9.4	−2.7	9.2	−0.2	7.2	−2.0
Hainan	9.1	−2.9	9.9	0.8	8.5	−1.4	7.8	−0.7
Shanghai Pudong	10.1	−1.0	9.7	−0.4	9.0	−0.7	8.0	−1.0
Tianjin Binhai	20.1	−3.7	17.5	−2.6	15.5	−2.0	13.0	−2.5
Average		−0.9		−0.1		−1.0		−1.0

Source Statistical Communiqué on National Economic and Social Development 2012–2015 involving the special economic zones

2. The quality of assets in the financial industry of the special economic zones may generally decline
  - (1) The quality of assets in the banking sector of the special economic zones may deteriorate. The causes are as follows: First, in 2016, the non-performing assets in the banking sector of the special economic zones will be further verified and written off according to the requirements of the China Banking Regulatory Commission, thus increasing the scale of non-performing assets. Second, the operations in some asset-heavy segments or capital-intensive industries will continue to deteriorate; as a result, these segments or industries will be severely vulnerable to non-performing assets. Third, some commercial banks have a weak awareness of risk control; furthermore, subject to intervention from local governments, the non-performing loans in some banks may be fully exposed amidst an economic slowdown in the special economic zones in 2016. Fourth, under the new normal of the economy, many industries may experience a continued decrease in profits, an increasing risk of loss and a declining debt paying ability due to a reduction of their excess production capacity and inventory, so the scale of the non-performing loans may also be on the rise.
  - (2) The quality of assets in the nonbank sectors in the special economic zones may generally decline. The main basis is shown below: with a sharp rise and fall in 2015, the stock market will become sluggish in 2016, which will pose threats to the proprietary trading business of securities companies, the investment business of insurance, trusts and funding companies.
3. The task for preventing and controlling operational risks will become more arduous

As many uncertain factors intertwine with each other, the operational risks in the financial industry of the special economic zones may overlap and accumulate in 2016: (1) An inertial economic slowdown may result in the financial industry of the special economic zones operating under tight constraints. (2) With deep interest rate liberalization, more resident saving deposits will be converted into various wealth management products, and more general deposits will be changed into inter-bank deposits, thus increasing the overall operating costs of the banking sector. (3) The threshold for entering the financial industry of the special economic zones will further decrease; in particular, with the rapid entry of private financial institutions, the competition will become fiercer in the financial industry of the special economic zones. (4) With the emergence of internet finance focusing on scale and market share, the asset-heavy traditional financial industry of the special economic zones will be subject to more pressure from integration of outlets and redirection of employees. (5) It will take more time and costs for the financial industry of the special economic zones to recover from the aftermath of the irrational dramatic rise in the stock market. (6) The risk of drastic RMB exchange rate fluctuation from the reform of the mechanism for the formation of the exchange rate will be fully exposed in the financial industry of the special economic zones.

4. The weakness from an inadequate competence in internationalization will become more acute

On the one hand, the implementation of the Belt and Road Initiative and RMB internationalization will greatly accelerate in 2016, which will present more and higher cross-border financial service needs for the financial enterprises in the special economic zones; on the other hand, the overseas service capability of the financial industry of the special economic zones is very low, the institutions specializing in overseas financial services are not diverse and are mainly engaged in traditional commercial banking services; so far, no financial institution can be regarded as the international one, the system, mechanism and business model of the financial institutions specializing in overseas financial services cannot better adapt to the rapidly changing needs in the international market, so it is more difficult for their risk control and capability for internal self-restoration to address the impact from the external market.

## **7.4 New Measures for the Development of the Financial Industry in the Special Economic Zones in 2016**

Given the new situation in 2016, the following four aspects should be stressed in the development of the financial industry in the special economic zones.

### ***7.4.1 Improve the Quality***

Equal emphasis should be placed on keeping a steady growth of the asset scale and enhancing the quality of assets. This is because the base of the asset scale in the financial industry of the special economic zones has been very huge, and work does not focus on optimizing the quality of assets amidst an increasing scale and ratio of the non-performing assets in the financial industry of the special economic zones; the following consequences will ensue: On the one hand, great hidden troubles will occur in the safe operation of the financial industry of the special economic zones; on the other hand, there will be great negative effects on a sound economic growth in the special economic zones; in particular, the acts of cautiously or unwillingly offering, withdrawing loans will be thus widespread in the banking sector of the special economic zones, and the difficulty and high costs in financing will reemerge there. Therefore, the improvement of asset quality will be more important than mere expansion of the asset scale in the banking sector of the special economic zones in 2016. In order to curb the increasing scale and ratio of the non-performing assets in the financial industry of the special economic zones, it is imperative to carry out the following work:

### 1. It is necessary to prevent rapid expansion of the non-performing assets

Given that there are multiple causes for a rapid expansion of the non-performing assets in the financial industry of the special economic zones—such causes include local government debts in the special economic zones, periodic economic fluctuation, oversupply and excessively high financing costs—a number of measures must be concurrently taken to stop the rapid expansion of the non-performing assets. First, the asset management companies should be established in the special economic zones to dispose of and strip off the non-performing assets caused by the local governments of the special economic zones. Second, the enterprises which are under a certain operational pressure in the short term but enjoy abundant cash flow can make bold attempts to dispose of the non-performing loans through asset securitization. Third, the non-performing assets caused by excessively high financing costs should be reduced by decreasing the financing costs for enterprises and improving the debt paying ability of the enterprises which raise funds. Fourth, the non-performing assets caused by the reduction of excess production capacity and inventory, de-leveraging should be disposed of by a debt-to-equity swap and a combination of investments and loans. For the debts involving the enterprises with less debt paying ability, if debt swap is made to dispose of debts, creditors and debtors can be bound together to share the losses caused by the non-performing assets, this can produce the following three effects: First, provide good financial support for the supply-side structural reform in the special economic zones; second, mitigate the pressure of debts on enterprises; third, avoid deep price cuts in the disposal of financial assets, reduce the losses on the financial institutions as creditors and the possibility of systemic financial risks.

### 2. It is essential to prevent an increasing ratio of the non-performing assets

Besides, the ratio of the non-performing assets should be reduced by concurrently focusing on the numerator—the scale of the non-performing assets and the denominator—expansion of excellent assets, in other words, on the one hand, the authorities of special economic zones should introduce various policies for stabilizing growth as soon as possible so that the expansion of the assets in the financial industry of the special economic zones can be based on the objective economic needs; on the other hand, the people in the financial industry of the special economic zones should enhance their risk awareness to reduce the possibility of incurring new non-performing assets amidst the increase in incremental financial assets.

## **7.4.2 Control Risks**

Actions should be taken to achieve business development and keep sound operations. Many enterprises have been under mixed and full-license operation in the financial industry of the special economic zones, so competition has become increasingly severe and the possibility of systemic risks has greatly increased. Therefore, risk control is more important than business development for the financial industry of the special economic zones in 2016.

### 1. Control the operational risk in the traditional financial industry

When the stock market crash occurred in 2015, the traditional financial industry of the special economic zones, especially the securities and funding sectors, underwent a comprehensive test from risks. In order to avoid reoccurrence of the stock market crash in 2015 and keep systemic risks away from the special economic zones, comprehensive risk management must be carried out in 2016. First, the corporate culture and operation philosophy of comprehensive risk control should be fostered in the financial industry of the special economic zones, a clear and concrete risk control strategy should be developed, the boundary of risk control should be defined and the risk control preference should be identified. Second, the organization system for risk control should be improved, full coverage in risk control in terms of scope, category and process should be achieved, the process of risk control should be standardized, effective connections should be created among the processes involving risk identification, evaluation, control and reporting. Third, all-people risk control should be practiced and all of the industry insiders should be determined as the important nodes for risk control. Fourth, a practical risk control evaluation indicator system should be established: (1) a risk control indicator system should be designed with capital as the core; for example, a risk control indicator system should be developed according to the New Basel Accord in the banking sector of the special economic zones; a risk control indicator system should be built in line with the supervision of payment ability in the insurance sector of the special economic zones; a risk control indicator system should be designed according to net capital in the securities sector of the special economic zones; (2) the construction of a risk map, a risk database and a risk control information system should be strengthened so that the indicator system for risk control is quantified as much as possible, and precise risk control is exercised in the financial industry of the special economic zones, and on this basis, pressure tests, scenario analysis and a risk early-warning system should be fully utilized to improve the predictability of risk control; (3) great importance should be attached to observing and studying the penetration among financial enterprises and various risk types in financial enterprises in the special economic zones, and to building a firewall for isolating various risks.

### 2. Control the operational risk in internet enterprises

In 2015, internet finance was a hot topic and an area frequented by risks in the financial industry of the special economic zones. Internet finance in the special economic zones has grown rapidly and new business types have emerged, while the corresponding supervision is underdeveloped in this field, so there is ground for financial fraud. In 2016, in order to prevent further contagion of the internet financial risks in the special economic zones, the following actions should be taken: First, a complete internet financial supervision framework should be developed as soon as possible, especially supervisees involving various internet financial business types should be determined. Internet financial regulators should be forced to specify their supervision scope and responsibilities, supervisory power should be combined with supervisory responsibility, responsibilities for the final result of the supervision

should be taken, it should be ensured that internet financial regulators take more active and responsible actions, so as to more proactively predict, identify and effectively prevent internet financial risks, strongly avoid supervision overlapping, supervision distraction, supervision vacuum and supervision failure which were widespread in the internet financial field of the special economic zones in 2015. Second, classified supervision should be carried out over Internet finance. There are many subsectors in the internet financial field of the special economic zones, and the risks vary according to the subsectors, the financial activities are different in nature—some activities are financial ones, while some serve finance, thus it is necessary to exercise well-targeted supervision over the risks in different business types. License management should be performed in the internet financial institutions specializing in financial activities, while the institutions which serve finance should be governed by different supervision rules. Third, internet finance should be based on the essence of finance. Whether the traditional financial institutions develop financial business by means of internet tools or internet enterprises get involved in the financial industry, the line of thought of addressing financial risks with reverence should prevail, and the Internet should not be dealt with by turning a blind eye to financial risks.

### ***7.4.3 Guarantee the Performance***

Given that the financial industry of the special economic zones witnessed the overall decline in the operating performance in 2015 which seldom occurred in recent years, guaranteeing the performance should be the common topic for the financial industry of the special economic zones in 2016.

#### **1. Guarantee the performance of the banking sector**

The performance of the banking sector in the special economic zones will grow at a single-digit, even at zero, rate in 2016 as compared with the double-digit rates, even at rates above 30%, in recent years; moreover, credit funds will severely fall short, even local platform loans and state-owned enterprise loans which originally featured a relatively high safety coefficient will be vulnerable to risks. Therefore, guaranteeing the performance will be the top priority in the banking sector of the special economic zones in 2016. How can the performance in the banking sector of the special economic zones be guaranteed? The main line of thought is as follows: First, the scale and ratio of non-interest income should be further increased to guarantee the performance. The non-interest income in the banking sector of the special economic zones was around 30% in 2015, but the intermediate business income of major commercial banks in the developed countries accounted for 50% or more; there is a large leeway for the banking sector of the special economic zones to guarantee the performance by increasing the scale and ratio of non-interest income further. Given that non-interest income mainly comes from intermediate businesses, corporate financing businesses, personal financial businesses and interbank businesses, the banking sector of the special economic zones needs to change its manner of creating income dominated

by the interest rate differential; besides deep involvement in the traditional deposit and loan businesses, it is also necessary to vigorously develop corporate businesses, retail businesses, financial market type businesses and such intermediate businesses as custody, agency, investment banking and consulting. Second, a synergistic effect needs to be produced to guarantee performance. In 2016, the varieties of licenses in the banking sector of the special economic zones will increase, the banking sector's capability for comprehensive and international operations will significantly improve so that the possibility that the operating performance is delivered by enhancing the comprehensive operating capability will dramatically increase. Third, performance by means of Internet Plus should be guaranteed. With the input of scientific and technological resources, especially digital devices, for many years, the foundation for the banking sector of the special economic zones to build a data-centered ecosystem and internet banking business models has been fully available. In 2016, Internet Plus will improve the overall capability for operational management of the banking sector of the special economic zones and it will also produce a multiplication effect on enhancing the operating performance of the banking sector of the special economic zones. Fourth, performance by transformation towards light development should be guaranteed, and that transformation should cover the light development of outlets and their intelligentization; this presents the following advantages: On the one hand, it would reduce the consumption of capital and optimize the structure of the balance sheet; on the other hand, it would dedicate limited resources to the asset-light and capital-light businesses such as investment banks, custodies, asset management and asset securitization. The scale and ratio of the non-performing assets could be decreased, while the scale and ratio of non-interest income could be increased. Fifth, there is a necessity to go global in order to guarantee performance. The financial industry of the special economic zones was opened mainly by "bringing in" and the characteristic of its opening up was the introduction of foreign elements into China before 2015; as from 2016, the financial industry of the special economic zones will go global in an apparently accelerated way, and its obvious characteristic will be China's entry into the international community, overseas assets and income contribution will markedly increase.

## 2. Guarantee the performance of the nonbanking sectors

In 2016, the performance of the nonbanking sectors in the special economic zones will not negatively grow, but the growth rate will drastically decline, the performance of the securities, insurance and fund sectors may decline by more than 50%. Therefore, the burden from guaranteeing the performance of the nonbanking sectors in the special economic zones will not become lighter in 2016. The top priority for guaranteeing the performance of the nonbanking sectors in the special economic zones lies in guaranteeing investment income subject to preventing and controlling risks. This is the case for the securities, insurance and fund sectors of the special economic zones.



#### 7.4.4 *Shore up the Weak Links*

It is necessary to first carry out pilot programs in some special economic zones with a good foundation to force them to gain the advantage of advance development in China, even in the world, and attach importance to a balanced development among all of the special economic zones and within their financial industry. The weak links should be strengthened in the following ways:

##### 1. Strengthen the weak links among all of the special economic zones

It is unrealistic to turn all of the special economic zones into national or world-class financial centers. However, in 2015, the added value of the financial industry in Shantou, Hainan and Zhuhai accounted for only 2.7, 6.7 and 6.8% of GDP respectively, lower than the level of the national average, of 7.3%, suggesting that the underdevelopment of the financial industry in these three special economic zones in 2015 was not completely caused by a weak economic foundation and largely resulted from deviation in the philosophy and strategy of development. Therefore, it is indeed difficult for these three special economic zones to strengthen their weak links and keep abreast with Shenzhen and Shanghai, but the goal for catching up with, and even surpassing the level of the national average should be achievable.

##### 2. Improve the weak links between the virtual and real economy

In 2015, the average proportion of the added value of the financial industry in the special economic zones reached 9.5%, the average growth rates of the bank loan scale and the financial asset scale hit 15.4 and 40%, the added value of the financial industry grew by 16.2%, but the average economic growth rate in the special economic zones was only 9%, showing that the economic growth rate did not match the financial growth rate, the growth of the virtual economy exceeded that of the real economy, or the growth of the virtual economy broke away from that of the real economy to some extent. Therefore, introducing more financial resources into the real economy will be an important task in the development of the financial industry in the special economic zones in 2016.

##### 3. Strengthen the weak links regarding the rate

It should be recognized that the rate of the development of the imbalance among the sectors of the financial industry in the special economic zones may be a normal state, but extreme imbalance within a sector at the same time is unreasonable; for example, the differences in the growth rate of the asset scale between the Haikou Rural Commercial Bank and the Royal Bank of Scotland (China) in the banking sector, between Lianchu Securities and Citic Securities in the securities sector, between Funde Property & Casualty Insurance and Asia-Pacific Property & Casualty Insurance in the insurance sector reached 191.9, 176.8 and 553.7% respectively; these differences should be considered as a result of the growth weaknesses in the Royal Bank of Scotland (China), Citic Securities and Asia-Pacific Property & Casualty Insurance rather than a result of the industrial cycle.

#### 4. Strengthen the weak links in performance

Compared with the nonbank sectors in the special economic zones where the performance has just declined from a high point, it is more arduous to shore up the performance weaknesses in the banking sector of the special economic zones in 2016 because even a slight carelessness may lead to a negative growth of the operating performance.

#### 5. Strengthen the weak links between domestic and foreign arenas

In 2016, there will be a general trend for the financial industry of the special economic zones to go global more rapidly. It is not difficult to go global, but it is difficult to gain a firm foothold in foreign countries and become an important participant within the overseas financial market, or even to be imitated by the international counterparts, thus the effort in internationalizing the financial industry of the special economic zones should center on capacity building. In the process of strengthening the weak links in internationalization, emphasis should be placed on the following points.

First, the process of internationalization should adapt to the national opening up strategy and the process of a national rise. According to the experience gained from Western countries, the growth of cross-border financial services, the national opening up strategy and the process of a national rise often supplement each other. In 2016, against the background of intensifying the implementation of the national Belt and Road strategy, the people in the financial industry of the special economic zones should actively take the historical responsibility for pushing forward the national opening up strategy and national rise, and steadily promote the internationalization of institutions, businesses and personnel.

Second, the process of internationalization should adapt to the degree of improvement in the service capability of the financial industry of the special economic zones. The necessity for strengthening the weak links in internationalizing the financial industry of the special economic zones does not mean that all of the sectors of the financial industry of the special economic zones will move towards establishing branches overseas. This is because internationalization is a process of gradual advancement and entails continuous accumulation of experience before sustainable development is achieved. In the financial industry of the special economic zones, a differentiated and multilevel international strategy should be carried out on the basis of policy guidance and market-oriented selection, and large financial institutions with rich international experience should adopt the policy of comprehensive operations to provide customers with combined financial services in line with increasingly diverse cross-border customer needs and the adoption of a mixed operational mode by the international counterpart, while small and medium-sized financial institutions with insufficient experience in internationalization should fully take advantage of their own characteristics to work with large financial institutions; the former and the latter should support each other.

Third, the process of internationalization should adapt to the capability of risk control that the financial industry of the special economic zones possesses. According

to the experience from the developed countries, internationalization often features periodic fluctuation; the global political, economic and legal environments are greatly different, there are a number of uncertainties, so the financial industry of the special economic zones should go global by fully evaluating the law which governs periodic changes in the world's economy, the similarities and differences in the political, economic and legal environments of various countries and its own capability to control risks, and it should reinforce its effective supervision over periodic financial risks, country-specific financial risks and financial operational risks, so as to push forward internationalization in a rational and sound way.

Fourth, the process of internationalization should adapt to the capability for the operational management of the financial industry of the special economic zones. Unlike domestic operational management, international operational management involves a wider scope, a longer chain, a larger span and a higher coefficient of management difficulty. Therefore, it is necessary to standardize the organizational structure, governance mode, corporate culture and talent quality according to international requirements before implementing the internationalization strategy involving the financial industry of the special economic zones.

## References

- Annual Report on the Listed Financial Enterprises during the period 2011–2015 involving the special economic zones.
- Global 500 List 2015 released by *FORTUNE*.
- Ranking List of China's Top 500 Financial Enterprises 2015 released by *NetEase Finance*.
- Ranking List of Internet Finance 2015 released by *China Internet Week*.
- Ranking List of the Operating Performance of Securities Company Members during the period 2011–2015 posted on the official website of the Securities Association of China.
- Report on the Development of the Financial Industry in the 12th Five-Year Plan Period involving the special economic zones.
- Statistical Communiqué on National Economic and Social Development during the period 2011–2015 involving the special economic zones.
- Summary Report on the Financial Work within the Jurisdiction of the Financial Office 2011–2015 involving the special economic zones.
- Summary Report on the Financial Work within the Jurisdiction of the People's Bank 2011–2015 involving the special economic zones.
- Tao, Y. (2015). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.
- Tao, Y. (2012). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.
- Tao, Y. (2013). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.
- Tao, Y. (2014). *Annual report on the development of China's special economic zones*. Social Sciences Academic Press.

# Chapter 8

## Report on the Development of the Cultural Industry in China's Special Economic Zones



Zhong Yaqin and Zhong Jiemin

In the Chinese Government put forward the Internet Plus action plan for the first time, and Internet Plus officially became the national strategy. As a new economic form, Internet Plus will speed up the vigorous development of the new-type industries and emerging business types, and arouse a vigor of innovation of the traditional industries in market competition, and it will certainly present new opportunities for the future development of the cultural industry.

In 2015, China introduced a number of support policies, including the *Guiding Opinions on Actively Pushing Forward the Internet Plus Action*, the *Recommendations of the Central Committee of the Communist Party of China on Developing the 13th Five-Year Plan for National Economic and Social Development*, the *Opinions of the State Council on Several Policy Measures for Vigorously Promoting Mass Entrepreneurship and Innovation*, the *Guiding Opinions on Developing Maker Space and Promoting Mass Entrepreneurship and Innovation*, the *2015 Work Plan for Supporting Micro and Small Growth Cultural Enterprises*, the *Guiding Opinions on Promoting the Development of Smart Tourism*, the *Opinions on Accelerating the Building of the Modern Public Cultural Service System*, the *Circular Concerning Strengthening the Work of Central Cultural Enterprises on the Management of Budget Funds for State-owned Capital Operations*, the *Circular Concerning Permitting Domestic and Foreign Enterprises to Engage in Production and Sales of Game Entertainment Equipments*, and the *Promotion Plan for the Integration of Three Networks*. In late 2015, China put forward suggestions, in the 13th Five-Year Plan, about the policy for cultural construction as an important part of the “five-in-one” construction, and thus identified the direction for developing the cultural industry as the pillar industry of

---

This paper is the staged research achievement of the program “A Study of Emerging Business Types in Guangdong’s Cultural Industry under the Background of Internet Plus” (program number: GD15XYS25) under the 12th Five-Year Plan of Guangdong Province for Philosophy and Social Science.

---

Z. Yaqin · Z. Jiemin (✉)

Institute for Cultural Industries, Shenzhen University, Shenzhen, China

© Social Sciences Academic Press and Springer Nature Singapore Pte Ltd. 2019  
Y. Tao and Y. Yuan (eds.), *Annual Report on The Development of China’s Special Economic Zones (2017)*, Research Series on the Chinese Dream and China’s Development Path, [https://doi.org/10.1007/978-981-13-6705-2\\_8](https://doi.org/10.1007/978-981-13-6705-2_8)

225

the national economy. In the current period of structural transformation in economic development, the structure of China's economy has been continuously optimized and upgraded amidst sound growth; the new-type industries and emerging business types in some special economic zones have rapidly grown at the rates above 10%; this not only embodies the characteristic of an innovation-driven development of the cultural industry, but also provides good conditions for sustainable development of China's cultural industry, and helps vigorously move towards the goal specified in the 13th Five-Year Plan—the public cultural service system will be basically built and the cultural industry will become the pillar industry of the national economy.

## 8.1 Progress in the Cultural Industry of the Special Economic Zones

### 8.1.1 *The Shenzhen Special Economic Zone*

In the Government Work Report 2015, Shenzhen vowed to strengthen its coordination among innovation, entrepreneurship, venture capital investments and makers, and to build a modern international innovative city. Shenzhen has made new progress and breakthroughs in more rapidly building the Belt and Road strategic hub, developing the cultural industry and making culture go global in an accelerated way.

According to the statistical data from the Shenzhen Bureau of Culture, Sports and Tourism, the budget income of the departments under it was 722,560,100 yuan in 2015, up 26,710,100 yuan or 3.84% compared with 2014; it included 642,931,600 yuan in fiscal budget appropriation, 11,174,500 yuan in income from public institutions, 12,970,300 yuan from the non-profit organization fund for covering the gap between income and expenditure and 55,483,700 yuan carried forward from the previous year. The budget expenditure of the departments under the Shenzhen Bureau of Culture, Sports and Tourism was 722,560,100 yuan in 2015, 26,710,100 yuan or 3.84% compared with 2014.<sup>1</sup> In 2015, as an important tourist city in China, Shenzhen made outstanding achievements in the tourism industry and was awarded the title the first model city of national civilized tourism volunteer services. Thirty-eight of the top 100 travel agencies in Guangdong Province come from Shenzhen, among which 4 travel agencies have been listed among the top 100 national travel agencies. In 2015, according to the overall requirement of Shenzhen's cultural, sports and tourism work for building new platforms, creating new bright spots and comprehensively enhancing work quality, Shenzhen further promoted a large-scale, e-commerce-based, characteristic and standardized development of the tourism industry, a strengthened super-

---

<sup>1</sup>Shenzhen Bureau of Culture, Sports and Tourism, 2015 Departmental Budget of the Shenzhen Bureau of Culture, Sports and Tourism, Shenzhen Government Online. [http://www.sz.gov.cn/szzt2010/zdlyzl/zjxx/bm/201507/t20150703\\_3098479.htm](http://www.sz.gov.cn/szzt2010/zdlyzl/zjxx/bm/201507/t20150703_3098479.htm), 2015-07-03.

vision of the market order, actively innovated the management means, optimized the tourism development environment and made staged achievements.<sup>2</sup>

As the City of Design identified by the United Nations Educational, Scientific and Cultural Organization, Shenzhen is home to nearly 6000 industrial design institutions, more than 100,000 industrial designers and practitioners. In 2015, Shenzhen's industrial design rapidly developed. The 8th China (Shenzhen) International Interior Design Cultural Festival was held at the Shenzhen Convention & Exhibition Center in August, 2015. This design cultural festival is the first brand exhibition with the mission of disseminating the advanced interior design culture in China and also one of the key brand projects specified in *Shenzhen's Plan for the Revitalization and Development of the Creative Cultural Industry (2011–2015)*. It has been successfully held eight times since 2005, it has exerted an increasing international influence. Moreover, with the theme of DESIGNING THE FUTURE, the 3rd Shenzhen International Industrial Design Fair was held at the Shenzhen Convention & Exhibition Center in November, 2015. This fair brought together the latest cutting-edge designs from 35 countries and territories and further promoted the international and high-level development of Shenzhen's industrial design.

The 11th China (Shenzhen) International Cultural Exposition was successfully held. An atmosphere of strong innovation and entrepreneurship and prominent new cultural business types with cross-boundary integration have become the powerful forces helping this exposition become the No. 1 exposition in China's cultural industry. In response to the national Belt and Road strategy and Shenzhen's call for building the national makerspace center, in the 11th China (Shenzhen) International Cultural Exposition, a special hall for the Silk Road and makerspace exhibition area were established for the first time, which was the new bright spot in this exposition. There were 61 sections. The total amount of transactions regarding cultural projects and products reached a record high of 264,818 million yuan, up 13.90% from the previous exhibition<sup>3</sup>; the amount of export transactions was 16,485 million yuan, up 2.15%. As the only state-level international comprehensive cultural exposition, the China (Shenzhen) International Cultural Exposition has been held each year for 10 years, during which Shenzhen gradually developed from a "cultural desert" in the minds of the people into a vibrant Creative Capital. Against such a background, 2015 Art Shenzhen, organized by the Office of the Organizing Committee of the China (Shenzhen) International Cultural Exposition and undertaken by Shenzhen Press Group and Shenzhen International Cultural Exposition Co., Ltd., was successfully held at the Shenzhen Convention & Exhibition Center. Thirty-six excellent galleries, professional art media and organizations from Beijing, Shanghai,

---

<sup>2</sup>Tan Fengxi, Innovate on Industrial Management, Promote Transformation and Upgrading—Shenzhen Bureau of Culture, Sports and Tourism Convened 2016 Working Conference on Travel Agency Quality Supervision, *Shenzhen Special Zone Daily*, January 18, 2016.

<sup>3</sup>Wei Jinjin, The Total Transaction Amount in the 11th China (Shenzhen) International Cultural Exposition Reached 264,818 Million Yuan, Up 13.9%, [www.ce.cn](http://www.ce.cn); [http://www.ce.cn/culture/gd/201505/19/t20150519\\_5398472.shtml](http://www.ce.cn/culture/gd/201505/19/t20150519_5398472.shtml), 2015-05-19.

Guangzhou and Shenzhen attended 2015 Art Shenzhen. Art Shenzhen enriches artistic cultural exchanges and serves as an excellent platform for realizing the artistic ideal in Shenzhen, even throughout South China.

In 2015, in order to continuously expand the strategic emerging industries and further push forward pilot national development of the strategic emerging industries, Shenzhen developed and carried out Shenzhen's action plan for Internet Plus and Made in China 2025 to support 2350 industrial upgrading projects. A fund of 20 billion yuan for the guidance of innovation and entrepreneurship development was arranged; it is mainly used to support and stimulate Shenzhen's enterprises in transforming the new and hi-tech technological achievements and conducting activities of innovation, and it provides strong funding and institutional support for mass entrepreneurship and innovation so as to upgrade quality in Shenzhen.<sup>4</sup> Shenzhen Guidance Fund Investment Co., Ltd. was officially established on August 21, 2015. At present, the investment plan involving the first batch of 13 sub-funds with a total scale of 57.3 billion yuan has been developed, and the guidance fund has been under practical operations.<sup>5</sup> All of these measures motivate Shenzhen's young people to energetically start a business and involve more people in the wave of changing the world through innovation.

### ***8.1.2 The Zhuhai Special Economic Zone***

The 13th Five-Year Plan of Zhuhai for the Cultural Industry calls for carrying out the core strategy of innovation-driven development with the main goal of building an international innovative city. The number of new and hi-tech enterprises increased by 64 in Zhuhai in 2015, up 18.5% from the previous period. In 2015, a modern industrial system with a high-end manufacturing industry, a high and new technology industry, a high-end service industry, a characteristic marine economy and ecological agriculture basically took shape, and Zhuhai witnessed the gradual formation of a number of leading innovative enterprises with international competitiveness including Kingsoft Online Game, Legend Animation, Zhwyd, Sky Animation and Locomotive Design. According to the data from the Zhuhai Bureau of Statistics, Zhuhai's GDP was 202,498 million yuan in 2015, up 10.0% from the previous year; the number of inbound tourists reached 4,711,300 person-times, up 2.3%; the total amount of revenue from tourism was 27,732 million yuan, up 5.9%.<sup>6</sup> As shown by

<sup>4</sup>The Finance Commission of Shenzhen Municipality, Report on Shenzhen's 2014 Budget Implementation and 2015 Draft Budget, the Finance Commission of Shenzhen Municipality. [http://www.sz.gov.cn/czj/zjxx/czyjs\\_1/201506/t20150615\\_2922912\\_7109.htm](http://www.sz.gov.cn/czj/zjxx/czyjs_1/201506/t20150615_2922912_7109.htm), 2015-06-15.

<sup>5</sup>The Finance Commission of Shenzhen Municipality, 2015 Budget Implementation and 2016 Budget Arrangement, Shenzhen Government Online. [http://www.sz.gov.cn/zl/gbm/201601/t20160129\\_3457912.htm](http://www.sz.gov.cn/zl/gbm/201601/t20160129_3457912.htm), 2016-01-28.

<sup>6</sup>The Zhuhai Bureau of Statistics, the Zhuhai Statistical Communiqué on National Economic and Social Development 2015, Zhuhai Statistical Information Online. [http://www.stats-zh.gov.cn/tjzl/tjgb/201603/t20160330\\_325988.htm](http://www.stats-zh.gov.cn/tjzl/tjgb/201603/t20160330_325988.htm), 2016-03-30.

these data, Zhuhai maintained a good momentum of economic development in 2015. Zhuhai enjoys abundant cultural deposits and a good foundation for high and new technology industries. The 13th Five-Year Plan of Zhuhai for the Cultural Industry has enabled Zhuhai to more quickly embark on the characteristic path of innovation-driven development.

The Hengqin Area of the Guangdong Pilot Free Trade Zone was officially established in 2015. The Hengqin Free Trade Area enjoys many advantages in financial innovation. Currently, it is home to more than 2000 financial enterprises covering angel funds equity investment funds, venture capital funds, micro loans and guarantees, which provide excellent platforms for combining science and technology with finance and will constitute an important advantage for Zhuhai in carrying out the core strategy of innovation-driven development.<sup>7</sup> In Zhuhai, a mechanism for supporting Macao's enterprises in settling and developing in the Hengqin Area will be established, and a new entrepreneurship highland with the Internet Plus line of thought in the Pearl River Delta will be built to develop the innovative trend-oriented cultural industry, making it the ideal entrepreneurship platform for the people from various parts of the country who want to start a business in the cultural industry.

At present, a number of creative cultural industrial parks, including V12, GILLIAN 19 and the Gemdale Doorway, have been built, and some emerging parks, including the Zuoyou Creative Park and Limka Creative Valley, are under construction in Zhuhai. Moreover, the Hengqin, Guangdong, Hong Kong and Macao Creative Cultural Industrial Park, the Jianeng Creative Cultural Industrial Park, the Zhuhai Sci-Tech Creative Industrial Park, the Hi-tech Zone Creative Cultural Industrial Park, the Southern Film & TV Industrial Base, LETS Cultural District and the Beishan Chinese and Western Creative Cultural Industrial Base, are under planning and construction. As the creative cultural industrial park identified and established at the earliest in Zhuhai, the Zhuhai V12 Creative Cultural Industrial Park is actively changing its role and moving towards an ecological park. Currently, the creative cultural and related enterprises account for about 80% of the 160 enterprises in the park.

### ***8.1.3 The Xiamen Special Economic Zone***

In 2015, Xiamen saw a rapid development of the cultural industry. According to *An Analysis of the Development of Xiamen's Cultural and Related Industries 2015* posted on the official website of the Xiamen Bureau of Statistics, Xiamen ranked No.1 in Fujian Province in terms of the growth rate of its main operating revenue of the cultural industry, 9.5 percentage points higher compared with the provincial average level; the main operating revenue was 77,239 million yuan; 149,300 people were employed; the total assets amounted to 82,043 million yuan; the proportion of the scale of the main operating revenue in the provincial scale reached 18.1% in 2015, up

---

<sup>7</sup>Wang Rong, Insights into Zhuhai's Innovation-driven Characteristic Path, *Nanfang Daily*, 2016-02-23.



1.3 percentage points compared with the previous year, it continued to rank No. 3 in Fujian Province in total quantity and remained at the first level in the regional pattern of the cultural industry in Fujian Province.<sup>8</sup> Xiamen's cultural industry generally presents the following characteristics: regional distribution is highly concentrated; the cultural enterprises above the designated size lead in continued industrial development; the level of the citizens' cultural consumption has increased to some degree; public cultural services have been continuously enhanced. Moreover, large leading enterprises are available only in small quantities; the cultural enterprises above the designated size suffer a great loss; the performance of some sectors has declined.

Xiamen is home to 21 provincial cultural parks and demonstration bases; however, there are only a small number of large leading enterprises that are nationally and provincially influential. At present, Xiamen has 7 national cultural parks and bases including the Xiamen Bonded Logistics Park, the Xiamen (Haicang) E-commerce Industrial Park, the United Development Huamei Space Creative Cultural Industrial Park, the Cross-Strait Longshan Creative Cultural Industrial Park, Cloud Park, Xiamen Software Park Phase II and the Xiamen Qida Creative Cultural Industrial Park.

Xiamen is a relatively well-developed tourist city in China. Situated in the center of the delta in southern Fujian Province, as the flagship of economic development in Fujian Province, Xiamen connects two economically developed regions in China—the Yangtze River Delta and the Pearl River Delta, and is the important central city in China's southeastern coastal areas. Xiamen enjoys the geographical advantage of convenient transportation to the surrounding regions, such as Taiwan and Hong Kong, which have a great advantage over other areas in the creative industry.

In 2015, Xiamen developed the *Industrial Developmental Plan for the Xiamen Area of China (Fujian) Pilot Free Trade Zone*, which states that actions will be taken to comprehensively intensify the reform and speed up the development of five major industrial clusters, including the international trade industrial cluster and the professional services industrial cluster; under this plan, the cultural industry is identified as the first industry in the professional services industrial cluster and it has the following tasks: develop new businesses, including the importation of cultural artistic articles and the bonded display and auction of cultural relics, build a bonded cultural industrial center to stimulate the concentrated development of performance and arts, entertainment and high-end commerce, and establish the national cross-strait foreign cultural trade base.<sup>9</sup>

The 8th Cross-strait Cultural Industrial Fair was successfully held in Xiamen. The Cross-strait Cultural Industrial Fair is the only comprehensive cultural fair named "cross-strait" and jointly held by both sides of the Taiwan Strait in China; it is

---

<sup>8</sup>The Xiamen Bureau of Statistics, *An Analysis of the Development of Xiamen's Cultural and Related Industries 2015*, Xiamen Statistical Information Online. [http://www.stats-xm.gov.cn/tjzl/tjfx/201607/t20160726\\_28512.htm](http://www.stats-xm.gov.cn/tjzl/tjfx/201607/t20160726_28512.htm), 2016-07-26.

<sup>9</sup>Lin Shixiong, Deng Jie, Accelerate the Development of Five Major Industrial Clusters, *Fujian Daily*, 2015-07-07.

dedicated to cultural exchanges and cooperation between the two sides of the Taiwan Strait and a deep connection of the cultural industry between them. In 2015, with the theme of "Inheritance and a Creative Future", the Cross-strait Cultural Industrial Fair, for the first time, covered the national strategy of the Belt and Road and the construction of the Fujian Pilot Free Trade Zone. As an important part of the Cross-strait Cultural Industrial Fair 2015, the project of the Hisilk Artwork Center was launched in Xiamen in October; after its completion, it will become an important cultural industrial cluster area on the west coast of the Taiwan Strait.

Located at the geometric center of Xiamen, Jimei District is an important industrial, cultural and educational area and a new urban area in Xiamen. In recent years, the cultural industry has become the new bright spot in Jimei's industrial transformation. Jimei District is home to a number of key cultural enterprises, including MIGU Animation, Lingling Performance & Arts and Shenyou Huaxia. Furthermore, the China Music Industrial Trading Center, the largest trading platform in Chinese music circles, has been built in Jimei and serves as the window for Chinese music to go global. In 2015, a series of activities, including the National Car Track Cross-country Race and the ARLES International Photo Festival, were carried out, and cultural feasts shared by citizens were successfully held. The completion of the Chengyi Discovery Center, the Tan Kah Kee Theater and other cultural industrial projects has driven forward the rapid development of Jimei's cultural industry.

#### ***8.1.4 The Shantou Special Economic Zone***

Shantou is China's famous hometown of the overseas Chinese and the bond between Chaoshan Area and various countries in the world; it reflects the close ties between the overseas Chinese and the Chaoshan Maritime Silk Road. In the *Vision and Action for Joint Construction of the Silk Road Economic Belt and the 21st Maritime Silk Road*, released in 2015, the Port of Shantou is listed among 15 coastal ports whose construction will be strengthened, which further enhances the popularity and influence of the Chaoshan Area in China. Shantou's marine culture, overseas Chinese culture, folk culture and rich intangible cultural heritages help develop Shantou's cultural industry.

In 2015, the New Overseas Chinese Innovation and Entrepreneurship Demonstration Base and Guangdong, Hong Kong and Macao Trade-in-Service Liberation Upgrading Demonstration Base were officially established in the Overseas Chinese Economic and Cultural Cooperation Experimental Zone. The Overseas Chinese Economic and Cultural Cooperation Experimental Zone offers a cultural exchange platform for the overseas Chinese with the theme of cooperation, innovation and service and an important vehicle for comprehensively upgrading the open economy in Guangdong Province. At present, reform and innovation are being rapidly promoted and breakthroughs have been made in key industrial projects in the Overseas Chinese Economic and Cultural Cooperation Experimental Zone. The 2015 Summit for the Cooperation on the Technological Innovations in China-EU (Shantou) Small

and Medium-size Enterprises was successfully held in Shantou. There was a good start in the pilot work on China-EU policy cooperation; a one-to-one cooperation agreement with Andalusia, Spain was signed. Shantou Work Base under the HOME Program—Help Our Motherland through Elite Intellectual Resources from Overseas—was successfully established; the talent introduction and management mechanism was constantly improved. The Overseas Chinese Board, the Huarong Overseas Chinese Project, the Overseas Chinese Innovation Industrial City and the integrated project for cross-border trade ecosphere were continuously pushed forward. With strong impetus from all-round reform, the Overseas Chinese Economic and Cultural Cooperation Experimental Zone is advancing at the “special zone rate” to lead a new round of vigorous development in Shantou.<sup>10</sup> The Overseas Chinese Board—the first regional equity exchange market with overseas Chinese as the core concept in China—established in the Overseas Chinese Economic and Cultural Cooperation Experimental Zone—expands the financing and investment channels for micro-, small- and medium-sized enterprises, the overseas Chinese-funded enterprises which propose to undergo shareholding reform, foreign-funded enterprises and innovative technology enterprises within and outside Guangdong Province. A total of 218 enterprises were first listed in the Overseas Chinese Board, with the intent of raising 5.1 billion yuan.<sup>11</sup>

The Shantou Municipal Party Committee and the Municipal Government have attached great importance to the building of cultural infrastructures and have included the construction of key cultural infrastructures into the annual livelihood projects; moreover, they have built the base and platform for external cultural exchanges. The Shantou Intangible Cultural Heritage Exhibition Hall, the Chaoshan Historical Cultural Exposition Center, the Chaozhou Opera Inheritance Base of Guangdong Chaozhou Opera House and the Shantou Culture & Art School Experimental Theater are under construction or have been open to the public; after completion, they will become the platforms with the historical cultural characteristics of Chaoshan for cultural exchanges, and will further enrich the new cultural experience of the overseas Chinese and groups of overseas Chinese businessmen.

Moreover, a series of theme literary and artistic activities including the performance activity, called “Our Chinese Dream”, which is a literary and artistic tour, the 2015 Spring Festival Cultural Square Exhibition and Performance called “The Overseas Chinese Realize Dreams in Shantou”, the 2nd Chaoshan Folk Culture Exhibition Week, the Public Benefit Activity “Meet in Beautiful Shantou” for New Media Interaction and “Fabulous Shantou” were carried out in Shantou, a large number of

---

<sup>10</sup>The Financial Office of Guangdong Province, The Overseas Chinese Economic and Cultural Cooperation Experimental Zone Becomes Part of the Belt and Road and Serves as an Important Vehicle for Guangdong’s Open Economy, [www.gdjrb.gov.cn](http://gdjrb.gov.cn). <http://gdjrb.gov.cn/index.php/article/index/id/3882.html>, 2015-12-08.

<sup>11</sup>Shen Congsheng, The First Capital Road Show of the “Overseas Chinese Board” Was Initiated, 351 Enterprises Have Been Listed, *Nanfang Daily*, 2015-12-01.

colorful artistic performances brought “cultural feasts” to the people and reached an overall audience of more than 500,000 person-times.<sup>12</sup>

### 8.1.5 *The Hainan Special Economic Zone*

The internet industry has been identified as one of the 12 key industries for accelerating Hainan's development. According to the *2015 Report on the State of Internet Development in Hainan Province*, as of late 2015, there were 4.66 million netizens with 450,000 people becoming netizens in Hainan in 2015; Hainan's Internet penetration was 51.6%, 1.3 percentage points higher than the level of the national average and 4.6 percentage points higher than that in late 2014; there were 4.16 million mobile phone netizens, accounting for 89.3% of the total number of netizens in Hainan, the scale of mobile phone netizens showed sustained stable growth.<sup>13</sup> The rates of use involving mobile terminals and business applications in Hainan were noticeably higher than the level of the national average. In 2015, the Internet Plus innovation and entrepreneurship festival was held with a series of activities including entrepreneurship and innovation forums, an entrepreneurship contest, an entrepreneurship road show, an entrepreneurship fair and entrepreneurship publicity which showcased the atmosphere of Internet Plus innovation and entrepreneurship in Hainan.

In 2015, the Research Symposium on Hainan Cultural Industrial Development, the 2015 Hainan Cultural Industry Summit, the 3rd China (Hainan) Animation Game Exposition, the 1st China (Hainan) Maritime Silk Road Cultural Industry Exposition and the 2015 China Game Industry Annual Conference were held in Hainan. A series of activities offered framework suggestions on the achievements and existing problems in the development of Hainan's cultural industry, or advice on the development of Hainan's cultural industry, or showed Hainan's local culture or promoted the cooperation of game enterprises and the prosperity of the game industry. Hainan has utilized its excellent geographical advantage to vigorously develop the cultural industry and has played an important role in making Chinese culture go global.

The *Implementation Plan of Hainan Province for Promoting the Integrative Development of the Creative Cultural, Design Service and Related Industries (2015–2020)*, printed and distributed in September, 2015, explicitly states that Hainan will turn the cultural industry into the pillar in Hainan's service industry, and emphasis should be placed on promoting profound integration among creative culture, design services and manufacturing, information, construction, tourism and the sports industries with agriculture, and administrative charges will be reduced and exempted for the provin-

<sup>12</sup>Sun Xinxin, Bright Spots Emerged in Cultural Publicity in Shantou in 2015, *Shantou Daily*, 2016-02-23.

<sup>13</sup>The Hainan Communications Administration, Report on the State of Internet Development in Hainan Province in 2015, the Hainan Communications Administration. [http://www.hnca.gov.cn/txglj/new\\_info.jsp?id=1&info\\_no=6643,2016-06-29](http://www.hnca.gov.cn/txglj/new_info.jsp?id=1&info_no=6643,2016-06-29).

cial creative cultural industry parks identified by the provincial government within three years after their completion.<sup>14</sup> In 2015, there were three national cultural industrial demonstration bases, three provincial cultural industrial demonstration parks and nine provincial cultural industrial demonstration bases in Hainan; the cultural enterprises above the designated size in Hainan delivered 18.54 billion yuan in operating revenue, up 2.0% compared with the previous year; there was a good momentum of development and the effect of a scale economy; the cultural legal entities above the designated size became the backbone of Hainan's cultural industry.<sup>15</sup>

According to the *Research Report on the Development of Hainan's Cultural Industry 2015*, the path for the development of Hainan's cultural industry lies in energetically developing the new business types within the cultural industry, integrating the internet way of thinking into the development of the cultural industry to promote the development of cultural technology enterprises, the game entertainment industry, creative cultural and smart tourism industries.

## 8.2 Analysis of the Development of the Cultural Industry in the Special Economic Zones

With adjustments in 2014, some breakthroughs were made in the cultural industry of the special economic zones. These breakthroughs have the following characteristics:

### 8.2.1 Internet Plus Has Given Birth to New Business Types

The *Guiding Opinions on Actively Promoting Internet Plus Action*, printed and distributed by the State Council, calls for enriching the contents of the internet industry and pushing forward the development of internet-related business types from consumption to production. The Guiding Opinions specify 11 concrete actions, which are: Internet Plus entrepreneurship and innovation, Internet Plus collaborative manufacturing, Internet Plus modern agriculture, Internet Plus smart energy, Internet Plus universal finance, Internet Plus people-benefiting services, Internet Plus efficient logistics, Internet Plus e-commerce, Internet Plus convenient transportation, Internet Plus green ecology and Internet Plus artificial intelligence. Meanwhile, the Guiding

---

<sup>14</sup>The General Office of the People's Government of Hainan Province, Implementation Plan of Hainan Province for Promoting Integrative Development of Creative Cultural and Design Services and Related Industries (2015–2020), The People's Government of Hainan Province. <http://www.hainan.gov.cn/data/hnzb/2015/11/3422/>, 2015-08-20.

<sup>15</sup>The Hainan Bureau of Statistics, Optimize the Structure of the Cultural Industry, Accelerate Transformation and Upgrading—An Analysis of the State of the Development of Hainan's Cultural Industry 2015, the Hainan Bureau of Statistics. [http://www.stats.hainan.gov.cn/tjsj/tjfx/jdfx/201609/t20160914\\_2117357.html](http://www.stats.hainan.gov.cn/tjsj/tjfx/jdfx/201609/t20160914_2117357.html), 2015-09-13.

Opinions urge development of internet-based services including culture, media and tourism and the cultivation of a variety of new business types.

According to the *Report on the Development of Radio, Film and Television in China (2015)*, prepared by the Development Research Center of the State Administration of Press, Publication, Radio, Film and Television, as the era of Internet Plus arrives, the radio and television media have adopted new media technology to constantly expand their operational space, enrich and innovate their advertising-based mode of generating revenue, and explore a diversified profit model based on TV to Online (T2O). As specified in the *Guiding Opinions on Promoting the Development of Smart Tourism*, printed and distributed by the National Tourism Administration, by 2016, a number of smart tourist attractions, smart tourist enterprises and tourist cities, the national public service network and platform for smart tourism will be set up.<sup>16</sup> In January, 2015, the State Council issued the *Opinions on Promoting the Innovative Development of Cloud Computing and Cultivating New Business Types in the Information Industry*, which states that cloud computing has become the strategic focus in competition among various countries in the current new period. The Opinions are of important strategic significance for speeding up the development of cloud computing and offering a new path for industrial transformation and upgrading in China. After the *Circular Concerning the Broadband China Strategy and Implementation Plan* was issued by the State Council in 2013, the State Council printed and distributed the *Guiding Opinions on Accelerating the Construction of High-speed Broadband Network and Pushing Forward Network Speed Increase and Fee Reduction* in May, 2015 with a view to accelerating the construction of high-speed broadband networks, stimulating the development of the new generation information technology industries, including cloud computing and big data, spurring a new development of Internet Plus and the new growth of information consumption. With the development of Internet Plus, many great changes have taken place in the people's lifestyle, including consumption styles, a series of new business types have come into being in the cultural industry, and there is great significance in developing China's innovative economy and enhancing China's national industrial competitiveness.

### ***8.2.2 Urban Mass Entrepreneurship and Innovation Have Been Steadily Promoted***

The year 2015 witnessed innovation and entrepreneurship amidst the wave of Internet Plus. When delivering the Government Work Report in the session of the National People's Congress, Chinese Premier Li Keqiang vowed to vigorously develop makerspaces so that grassroots innovation can become widespread. The General Office of the State Council printed and distributed the *Guiding Opinions on Developing Mak-*

---

<sup>16</sup>The National Tourism Administration, *Guiding Opinions on Promoting the Development of Smart Tourism*, the National Tourism Administration. [http://www.cnta.gov.cn/zwgk/tzggnew/gztz/201506/t20150625\\_429641.shtml](http://www.cnta.gov.cn/zwgk/tzggnew/gztz/201506/t20150625_429641.shtml), 2015-01-12.

*erspaces and Promoting Mass Entrepreneurship and Innovation*. The Ministry of Culture specially unveiled *2015 Work Plan for Supporting Micro and Small Growth Cultural Enterprises*, which aims at optimizing the environment of entrepreneurship and development in the cultural field to improve the growth ability of micro and small cultural enterprises, arouse the vigor of innovation and entrepreneurship in the cultural field and shape the vivid pattern of mass entrepreneurship and innovation in the cultural field.<sup>17</sup> The *Opinions of the State Council on Several Policy Measures for Vigorously Promoting Mass Entrepreneurship and Innovation* were posted on the website of the Central Government of China on June 16, 2015, which make an overall arrangement of mass entrepreneurship and innovation and stress the support for innovation and entrepreneurship in terms of finance, taxation, financing and platform construction.

According to the *Annual Report on the Development of China's IT Industry*, the innovation index of China's IT industry increased from 53.38 in 2011 to 62.2 in 2014, suggesting that China's overall environment of innovation made China a country suitable for innovation and internet development. As a representative city for mass entrepreneurship and innovation, Shenzhen provides an excellent environment for mass entrepreneurship and innovation. Shenzhen continued to rank No. 1 among the 30 most innovative cities in China in 2015, in a list released by Forbes. In October, 2015, the first National Mass Entrepreneurship and Innovation Activity Week was launched, during which Shenzhen Maker-space was specially set up and 12 projects from Shenzhen were included in Beijing's main venue. As one of the 7 subsections in the National Mass Entrepreneurship and Innovation Activity Week, Shenzhen will stimulate 6 cities in Guangdong Province and Hong Kong to better make new progress in entrepreneurship and innovation.

### **8.2.3 The Game Industry Has Ushered in the Golden Period of Development**

According to the *37th Statistical Report on the State of China's Internet Development*, as of December, 2015, there were 391 million online game users, accounting for 50% of the total number of netizens. In the process of China's development, the people have really attached importance to games and diverse game-related peripheral industries, including game live streaming, and offline competition and electronic sports stars have gradually emerged. In recent years, the Chinese teams have started to perform well in various world-class online game competitions, and they have drawn attention from the whole world, more importantly, from most Chinese people who do not know online games. In 2014, the Chinese NewBee team won the championship in *DOTA2* T14 and won 5 million USD in the competition prize. Media from different areas reported this event. Although China's online game industry developed late, China has

---

<sup>17</sup>Zhou Wei, The Ministry of Culture Developed the Work Plan for Supporting the Micro and Small Growth Cultural Enterprises in 2015, the Xinhua News Agency, 2015-06-10.

successfully avoided making many wrong attempts. China's online game industry is rapidly developing and expanding. Various electronic sports live streaming platforms are gradually improving the industrial chain; with capital operations, these platforms are embarking on the path of standardization.<sup>18</sup>

#### ***8.2.4 Public Cultural Services Have Developed in an Elaborate Way***

In January, 2015, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council printed and distributed the *Opinions on Accelerating the Building of the Modern Public Cultural Service System*; as a result, the building of China's public culture has shown a good developmental pattern of pushing forward as a whole, making breakthroughs in key fields and improving the culture in an all-round way. In urban areas, the public cultural services are energetically developed, the system is continuously improved and the public cultural service provided to citizens is becoming more and more elaborate. Junge Jushuo series created by the Publicity Department of Luohu District, Shenzhen at Lingjiu Theater has been chosen, with an overwhelming majority of votes, as the national demonstration project for building the public cultural service system and is also Shenzhen's first national demonstration project for public cultural services.<sup>19</sup>

### **8.3 Suggestions on the Development of the Cultural Industry in the Special Economic Zones**

Against the general background of Internet Plus and mass entrepreneurship and innovation, opportunities and challenges concurrently exist in the development of the cultural industry in the special economic zones. The special economic zones can proceed from the following aspects to improve the quality of the cultural industry and seek its development at the regional level.

#### ***8.3.1 Deepen Cross-Boundary Integration***

Against the background of Internet Plus, cross-boundary integration can vitalize the traditional cultural resources so that the traditional industries can adapt to the people's new life style and mode of consumption and the people's diverse cultural

---

<sup>18</sup>Tie (2014).

<sup>19</sup>Ye Shuping, The First National Public Cultural Service Demonstration Project in Shenzhen Was Launched in Luohu, *Southern Urban Daily*, 2015-06-05.



consumption needs. For the imminent future development of the cultural industry, it is essential to introduce new internet technologies and new applications to enable the integrative development of creative cultural elements, cultural resources, science and technology, elevate the spiritual connotation of cultural products, and further extend the industrial chain of cultural products so that the cultural industry can produce a greater spillover effect.

### ***8.3.2 Strengthen Intellectual Property Protection***

The internet is like an ecosphere in which there may be many industrial chains, and each intermediate link cannot be overlooked in order to make a certain business model successful, while industries represent the directions towards which enterprises and users now need to make concerted efforts. On the one hand, property rights are protected by laws, the people are encouraged to understand the goal of protection and have the awareness to actively safeguard property rights; on the other hand, only when there is a very good atmosphere for protecting copyright can the creator as the source of contents have the enthusiasm to concentrate on creation and will it be possible for more excellent original works to be loved and supported by more people. The protection of intellectual property rights is an important part of a good cycle from the creation of cultural products to the generation of benefits; the protection of property rights is of great significance to going through the property rights trading link and building a smooth connection between ideas and output.

### ***8.3.3 Adapt to the New Normal of China's Economy***

There is an urgent need to enhance endogenous power and reinforce transformation and upgrading in China's economic development; adaptation to the new normal of China's economy will present new developmental opportunities for China's economy. In such a great pattern, the people in the cultural industry should actively adapt to rapid developmental changes in science and technology, tap the industrial vigor, have clear positioning and goals, effectively provide support and carry out reforms, foster a good environment for cultural consumption, further release the growth potential of cultural consumption, maintain stable and all-round economic development.

### ***8.3.4 Extensively Embed Innovation Vigor***

As stressed by General Secretary Xi Jinping in the literature and art symposium, literary and art workers should bear in mind that creation is their central task, works are the foundation for their development and the people are the source for literary

and artistic creation; once there is isolation from the people, literature and art will become a body without a soul. As the cultural industry is a knowledge-intensive industry, innovation is the core requirement for and the competitiveness of the cultural industry, so it is necessary to advocate innovations in philosophy, institutions and core technology and independent innovation, deepen cluster innovation, practically enhance the capability of original creation and make China's excellent cultural products go global.

## Reference

Tie, S. (2014). Handsome bonus sets record, the era of big electronic sports is being opened in China. *Computer and Network*, 15, 22.

**Part III**  
**Report on the Dynamic Survey of the**  
**Development of Special Zone**

# Chapter 9

## Report on the Construction and Development of Special Economic Zones in Latin America



Haiping Luo and Jinlin Peng

Latin America is the collective name of the American regions where languages of Latin origin are taken as the official language or the main language, south of the USA. Latin America is generally divided by the Panama Canal into Central America and South America. Latin America is adjacent to the Atlantic Ocean on the east and the Pacific Ocean on the west. Its north-south length is more than 11,000 km; the maximum east-west width is more than 5100 km, while the minimum east-west width is only 48 km, which occurs at the Isthmus of Panama. Latin America consists of more than 30 countries and territories with a population of 588 million. Latin America is an underdeveloped region dominated by the developing countries and is also the most active region with the greatest developmental potential in the world. Most countries in Latin America abound in natural resources and enjoy excellent locations, but all over Latin America, the level of economic development is still relatively low, the agricultural economy mostly plays the dominant role and the industrial economies are underdeveloped.

The location of Latin America is unique; the market economic system is practiced in most countries, so many Latin American countries established special economic zones characterized by free trade and opening up in a very early period. In the 1920s, many Latin American countries set up the earliest special economic zones in response to the international division of labor and world trade. In 1923, Uruguay established the first free trade zone, the Colo-vial Free Trade Zone, in Latin America, thus kicking off the establishment and construction of special economic zones in Latin America. After the Second World War, most of the special economic zones in Latin America substantially developed, and they became an important support for the economic take-off in many Latin American countries. Afterwards, Latin America became one of the most active regions for the development of special economic zones in the world for a long time. According to Wang's research data (1993), there were

---

H. Luo (✉) · J. Peng

China Central Economic and Social Development Research Center, Nanchang University, Nanchang 330047, Jiangxi Province, China

156 special economic zones of different types in Latin America in the early 1990s, accounting for 1/3 of the special economic zones in the world and equivalent to nearly 40% of the special economic zones in China. Since the new century, Latin America has experienced a period of developmental opportunity, a golden decade, and the special economic zones in large Latin American countries greatly developed in line with the trends. However, after the 2008 financial crisis, almost all of the countries in Latin America faced economic woes amidst the sluggish world economy and increasing pressure in economic recovery. The special economic zones have once again represented the new hope for Latin America to keep away from economic woes. Many Latin American economies have ushered in the new climax of special economic zone construction and development. They hope to learn and introduce the experience and method of China's special economic zones, especially the Shenzhen special economic zone, in order to achieve national economic recovery and revival.

## **9.1 The Course and Situation of the Development of the Special Economic Zones in Latin America**

### ***9.1.1 The Stages of the Development of the Special Economic Zones in Latin America***

Latin America has always been an active region regarding the development of the special economic zones. Most Latin American countries have adopted the opening up strategy during their economic development; close economic contacts have always been maintained among Latin American countries, especially between them and the North American countries and the Western European countries. As indicated, Latin America does not lack the soil and atmosphere for the development of special economic zones; it enjoys excellent external conditions for establishing and developing special economic zones. In this regard, in order to promote economic development, many Latin American countries have designated some areas in their territories to adopt a number of special economic policies with a view to developing export trade, attracting foreign capital and technologies and expanding job opportunities. According to the attributes of the development and the stage characteristics of Latin America's special economic zones, the development of Latin America's special economic zones can be divided into the following stages:

- (1) The stage of trade-oriented special economic zones. From the 1920s to the 1960s, the special economic zones developed from nothing; the traditional special economic zones were rapidly distributed throughout Latin America. In 1923, Uruguay established the *Colo-vial Free Trade Zone*, thus initiating the development of special economic zones in Latin America. At that stage, Latin American countries mainly established the traditional trade-oriented special economic zones, including free ports and free trade zones. Free trade zones are the areas,

outside the customs territory of a country, where foreign goods are permitted to freely enter and exit. As the special areas under the customs administration in a country, the free trade zones are subject to the laws of the country. At that stage, the free trade zone was the main mode of special economic zones in Latin America. All of the early free trade zones in Latin America developed well; for example, established in 1948, the Colon Free Trade Zone has rapidly developed into a free zone with the largest trade volume and the international cargo distribution center in Latin America. The Manaus Free Trade Zone has developed into the electronic, industrial and high-end product manufacturing center in Brazil, and it currently remains the largest special economic zone in the world. Latin American countries established free trade zones and free ports to remove tariff barriers, expand transit trade and increase foreign exchange earnings. The operating activities of these special economic zones focused on commodity transit, warehousing and trade. Overall, the number of special economic zones in Latin America was not large; only very few countries had special economic zones; special economic zones were mainly established in the countries and territories with excellent natural port resources at that stage.

- (2) The stage of processing-oriented special economic zones. From the 1960s to the 1970s, Latin America's special economic zones developed in an exceptionally fast way; Latin American countries rushed to establish special economic zones. About 100 special economic zones were established in 20 years. During that stage, special economic zones drastically increased in number and became diverse in modes; special economic zones were transformed from those dominated by the free trade zones of the early period to those dominated by export processing zones. Therefore, the special economic zones changed their pure trade function into a combination of industrial production functions and trade functions. The processing-oriented special economic zones offered preferential treatment and convenience for the trade-oriented special economic zones, and also provided the necessary facilities and conditions for the external processing enterprises to develop the processing industry. The export processing zones attracted foreign-funded enterprises to develop the local processing industries, address the issue of local employment, enhance the export capability and earn foreign exchange through export.
- (3) The stage of diverse special economic zones. From the 1980s to the 1990s, Latin America's special economic zones showed two developmental trends: First, the original special economic zones developed more rapidly; second, diverse special economic zones started to emerge. The increase in the number of special economic zones became slow, but the existing special economic zones, especially the free trade zones and the export processing zones, developed significantly. Some special economic zones gradually stayed away from their early form of primary product processing and were transformed into the industrial forms at high technical and capital levels. The special economic zones, originally dominated by trade-oriented and industry and trade-oriented special economic zones, became more diverse, comprehensive and high-end. Transit zones, bonded warehouses, border free trade zones, free industrial zones, industrial

parks and maquila industrial zones emerged in addition to free ports, free trade zones and export processing zones. Although names, forms and scales were different, the special economic zones were designed to promote exportation and develop the national economy.

- (4) The stage of special economic zone transformation and upgrading. From the late 1990s to the new century, the special economic zones in Latin American countries and all developing countries entered a period of transformation, upgrading and polarization. With the rapid development of the world's scientific and technological revolution, the scientific and technological gap between the developed countries and the developing countries gradually widened. The special economic zones in Latin American countries generally faced a real predicament, including equipment obsolescence, technical backwardness and facility ageing. Moreover, subject to increasing legal provisions with a kind of protectionism from the USA and Western European countries, the developing countries, including Latin America, were generally confronted with anti-dumping sanctions from the developed countries. The countries all over Latin America faced severe problems, including deteriorating commodity prices, trade conditions and fierce market competition so the export-oriented special economic zones had widespread difficulties in development and increasing pressure from industrial structural adjustments and technical upgrading. Moreover, various countries started to investigate the new direction for the development of the special economic zones. After the economic crisis in Southeast Asia in the 1990s, especially the financial tsunami of the US subprime mortgage crisis in 2008, the economy of Latin American countries was generally sluggish, and they gradually fell into an economic crisis; the special economic zones once again became the "life-saving straw" for many countries.

### ***9.1.2 Types of Special Economic Zones in Latin America***

- (1) The free trade zone (also called free zone). The free trade zone has always been a form of special zone that played an important role in the special economic zones in Latin America. The most striking ones are Panama's Colon Free Trade Zone and Brazil's Manaus Free Trade Zone. Both free trade zones were established in 1948. For a long time, both of these free trade zones have always been the free zones with the largest import and export volume in Latin America and important international cargo distribution centers for all of Latin America. Panama's Colon Free Trade Zone is reputed as the Hong Kong of the Western Hemisphere. The Colon Free Trade Zone has developed in an astonishingly rapid way; its area was less than 6 hectares at the time of its establishment, and it is positioned as the transfer station for transferring the goods from various parts of the world, so the facilities only consist of some small warehouses. In the 1980s, after more than 30 years of development, the Colon Free Trade Zone covered an area of more than 40 hectares and was home to nearly 400 companies, banks and insurance

companies. Another representative of the free trade zones in Latin America is Brazil's Manaus Free Trade Zone. The Manaus Free Trade Zone is located in the jungle, in the middle of the Amazon Plain, and is more than 1600 km away from the Atlantic Ocean. Currently, the Manaus Free Trade Zone has become the electronic, industrial and high-end product manufacturing center of Brazil.

- (2) The free border zone. The free border zone refers to a certain area, designated at the border of a country or territory, where foreign manufacturers are permitted to invest in establishing enterprises; foreign-funded enterprises enjoy a preferential tariff treatment and can import, on a duty-free basis, raw materials, energy, mechanical equipment and other spare parts, and their finished products also enjoy tax reduction and exemption for their exportation. The representative of Latin America's free border zones is Mexico's maquila industrial zone. As the northern part of Mexico borders on the USA, the most developed country in the world, it aims at utilizing the US market to promote the regional economic development of Mexico's border and all of Mexico as well. The Government of Mexico has been establishing maquila factories on the northern border between Mexico and the USA and in Mexico's coastal areas since the 1930s. As of 1966, the length of the northern border, where Mexico permitted foreign capital to establish factories, reached 20 km and 90% of Mexico's maquila industry was distributed along the border between Mexico and the USA. Moreover, besides Mexico, each of Chile's northern and southern borders has been home to a free border zone, where foreign investors are permitted to operate businesses and processing and assembling industries. The neighboring countries, Peru, Columbia and Brazil have jointly established an international free border zone in the Amazon region bordered by them.
- (3) The free port. Free ports in Latin American countries are mainly concentrated in the countries which abound in seaport resources, such as Columbia, Mexico and Venezuela. Like other free ports in the world, Latin America's free ports refer to the ports which are located outside the jurisdiction of a country but within the territory of a country. Foreign goods can enter and exit free ports on a duty-free basis. The enterprises which settle in free ports can engage in processing, manufacturing, storage, repair, assembling and disassembling activities relating to the goods which enter the free ports on a duty-free basis.
- (4) The transit zone. A transit zone generally refers to a type of free port. In order to facilitate the transport of imported and exported cargo from the neighboring countries, some Latin American countries have designated certain zones in some seaports, wharfs or stations as transit cargo free zones according to bilateral agreements, where the transit cargo is allowed simplified customs procedures and the reduction or exemption of transit duties. There are 15, 14 and 12 transit zones in Brazil, Argentina and Chile, respectively. Some transit zones also exist in the Caribbean area; for example, Jamaica's Kingston is one of the principal transit ports.
- (5) The export processing zone. An export processing zone is a special industrial zone designated by a country especially for manufacturing, processing and assembling exported goods. The export processing zone is one of the forms of



special economic zones and generally enjoys various kinds of local preferential treatment regarding tax reduction and exemption. Export processing zones are generally the areas with a relatively developed economy, they are convenient for transportation and foreign trade, they have ample labor resources and an excellent foundation for urban development; they are mostly located at coastal seaports or near the national border with other countries. There are many export processing zones in Latin America, and almost half of them are distributed in several large Latin American countries, including Brazil, Venezuela, Columbia, Mexico, Uruguay and Chile; the remaining half of them are principally situated in small countries in Central America and around the Caribbean Sea. Latin America's export processing zones played an important role in the rapid economic growth of Latin America in the 1970s and 1980s. Latin America's export processing zones have better utilized their local advantage of inexpensive labor to produce the leading industrial finished products or semi-finished products with industrial advantages in various countries. For example, the assembling of electronic components, TV sets, radios and tape recorders mainly occurs in Brazil, Mexico, Panama, El Salvador and some Caribbean countries. The assembling of home appliances mainly takes place in Barbados, Brazil, Haiti and Mexico. Automobile components and office equipment mainly come from Mexico. Haiti, Honduras, The Dominican Republic, Columbia, Costa Rica, Panama, El Salvador and Jamaica use their imported semi-finished products to make clothes. Costa Rica produces shoes. The Dominican Republic produces cigarettes and tobacco products. Columbia manufactures furniture. All of them have preliminarily shaped a large-scale industrial division (Table 9.1).

### ***9.1.3 Attributes and Characteristics of Latin America's Special Economic Zones***

Latin America's special economic zones share the similarities of the world's special economic zones and also present some regional characteristics of Latin America, as mainly manifested in the following aspects:

- (1) Latin America's special economic zones are saliently subject to the US market and to the US foreign policy. Latin America and the most developed economy, the USA, share one continent, so Latin America's special economic zones, regardless of whether they are free trade zones or export processing zones, mainly serve the US market. The European countries, Japan and other countries enter the US market by investments in and subsequent transit through Latin America. In this regard, the US policy towards Latin America largely determines the prosperity and success of Latin America's special economic zones. In 1983, the United States Congress passed the Caribbean Area Initiative to approve the policy that the USA would carry out tax exemption for about 4000 exported goods from Central America and the Caribbean Area in the next 12 years, and

**Table 9.1** The establishment of Latin America's export processing zones in the early period

Country	The Antilles Islands	Barbados	Belize	Brazil	Venezuela	Haiti	Guatemala	The Dominican Republic	Jamaica
Year	1978	1965	1965	1967	1967	1965	1981	1970-1983	1976
Number	5	10	1	1	1	1	1	4	1
Country	Honduras	Columbia	Costa Rica	Mexico	Nicaragua	Panama	El Salvador	Uruguay	Chile
Year	1976	1982	1976	1965	1977	1979	1976	1976	1976
Number	2	6	2	17	1	1	2	2	2

Source Li and Jiang (1985) (4)

permit the Caribbean Area to export goods worth one billion USD to the US market. This Initiative promoted trade contacts between the USA and Central America, the Caribbean Area as well as investment by US manufacturers in this area.

- (2) Latin America's special economic zones are mostly of the enclave type and have less connection with the local economy. Latin America has been underdeveloped in industrial technologies and economic conditions for a long time, thus the enterprises introduced into the special economic zones basically feature both importation and exportation from foreign countries. Mexico calls the export enterprises in these export processing zones "maquila enterprises". These enterprises almost completely use imported raw materials, semi-finished products and components to carry out their production, so the development of the special economic zones is of little significance for boosting the development of the local industrial economy.
- (3) Latin America's special economic zones show the trend of placing equal emphasis on developing industry, agriculture, commerce and tourism. The traditional special economic zones mainly focus on the manufacturing and trading of industrial products. Latin America's special economic zones, especially the free trade zones, have gradually shifted their focus from commercial development to industrial development, while the enterprises within the free trade zones have engaged in diverse operating activities, including processing, assembling, manufacturing and tourism. For example, Brazil's Manaus Free Trade Zone has enabled the simultaneous development of three sectors, that is trade, industry, agriculture and animal husbandry. Mexico's Tijuana Free Trade Zone is a free trade zone and a famous tourist attraction.
- (4) The development of the special economic zones in Latin American countries is extremely unbalanced. Latin America's special economic zones are widely distributed and large in quantities, but the degrees of their development are greatly different. The special economic zones in Mexico, Central America and the Caribbean Area are relatively active and develop well, while the development of the special economic zones in some South American countries is slow, and even becomes stagnant.

## **9.2 The Construction of and Experimentation with the Special Economic Zones in Major Latin American Countries**

### ***9.2.1 The Development and Construction of Brazil's Special Economic Zones***

Brazil is the largest country in South America. It covers an area of 8,547,400 km<sup>2</sup>, and is ranked No. 5 in the world. It has a population of 202 million. It is the largest

economy in Latin America and also the country with the most successful development of the special economic zones in Latin America. At present, Brazil's special economic zones are broadly divided into three categories: tax-free zones (ZFM), free trade zones (ALC) and export processing zones (ZPE). Brazil's tax-free zone (ZFM) is only available in the Manaus area. A free trade zone (ALC) is located in the surrounding areas of Brazil's northern ZFM, while the export processing zones are widely distributed.

### **1. Brazil's tax-free zone: the Manaus Tax-free zone (ZFM)**

The Manaus Tax-free Zone is an important part of the Manaus Free Trade Zone; it is situated in the City of Manaus, the State of Amazonas, North Brazil and its surrounding areas. In 1957, the Government of Brazil passed a law concerning the establishment of a free tax-free zone in the City of Manaus; it establishes that all commodities, except weapons, tobacco, cars, alcohol and articles of luxury are imported to the City of Manaus on a duty-free basis. In order to stimulate the industrial development of the zone, Brazil exempts all enterprises within the zone from profit tax, industrial product tax, commodity circulation tax and the taxes relating to the imported mechanical equipment and parts for manufacturing the finished products. Brazil has gradually carried out the free operating? system of enterprises. The main preferential policies in the Manaus Tax-free Zone include: (1) the commodities consumed within the ZFM can enjoy the preferential policy of full duty reduction and exemption when they are imported. After importation, they undergo industrial processing within the ZFM; once they comply with the basic local production procedure, they can enjoy reduction and exemption of a maximum of 88% duties. If they are imported to and then exported from the ZFM, they can also enjoy full duty reduction and exemption; (2) the preferential policy of industrial product tax (IPI) is adopted. The commodities consumed within the ZFM and have been industrially processed within the ZFM, are imported and then exported and can enjoy the preferential policy of full IPI reduction and exemption; (3) the preferential policy of income tax (PIS/COFINS) is implemented; (4) the preferential policy of turnover tax (ICMS) is carried out. In 2014, the National Congress of Brazil promulgated the amendment to the Constitution with a view to further extending the period for implementing the preferential tax policy in the Manaus Tax-free Zone by 50 years, from 2023 to 2073.

### **2. Brazil's free trade zone**

- (1) The Manaus Free Trade Zone. Brazil's Manaus Free Trade Zone is the largest free trade zone on the continent of Latin America, even the world; it includes a free trade zone, a free industrial zone and a free agricultural zone. In 1957, Brazil established the Manaus Free Trade Zone. In 1967, Brazil extended it to the whole State of Amazonas, and set up a trade center, an industrial center, an agriculture and animal husbandry center it developed the Zone towards a type of special economic zone with comprehensive trade, industrial and agricultural processing, and prolonged the original period of preferential treatment from 30 years to 40 years. In 1968, the Manaus Free Trade Zone was extended to the whole Amazonas region and covered an area of 2,210,000 km<sup>2</sup>, accounting for

26% of Brazil's area, and it became the largest special economic zone in the world. Since the establishment of the Manaus Free Trade Zone, Manaus has been ranked No. 1 among the capital states across Brazil in terms of the per capita income growth. Manaus has become the third largest industrial zone in Brazil and an economic center in the northeastern part of Brazil. The Manaus Free Trade Zone has become the main channel and important carrier for Brazil's participation in the globalization process; it has tremendously promoted the economic development of Manaus and all of Brazil.

The Manaus Free Trade Zone is a great enterprise carried out by the Government of Brazil across centuries and is the representative and symbol of Brazil's special economic zones. According to the regulations of the Federal Government of Brazil, the duties of imported and exported commodities are exempted. All machines, equipment, semi-finished products and raw materials used by the enterprises established by foreign capital within the zone were exempted from an import duty from 1968 to 2013. Brazil has established a special fund to encourage domestic enterprises to establish factories in the zone and stresses that all of the exported commodities manufactured within the zone are exempt from taxes. The foreign-funded enterprises within the zone enjoy reduction and exemption of taxes during the initial ten years, including income tax, wage income tax, property tax and property purchase tax; the rate of income tax reduction and exemption can reach 100%. The operating profits of foreign-funded enterprises can be freely repatriated to their countries without any restrictions; the service tax on enterprises is exempt.

The Manaus Free Trade Zone greatly simplifies the administrative management procedure for foreign-funded enterprises, thus providing convenience for foreign-funded enterprises. The Government of Brazil has established a regulation that all of the customs and administrative procedures which govern foreign-funded enterprises—including the entry procedures for the personnel of foreign investors, the approval procedures for foreign-funded enterprises and for import and export trade—are completed at the Authority of Manaus Free Trade Zone and no approval from the Federal Government is required. The Authority of the Manaus Free Trade Zone is a highly efficient, leading organ which exercises the centralized leadership and unifies the management of all affairs within the zone and coordinates the relationship among various parties; it centralizes powers greatly and is flexible and efficient as commercial institutions are, it dramatically simplifies the administrative procedures, and it is very attractive to foreign investors.

The Manaus Free Trade Zone attaches great importance to the protection of the ecological environment and is a model of ecological environmental protection for the world's special economic zones. The Authority of the Manaus Free Trade Zone gives top priority to ecological environmental protection when examining the plans for the establishment of industrial enterprises in the zone. The Authority of the Manaus Free Trade Zone only approves the construction projects without environmental pollution and destruction of the area's ecological balance; it requires the industrial enterprises established within the zone to

have agricultural land covering 50% of the area as a guarantee for safeguarding the ecological environment. If farms and livestock farms are built within the zone, 50% of the area is required to be used for agricultural and animal husbandry production, while the remaining 50% must be used to protect the original state of the tropical forests. Therefore, the ecological environment in the Manaus Free Trade Zone is vigorously maintained and the Manaus Free Trade Zone has become a model of ecological environmental protection for the world's special economic zones. The Manaus Free Trade Zone has greatly changed the economic state of the most underdeveloped area in Brazil.

- (2) The Tabatinga Free Trade Zone (ALCT). Located in the State of Amazonas, the Tabatinga Free Trade Zone is a free trade zone with a special tax system for imports and exports; it was established to boost the development of the westernmost area in the State of Amazonas.
- (3) The Guajará-Mirim Free Trade Zone (ALCGM). It is located in the City of Guajará-Mirim, the State of Rondonia. A special tax system for importation and exportation is carried out in the zone to promote the development of the remote areas in the northwestern part of the state and of the bilateral trade between the area and the neighboring countries, as well as cooperation among the members of the South American Community.
- (4) The Boa Vista and Bonfim Free Trade Zone (ALCBVB). It is located in the City of Boa Vista and the City of Bonfim, in the State of Roraima. A special tax system for importation and exportation is implemented in the zone to push forward the development of the remote areas in the northern part of the state, the bilateral trade between the area and the neighboring countries and the cooperation among the members of the South American Community.
- (5) The Macapa and Santana Free Trade Zone (ALCMS). It is located in the City of Macapa and the City of Santana, in the State of Amapá. A special tax system for importation and exportation is adopted in the zone to stimulate the development of the remote areas in the northern part of the state, the bilateral trade between the area and the neighboring countries and the cooperation among the members of the South American Community.

### 3. Brazil's export processing zone

The Government of Brazil has established export processing zones in various parts of the country so as to better support some slow-developing areas and cities, reduce regional development imbalance, strengthen the international balance of payment, and promote technology dissemination and economic development. As the export processing zones are similar in type to free trade zones, investors are encouraged to establish companies and factories in the export processing zones to manufacture products mainly to be exported. In 2010, the Government of Brazil approved the establishment of six new export processing zones across Brazil, making the number of Brazil's export processing zones reach 22. The enterprises within the export processing zones which engage in production for exportation enjoy various preferential policies, including exemption of federal taxes and simplification of administrative

approval procedures; the period of the preferential policies is 20 years and can be extended after expiry. The products and services purchased from the domestic market are exempt from industrial product tax (IPI), social security charges (COFINS), social integration taxes (PIS)/civil servant property composition taxes (PASEP); the imported products are exempt from import duty, industrial product taxes (IPI), social security charges (COFINS), social integration taxes (PIS)/civil servant property composition taxes (PASEP) and sea freight tax surcharge (AFRMM).

## ***9.2.2 Mexico's Special Economic Zones***

### **1. The development of Mexico's early traditional special economic zones**

Mexico is an open country. Its special economic zones include free ports, free zones, border zones, export processing zones and industrial villages.

- (1) Mexico's free ports and free trade zones. Mexico's free ports mainly refer to some ports along the coasts of the Pacific Ocean and the Atlantic Ocean, such as Ensenada, Mazatlan, Guaymas, Manzanillo, Salina Cruz, Tampico, Veracruz and Progreso. These free ports are Mexico's areas that opened to the outside world early on. After Mexico announced the abolition of the free port system in 1973, some of the above free ports were included in free zones. Mexico's free zones mainly include the State of Baja California and the State of Baja California Sur in the California Peninsula. The most famous free zone cities in both states are Ensenada, Tijuana, Mexicali, La Paz and Santa Rosalia. In Mexico, there are no specially designated free trade zones, and relevant zones are collectively called "free zones", namely, comprehensive free zones covering trade, tourism, investment and the processing industry. By the end of 6 months after the financial crisis occurred in Mexico, the nationalization of private banks was announced and an all-round foreign exchange control was exercised in Mexico in 1982; the preferential policies and convenience for free zones were temporarily cancelled; both import management and foreign exchange management were the same as the inland areas; free zones were basically closed. Partial preferential policies and convenience in free zones were not gradually restored until 1984. Finally, all of the free zones in Mexico became restricted free zones.
- (2) Mexico's border zones and export processing zones. Among Mexico's zones open to the outside world, the border zones are the most extensive and representative; they cover the northern area, close to the border with the USA; the area is more than 3000 km in length from east to west and 20 km in width. In such a long and narrow area, foreign investors are permitted to establish factories, there are no restrictions on industries nor on the proportion of the investment, and 100% sole proprietorship is permitted. All of the border zones in Mexico can be called export processing zones because border zones have been separated from the inland areas since their establishment; export processing factories are permitted

to be established within the border zones. Mexico's export processing factories are relatively scattered, not concentrated and are available on a very small scope, so they are called industrial villages; the export processing industries are considered "maquila industries" and refer in particular to modern processing with supplied materials and export processing. Most of Mexico's export processing industries are concentrated in some cities in the northern border zones, including Tijuana, Mexicali, Nogales, Juárez, Nuevo Laredo, Reynosa and Matamoros. Mexico's export processing industries are distributed to ensure the comprehensive development of multiple industries and they also develop key industries according to a planning scheme. For example, there are a number of industries, including textile, leather, cast iron, furniture, artware and garments, in the City of Tijuana. The areas which developed later, including such border cities as Nogales and Matamoros, are mainly home to auto parts processing and assembling factories, and electronic and electrical product factories.

## 2. The construction of Mexico's comprehensive special economic zones

In 2014, the President of Mexico, Enrique Peña Nieto, vowed to establish four special economic zones, the Chiapas Port Special Economic Zone, the Lazaro Cardenas Port Special Economic Zone, the Istmo de Tehuantepec Special Economic Zone and the Tabasco Campeche Special Economic Zone in Chiapas, Oaxaca, Guerrero and Michoacan, respectively. The construction of these four special economic zones has greatly attracted foreign capital and enhanced regional productivity. The population of the four states where these four special economic zones are located accounts for 15% of the national population and their GDP makes up 7% of the national GDP. Currently, the Government of Mexico has invested 195 billion pesos (1 USD is approximately 13.7 pesos) in the construction of strategic infrastructures in the area, including highways and hospitals. These four special economic zones are expected to be put into operation by September, 2018. Although the specific plan of development relating to the above special economic zones has not yet been unveiled, the functional division of various parks has been basically determined: The Chiapas Port Special Economic Zone will focus on developing the agricultural, chemical, energy and textile industries; the Lazaro Cardenas Port Special Economic Zone will be dedicated to automobile, metallurgical, iron and steel, mining, chemical, hydropower and thermal power generation industries; the northern and southern parts of the Istmo de Tehuantepec Special Economic Zone—Coatzacoalcos and Salina Cruz—will separately aim at developing the petrochemical industry and the textile, ready-made garment, wind energy and electric energy industries; the isthmus corridor will give priority to introducing the automobile, mining, iron and steel and forest industries; the Tabasco Campeche Special Economic Zone will focus on the oil industry and its derivative production.

In 2016, the Government of Mexico promulgated the *Federal Special Economic Zone Law*. The official promulgation of Mexico's *Federal Special Economic Zone Law* marked the completion of the legislative process involving the establishment of special economic zones in the southern part of Mexico and the official entry into the implementation stage. According to the *Federal Special Economic Zone Law*,



Mexico's Ministry of Finance is the competent department for the special economic zones in the southern part of Mexico and is responsible for making the policies for establishing, planning and developing the special economic zones, deliberating the development plans for them, issuing the management and investment licenses for those zones, and coordinating the actions of the government departments at the federal, state and municipal levels. The Ministry of Finance will also lead more than ten federal and local departments, including the Ministry of the Interior, the Ministry of Social Development, the Ministry of the Environment, the Ministry of Energy, the Ministry of the Economy and the Ministry of Agriculture, to set up an interdepartmental committee for the construction of the special economic zones in order to strengthen interdepartmental and cross-regional coordination. Moreover, a technical committee will be established in the special economic zones to track and evaluate their construction and operation and present the annual report and work suggestions concerning them to the Ministry of Finance. The mandatory preferential policies for the special economic zones which are specified by the law to attract enterprises to them mainly include: the enterprises in the special economic zones are exempt from the value added tax (except that the products from the special economic zones are sold on Mexico's domestic market), and they enjoy preferential corporate income tax, facilitation of customs clearance and one-stop services. The investors with the intention of participating in the construction, management, operation and maintenance of the special economic zones must apply to the Ministry of Finance to obtain the comprehensive management license; the maximum licensing term is 80 years, the initial licensing term is 40 years and the licensing term can be extended by 40 years. The investors with the intention of carrying out economic production activities within the special economic zones must also apply to the Ministry of Finance.

### ***9.2.3 Cuba's Special Economic Zones***

The Mariel Special Development Zone is the first and only special economic zone which is under construction in Cuba. Cuba's *Special Development Zone Law* relating to the Port of Mariel officially became effective in November, 2013, which marked the official establishment of the Mariel Special Development Zone. This means that Cuba's first special economic zone had been opened to the outside world. Being 50 km away from Havana, the Capital of Cuba, the Mariel Special Development Zone is built on the Port of Mariel which originally was a port city. The Mariel Special Development Zone covers an area of 465 km<sup>2</sup>. After its completion, it will become a fully functional integrated park, including a new and high-tech industrial zone, a traditional industrial zone, a logistics warehousing zone, a central business district and a transportation transfer zone. With striking advantages due to its geographical location, Mariel is situated at the trade center of Latin America and the Caribbean Area; it is close to the Panama Canal and the Nicaragua Canal, which may be built in the future, and it can exert an impact on the USA, Mexico, the Caribbean Area and Central America. Phase One of THE Mariel Special Development Zone aims

at rebuilding the Port of Mariel to make it a modern deepwater port which can accommodate large container ships and match the carrying capacity of the Panama Canal, which is being expanded, as well as coordinate with the nearby railways, roads and airports. The Government of Cuba hopes to develop the Mariel Special Development Zone into Cuba's foreign trade gateway and the transportation hub for Cuba and the whole Caribbean Area.

In order to attract investors, special preferential policies concerning taxation, currency, banks, labor service and customs have been adopted towards investors in the Mariel Special Development Zone. The duration of the project could be as long as 50 years. As of 2015, the applications filed by seven companies with respect to the investment projects in the Port of Mariel and the Mariel Special Development Zone had been approved. Great progress has been made in the construction of Block A, covering an area of about 4500 ha at the Port of Mariel; it is expected to create 7000 jobs.

At present, Cuba's economic growth is sluggish; however, with the improvement of Cuba's relations with the USA and Europe, the Cban Special Economic Zone will become Cuba's export platform. The Mariel Special Development Zone has been incorporated into Cuba's national strategy for development. The special economic zone might promote the construction of infrastructures, expand exports to replace imports, attract foreign capital, introduce advanced technologies, boost national progress and create more jobs; more importantly, it could help Cuba upgrade its economic model and become Cuba's foreign trade gateway.

#### ***9.2.4 Uruguay's Special Economic Zones***

Uruguay's special economic zones are mainly free zones and free ports. According to Uruguay's free zone law, the trade and industrial processing within free zones can be considered an area of overseas operations and processing. These free zones are not subject to any taxes or dues, However, the entry of products onto the domestic market is considered an import and is subject to customs duties or import duties for different products based on Uruguay's relevant duty rates; exports to other countries are considered exports and are subject to relevant import duties based on the duty rates specified by the customs administrations of the relevant countries. Uruguay is a member of the MERCOSUR, so cargo or goods entering the MERCOSUR countries from free zones are subject to different tax rates specified by the relevant regulations within the MERCOSUR area.

- (1) Uruguay's free zones. In 1987, the Government of Uruguay approved the No. 15921 *Free Zone Law*. Most of these free zones are distributed in the provincial capitals or port cities along the banks of La Plata River in the southern part of Uruguay; some free zones are trading port cities on the borders among the northern, eastern, western and southeastern parts of Uruguay, Argentina, Cuba. Ten free zones have been built in COLONIA, NUEVA PALMIRA, MONTEV-

IDEO, SAN JOSE, FLORIDA, RIVERA, RIO NEGRO, NUEVA HELVECIA and LIBERTAD. The free zones mainly include the Montevideo Free Zone, the Colonia Suiza Free Zone, the Colonia Free Zone, the Nueva Palmira Free Zone, the Rivera Free Zone and the Florida Free Zone. The free zones are mainly engaged in warehousing, distribution or mixing, assembling, disassembling and in non-industrial products and raw materials; factories have been set up to operate the relevant business in the free zones; relevant industrial services, financial, information and maintenance services are provided in the free zones.

- (2) Uruguay's free ports. Uruguay promulgated the No. 16.246 *Port Law* in May, 1992. The Port of Montevideo became the first free port along the coast of the Atlantic Ocean in South America. Furthermore, the ports at such cities as Nueva Palmira, Fray Bentos and Colonia are also positioned as free ports. Cargo can freely flow into the Port of Montevideo as a free port without the need to apply for a license or follow complete formal procedures. During the stay of cargo ships, as long as they are within the customs area of the port, they are exempt from all taxes. Within the relevant areas of the port, the destinations of cargo can be freely changed, there are no restrictions and it is not necessary to obtain licenses or file an application in advance under any circumstance. Warehousing, repackaging, renaming, classification, combination, grouping, reconditioning, operating and cutting are permitted. Warehouses dedicated to storing cargo for a long time can also be built and the duration and size of that storage are not restricted. In accordance with the laws, Uruguay has also built non-port wharfs within the scope of ports. These wharfs provide more space for ports and higher flexibility for the operational activities relating to foreign trade. The Administración Nacional de Puertos de la República Oriental del Uruguay (ANP) is the administrative department for the ports throughout Uruguay and is part of Uruguay's Ministry of Transport and Public Works. The ANP is responsible for helping Uruguay grow into a highly competitive logistics center in response to the international economic requirements; its task lies in actively and effectively promoting domestic and foreign economic and social development, carrying out a high-quality service business, and high-tech, fundamental construction.

### ***9.2.5 The Construction of Venezuela's Special Economic Zones***

Venezuela is adjacent to the Caribbean Sea and the Atlantic Ocean to the north, Guyana to the east, it borders with Brazil to the south and Columbia to the west. It is an important producer and exporter of oil throughout the world. The oil industry is its economic lifeline. In recent years, Venezuela has faced a severe economic recession. In 2015, the Government of Venezuela held an international symposium, "Special Economic Zones and Strategic Development". The representatives of more than 130 Venezuelan enterprises and more than 50 foreign enterprises, including

Chinese-funded enterprises, attended the symposium. An important objective of the symposium was to explore the productive socialist pattern of development through the construction of special economic zones. An important measure adopted by Venezuela to speed up the construction of the productive socialist pattern of development was the establishment of special economic zones all over the country. The Government of Venezuela plans to establish the Urena San Antonio Special Economic Zone in the State of Tachira in the western part of Venezuela, the Paraguana Special Economic Zone in the State of Falcon, and the Hugo Chavez Special Economic Zone within the Orinoco Oil Belt in the eastern part of Venezuela. The special economic zones are designed to attract domestic and foreign investments and enhance the national capacity to earn foreign exchange through exports.

### ***9.2.6 The Panama Colon Free Trade Zone***

Covering an area of 2.4 km<sup>2</sup>, the Panama Colon Free Trade Zone is located at the north end of the Panama Canal and is 100 km to the north of the City of Panama. In 1948, the Government of Panama officially approved the establishment of the Colon Free Trade Zone. At present, the Colon Free Trade Zone, the Panama Canal and the financial industry are the three pillars of Panama's economy and they play an important role in Panama's national economy. The Colon Free Trade Zone is mainly engaged in transit trade. In its peak year, there were more than 3000 companies registered, more than 30,000 employees and more than 30 billion USD annual trade volume in the Colon Free Trade Zone. The commercial activities in the Colon Free Trade Zone are based on a well-developed supporting system, from transportation to commercial operations; there are six airports, five seaports and leading-edge handling equipment. The container wharfs cover a wide area; there is the Pan-American Highway starting from Alaska; the highways of the Isthmus of Panama which extend from the Caribbean Sea to the Pacific Ocean; the railways crisscross at the Isthmus of Panama. China is the largest supplier of commodities for the Colon Free Trade Zone. According to the statistics from the Management Committee of the Colon Free Trade Zone, in 2015, the commodities from the Chinese Mainland and Hong Kong amounted to 3.54 and 0.44 billion USD, respectively, accounting for 34.3% and 4.3% of the total import volume of the Colon Free Trade Zone, respectively. At present, about 60–70 Chinese enterprises are carrying on transit business in the Colon Free Trade Zone. In 2016, the Congress of Panama passed the No. 222 Bill for reviving Colon, revised the No. 29 Act adopted in 1992, and approved the implementation of a special free port system by the City of Colon. The new legislation will change 16 streets in the City of Colon into shopping districts to attract tourists for shopping. The government will invest 500 million USD in the City of Colon to build a new Colon Free Port.

## **9.3 Organizations of Latin American Cooperation and the Common Market**

### ***9.3.1 The Union of South American Nations***

The predecessor of the Union of South American Nations is the South American Community of Nations. It consists of five member countries of the COMUNIDAD ANDINA DE NACIONES including Bolivia, Columbia, Ecuador, Peru and Venezuela, four member countries of the MERCOSUR including Argentina, Brazil, Uruguay and Paraguay, as well as Chile, Guyana and Surinam. There are two observers in this organization. The purpose of the Union of South American Nations is to achieve all-round integration in the political, economic, social and cultural fields, give priority to promoting political dialogues and deepen cooperation in social policies, education, energy, infrastructure, finance and the environment.

### ***9.3.2 Comunidad Andina de Naciones***

The COMUNIDAD ANDINA DE NACIONES (CAN) was established by five South American countries, Columbia, Peru, Chile, Bolivia and Ecuador, in 1969. In May, 1969, the representatives of the governments of Peru, Bolivia, Ecuador, Columbia and Chile held a meeting in Cartagena, Columbia, to discuss the issue of subregional economic integration and sign the *Subregional Integration Agreement (Cartagena Agreement)*. The agreement came into effect on October 16, 1969. As all of the member countries are at the foot of the Andes, it is called the Andean Group or Andean Pact Organization. The COMUNIDAD ANDINA DE NACIONES is designed to fully utilize the local resources to promote balanced and coordinated development among the member countries, remove the tariff barriers among the member countries in order to form a common market and speed up economic integration. According to the regulations of this organization, a preferential treatment is provided to Bolivia and Ecuador.

### ***9.3.3 Latin American Economic System***

In October, 1975, the representatives of the governments of 23 countries signed the *Panama Agreement* and announced the establishment of the Latin American Economic System. The agreement became effective from June 7, 1976. Under the principle of equality, sovereignty, independence, unity, non-interference in each other's internal affairs, and mutual respect for differences in political, economic and social systems among countries, the Latin American Economic System aims at enhancing cooperation in Latin America, promoting regional integration, developing and

carrying out economic and social development plans and programs, coordinating the stances and strategies of the Latin American countries concerning economic and social issues, practically safeguarding the legitimate rights and interests of the Latin American countries, and building a fair and reasonable new international economic order. There are 28 member countries, which are Argentina, Barbados, The Bahamas, Paraguay, Panama, Belize, Brazil, Peru, Bolivia, The Dominican Republic, Ecuador, Columbia, Costa Rica, Grenada, Cuba, Guyana, Haiti, Honduras, Mexico, Nicaragua, El Salvador, Surinam, Trinidad and Tobago, Guatemala, Venezuela, Uruguay, Jamaica and Chile, and more than 50 observers, including the political, economic and social organizations of Latin America, Europe and the United Nations.

### ***9.3.4 The Organization of American States***

The Organization of American States is a regional, international organization consisting of the USA and Latin American countries. Its predecessor was the International Union of American Republics. It was established on April 14, 1890. The current name was adopted in the 9th Pan-American Conference held in Bogota in 1948. Currently, there are 34 member countries. Fifty seven European, Asian and African countries or territories and the USA have sent resident observers to this organization.

## **9.4 The Latin American Economy and Economic and Trade Cooperation Between Latin American Countries and China**

### ***9.4.1 The Current and the Future Situations of the Latin American Economy***

The global economy continues to be sluggish, the Latin American economy is less optimistic. In 2015, the Latin American economy declined by 0.4% and the per capita GDP decreased by 1.5%. Meanwhile, the regional inflation rate rose from 6.3% in 2014 to 6.6% in 2015; it exceeded 6% for two consecutive years. Brazil, the largest economy in Latin America, declined by 3.8%. With a severe economic recession and continued high inflation, Latin American countries got into severe economic troubles. Moreover, Latin American countries faced both fiscal and trade deficits. In 2015, the primary fiscal deficit at the level of the central government accounted for 1% of the GDP, the overall deficit, including public debt interest payments, made up 3% of the GDP in Latin America. Regarding foreign trade, Latin America was hit by both insufficient export demand and a decrease in the prices of staple commodities. The current account deficit accounted for 3.5% of the GDP in Latin America. More seriously, the domestic currencies of Latin American countries depreciated more

quickly. In 2015, the currencies in Brazil, Columbia, Argentina, Uruguay, Paraguay, Mexico and Chile depreciated by 32.1, 26.1, 24.6, 17.7, 16.8, 13.9 and 11.8%, respectively; the prices of the most important supporting resource factors, especially oil, in Latin American countries remained continuously low; the government revenue and expenditure became unbalanced; there were difficulties in employment and life; these factors further destabilized the society in Latin American countries. It is difficult for the Latin American economic environment to turn around in a short period of time, it is even highly likely that the Latin American economic environment will continue to deteriorate. Against such a background, various countries have a strong demand for reviving their economies and boosting their confidence in development. Various countries are seeking the economic growth impetus and a direction to follow for future development. China has maintained high economic growth in this context for a long time and has still grown by 6–7% amidst the global economic crisis, so China, which is also a developing country, has become the hope for the Latin American countries. Strengthening the economic and trade cooperation between China and Latin American countries, and learning from China and China's special economic zones has become a consensus reached by many Latin American countries.

#### ***9.4.2 The Economic and Trade Cooperation Between China and Latin American Countries and the Future Plans***

Both China and Latin American countries are part of the third world and are developing countries. The Chinese Government has always attached great importance to the relations of the economic and trade cooperation between China and Latin America. According to the data from China's Ministry of Commerce, China's non-financial investments in Latin America amounted to 21.4 billion USD in 2015, up 67%. China has become the second largest trading partner of Latin America after the USA. China is an important export market for many products from Latin America, including iron ore, copper ore, soybeans, chicken, beef, wine and fish meal. The economic depression in Latin America has posed certain risks to Chinese enterprises' investments in Latin America, but this does not change the foundation for the economic and trade cooperation between China and Latin American countries.

According to the *Plan for Cooperation between China and Latin American and Caribbean Countries (2015–2019)*, China will further promote trade and investment between China and the member states of the Community of Latin American and Caribbean States. Both sides are making concerted efforts to push forward the growth, balanced and mutually beneficial development of bilateral trade, and increase bilateral trade to 500 billion USD within ten years. Bilateral investment stock will reach at least 250 billion USD. The investment stock in the Community of Latin American and Caribbean States specially focuses on the production of hi-tech and high value-added commodities. Actions are being taken to strengthen trade in services and e-commerce cooperation on the basis of the traditional trade, promote balanced

trade development, and properly handle trade frictions according to the WTO rules and the trade agreement between China and the member states of the Community of Latin American and Caribbean States. Joint ventures and partnerships have been established to encourage investment promotion and facilitation. Medium-sized, small and micro enterprises on both sides are encouraged to strengthen cooperation; small and medium-sized enterprises are encouraged to achieve internationalization and participate in the global industrial chain. The cooperation fund between China and Latin America, special loans for infrastructures between China and Latin America, the preferential loans offered by China and other financial resources are fully utilized to support the key cooperation projects between China and the member states of the Community of Latin American and Caribbean States in line with the social, economic and environmental development needs and a vision of the sustainable development of the Latin American society. The developmental financial institutions in Latin America are used to strengthen cooperation between China and the member states of the Community of Latin American and Caribbean States, and boost infrastructure cooperation between China and the member states of the Community of Latin American and Caribbean States. Efforts are made to intensify the building of infrastructures in transportation, ports, roads, warehousing facilities, commercial and trade logistics, information and communication technology, broadband, radio and television, agriculture, energy, electric power, housing and urban construction. The powerful Chinese and Latin American enterprises are being encouraged to participate in Latin American and Caribbean integration and to improve the key projects for connectivity between China and the member states of the Community of Latin American and Caribbean States.

At present, the bilateral trade between China and Latin America has broken away from the era of nearly 30% average annual growth during the period 2000–2011 and has gradually ushered in a period of structural optimization and stable growth. With the economic slowdown and all-round supply-side structural reform in China, the transformation of the pattern of economic growth and the deepening structural reform on both sides, the economic and trade cooperation between China and Latin America has entered a new stage. The profound cooperative relationship between China and Latin America has replaced the pure economic and trade relations. China is establishing China-Latin America cooperative industrial parks based on the special relationship in Latin American countries to increase the industrial level of Latin American countries and enhance their export capability. Under such a new type of cooperative relationship, the special zone mode and the special zone path have become the main methods of cooperation. As not a few Latin American countries have faced an economic downturn, China and Latin America are engaging in all-round cooperation in the construction of special economic zones, and China's contribution of its wisdom is of great significance to the economic structural transformation in Latin American countries.



## 9.5 Inspirations from China's Path Towards the Creation of Special Zones for the Construction of Special Zones in Latin America

Over the 30 years of reform and opening up, China's path towards the creation of special economic zones is undoubtedly the most successful one in the world. Its success lies not only in developing special zones, but also in finding out the correct path towards opening up for China through first-ever implementation of pilot programs in its special zones. China's special economic zones remain successful merely from the perspective of their development. In this regard, the UK media believe that "Shenzhen is the most successful among 4300 special economic zones throughout the world". Latin America is the region with the largest scale and the earliest practice of the traditional special zones in the world. The special zones brought the first and second "golden decades" to Latin America. As the global economy is currently sluggish, Latin America's economy is in a particularly difficult period; can Latin America once again usher in a new golden age of development? China's path towards the creation of special zones certainly can provide some beneficial inspirations for the development of Latin America.

- (1) The special economic zones cannot develop in an isolated way and they should be connected to the national market and gradually stimulate technical upgrading and institutional transformation of the whole country. The preferential treatments in many free zones and tax-free zones in Latin America are disproportionately generous—taxes have been abandoned for a long time in order to attract investors; as a result, economic distortion occurs, it is highly likely that the special zones will be fraught with smuggling, money laundering, false declaration of exports, even corruption. There will be deviation from the original intention of establishing special zones. As special preferential policies are adopted in the special zones, deregulation should be carried out gradually nationwide in order to make the "special" of the special zones universal. The ultimate goal of implementing pilot programs in the special zones consists in its widespread application. The special zones should drive forward the economic development in the surrounding areas or nationwide, and help increase the industrial level of the whole country as well as making the whole country open to the outside world. After the special zones achieve primary accumulation and embark on a path towards sustainable development, the special zones should repay the underdeveloped areas in due time. Only in this way can the special zones play an important role in the whole country.
- (2) The special zones should have a stable and loose policy and political environment. The greatest characteristic of the special zones lies in enjoying the free decision-making power in specific areas and fields. The government, especially the central government, should strike a proper balance between subjecting the special zones to full political supervision and freeing them from government bureaucracy. Excessive interference from the central government will make the experimental opportunities disappear. Moreover, the powers granted to the spe-

cial zones by the legislation cannot vary with governments and leaders. Governments should create and provide a stable and harmonious social environment. Even if social unrest occurs, governments should first ensure that the stable environment of the special zones will not be destroyed. Only in this way can governments ensure that investors will not withdraw from the special zones due to turmoil across the country.

- (3) The development of the special zones must conform to national conditions and cannot be pursued by mechanically copying China's path towards the creation of special zones. When delivering a speech at the National Congress of Brazil in July, 2014, Chinese President Xi Jinping said: "Only the person who attempts to wear shoes knows whether the shoes fit his feet; as I know, there is also such a saying in Brazil; this shows that it is common sense known to all. There is no panacea for curing all diseases and no universally applicable pattern of development suitable to the entire world. We should continue to firmly support others in taking the paths towards development that are suitable to them." One important reason for the success in China's special zones is that China has not completely imitated the Western experience, but has carried out designs and experiments in the special zones in line with China's national conditions. The biggest problem in the previous development of Latin American countries is that they indiscriminately accepted the Western "recipe" without considering their own national conditions, and instead, they followed the Washington Consensus to conduct a neo-liberal reform dominated by excessive privatization, liberalization and marketization. The successful Western experience and China's path towards the creation of special zones cannot be completely copied. Therefore, the greatest inspiration from China's experience for Latin American countries is the experimentation of a path towards development that is suitable to their national conditions.
- (4) The development of the special economic zones must be based on the awareness of innovation, a spirit of innovation and a pioneering spirit. In the early period of China's reform and opening up, a Chinese leader stressed that reform should be carried out in the manner of "crossing the river by feeling the stones", seeking breakthroughs and experimental fields, and practical experiments. With such a pioneering spirit, Shenzhen has developed from a small border town with a population of only 30,000 into an international metropolis with a population of more than 10 million and a GDP hitting 1.75 trillion yuan (2015). Awareness and a spirit of innovation are also particularly important for Latin American countries in the construction and development of special economic zones.
- (5) Infrastructure should be the first to be built in the construction of special economic zones. One important cause for restricting Latin America's special economic zones from developing and playing a greater role is that infrastructure in many of those countries is underdeveloped. A weak infrastructure in Latin America has severely affected the prices and advantages of commodities exported from the area. On the contrary, China attaches great importance to the input in the construction of infrastructures; China is at the internationally advanced level in a number of capital construction fields, including highways, high-speed

railways and airports. This lays a foundation and creates the conditions for economic development and upgrading. This is also the reason why China is intensifying the construction of infrastructures in Latin American countries in accordance with the economic and trade cooperation between China and Latin America.

## References

- Cuba Imitates China to Establish the First Special Economic Zone and Draw Upon the Experience of the Reform and Opening Up, *Beijing Youth Daily*, 2013-11-10.
- Guo, C. (1985). The development of Mexico's zones open to the outside World and their policies. *Series of Books on Latin America*, (4).
- Highlights of Mexico's Federal Special Economic Zone Law, official website of the Ministry of Commerce, 2016-06-03.
- Li, H., & Jiang, S. (1985) Overview of Latin America's special economic zones. *Series of Books on Latin America*, (4).
- Plan for Cooperation between China and Latin American and Caribbean Countries (2015–2019), *People's Daily*, 2015-01-10.
- The President of Mexico, Enrique Peña Nieto Announced the Establishment of the Special Economic Zones in the Southern Region, *El Economista*, 2014-11-28.
- The Government of Mexico Promulgated the Federal Special Economic Zone Law, Economic and Commercial Counsellor's Office of China in Mexico, 2016-06-03.
- The Establishment of the Special Economic Zones Is Cuba's New Path of Revolution, *CAAC News*, 2014-01-03.
- UK Media: Shenzhen Is the Most Successful among 4,300 Special Economic Zones in the World, [cankaoxiaoxi.com](http://cankaoxiaoxi.com), 2016-04-04.
- Wang, X. (1993). The Development of Latin America's special economic zones and the outlook for the 1990s. *Journal of Latin American Studies*, (5).
- Wu, Z. Venezuela Plans to Establish Special Economic Zones to Attract Investments, [people.com.cn](http://people.com.cn), 2015-01-20.
- Yan, H. Brazil's capital of black gold restores the previous prosperity. *People's Daily*. 2013-08-23.
- Zhang, Y. (2016). An analysis of the current economic situation in Latin America and some lines of thought. *The Contemporary World*, (4).
- Zhao, H. (2016, September 2) Inspirations from China's path for Latin America, Xinhua News Agency Beijing Branch.
- Zhou, Q., & Bi, L. (1992). The largest special economic zone in the World—the Brazil Manaus free trade zone. *Economic Review*, (6).