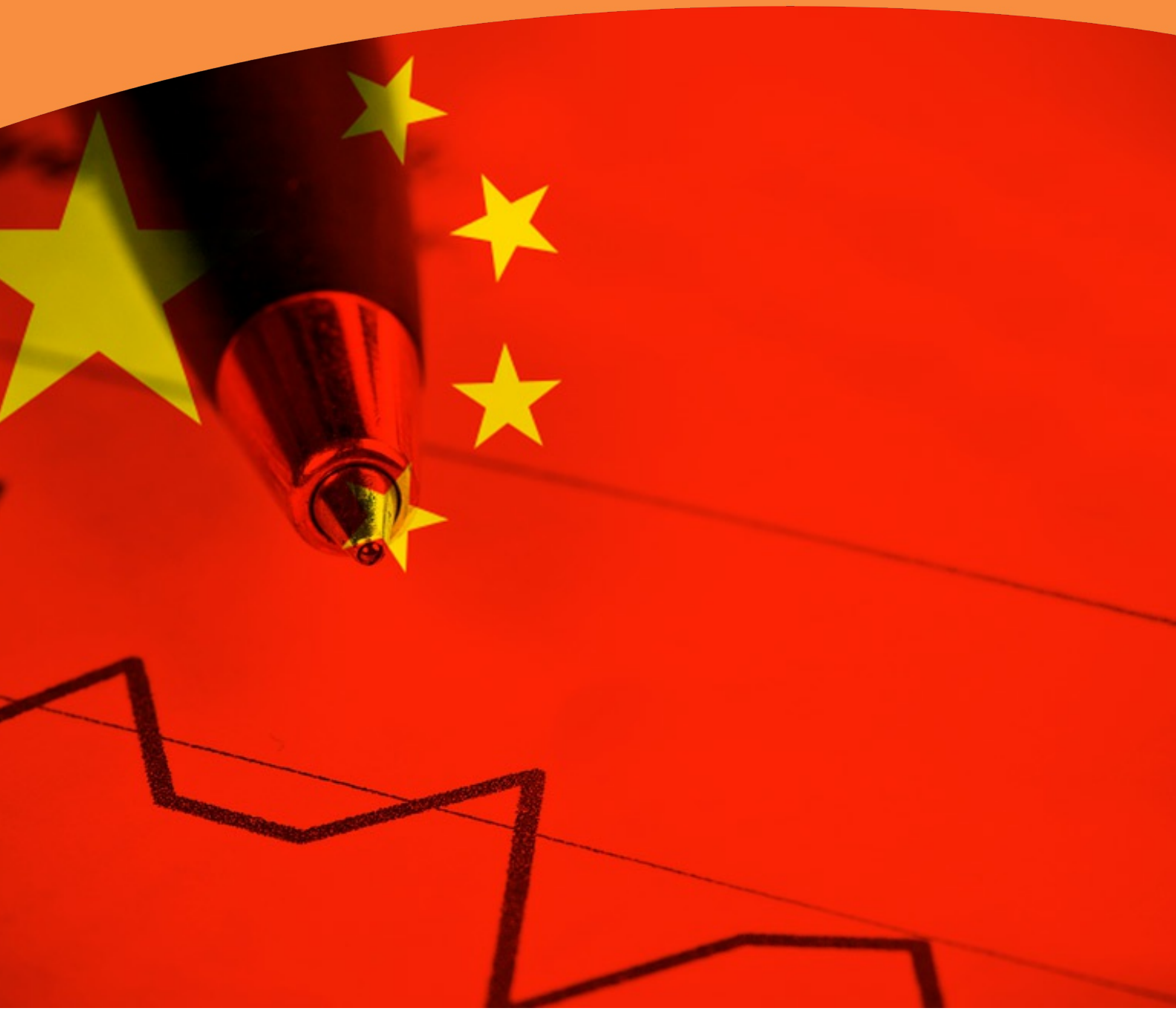
Transitional China in the 21st Century

A Guide Book for Understanding Emerging China

Dr. Jinliao He; Ke He; Wei Linlin



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Transitional China in the 21st Century: A Guide Book for Understanding Emerging China
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University of Heidelberg

CONTENTS

PREFACE

Over the past decades, China has been in dramatic transition in economic, social and urban spheres. These transformations are comprised of industrial reconstruction (e.g., the rapid rise of high-tech and creative industries), a new landscape of growing cities in China, as well as globalizing economy and culture. In order to update the knowledge of a changing China, this book focuses on some new developments in industrialization, urbanization and globalization since the beginning of 21st century. It aims to provide overseas readers with an introduction to some topical issues in recent China studies, and further lead to a better understanding of transitional China and its relationship with the outside world, especially Western society.

Three basic aspects of China studies will be addressed in this book, namely, industrialization, urbanization and globalization. First, it will briefly trace the development path of China's new economy since the 1990s. More importantly, it questions what happed in recent years. What can other parts of the world learn from China' economic and urban practices? Considering especially topical issues such as "made in China 2025", network+ economy in China, the new global strategy by the Xi-Li regime (President Xi Jinping and Primer Minister Li Keqiang), and so forth – what are challenges and opportunities existing in these processes? The book will introduce as well the spatial transition of China's economy and population over the past years (e.g., demographic immigration). Second, great attention will be placed on urbanization of today's China, including a glance at land-use systems, urban social transformation, population structure and mobility, and urban problems. Lastly, the book will introduce the new role of China in the process of globalization, and the new strategies for China going outside and participating in establishing a new order in the world in the new century.

Though this book is not a theoretical textbook, the explanations are based on a wide range of theories from urban, economic, cultural, and political studies. Most of the chapters are based on the research results of the authors and their colleagues. The book will adopt a large amount of data, including statistic data, graph, and maps. All in all, this book will provide students with a colorful story about present China studies.

ACKNOWLEDGEMENTS

The book is a cooperative work by me and other two co-authors from Germany and Thailand, to whom I am grateful. Special thanks go to my student assistants Gu Wei, He Qiong, and Li Peize at Nanjing University, who have been dealing with a large number of materials and data processing. I also appreciate the comments and suggestions from my former PhD supervisor Prof. Hans Gebhardt, Geographical Institute, Heidelberg University. Finally, I want to express my gratitude to the publishing house Bookboon. It would not have been possible to publish the book without the support from the team in Bookboon.

Dr. Jinliao He
Nanjing
September 2016

1 INTRODUCTION

Chapter contents:

- Industrialization
- Urbanization
- Globalization

In recent political and academic discussion, great attention has been drawn to China, a country that has been emerging dramatically over the past three decades in both economic and political domains. Nevertheless, for the rest of the world, China is a place remaining relatively under-explored, its people, governance, culture, and intellectual thinking full of mystery. This asymmetric knowledge to China of the outside world causes misunderstanding and even unnecessary anxiety about a rising China, expressed through well-known declarations such as 'the China threat' (Gertz, 2013). For other people with limited interest in China, their knowledge and perception of China is perhaps from national media and fragmentary information which exaggerates one side of the facts while understates the others, leading to a biased vision of this eastern state with a long history and a huge population. It is timely to present the reality of today's China for the rest of the world, in a sense of a general overview of the new developments, problems, lessons, and opportunities (Storey and Yee, 2004).

In order to provide a holistic understanding about emerging China, and more recently transitional China, three basic dimensions – industrialization, urbanization and globalization – are necessarily introduced before a general idea can be formed. Above all, China's growth starts with a hysterical revolution, known as industrialization, that happened one hundred years ago in West. China was a typical agricultural nation before reform and opening-up. But it shifted sharply when external and endogenous capitalists were allowed to operate their factories and enterprises, initially in some special areas such as Shenzhen, the first place opened, and then everywhere in China. New technologies, ventures, management, financial bodies, and more importantly, the cheap labor, GDP-based regime and policies, and perhaps the vertically structured one-party system, all lead to earthshaking changes. This transition was further promoted when China finally entered into the WTO (World Trade Organization) in 2001. Since then a label of 'made in China' can be seen everywhere in the world. This delayed industrialization brought Chinese people great wealth (unfortunately for only a small proportion of the people) and a huge amount of currency for the Chinese government in terms of tax revenues and state-owned properties, supported by the fact that Chinese governments own the greatest amount of property in the world, valued ca. $85,953 billion according to the Chinese Social Science Academy (Li et al., 2015).

However, in the recent years this rapid change or development is seemingly unsustainable in light of huge social disparities, decreasing population of young laborers but increasing labor cost and housing prices, as well as deteriorating environmental effects created in the process of the former growth-pursuant mode of industrialization, which has made China gradually lose its competitiveness in the global system. A new issue termed 'transitional China' is therefore proposed by Chinese scholars in order to redress current development paths highly dependent on labor and raw materials towards a new economy relying on innovation and technology. China has established its status as the biggest state of manufacturing production and now faces its decline, and comes into a new era of knowledge-based economy. Will China be successful in the new economy as it was in the previous industrialization which is actually a spatial shift from post-industrial countries to the developing socieites? In the world of knowledge-based economy, is western super power, especially the USA, going to welcome a new competitor like China? It might be too early to make any conclusion at this moment, when China is still in a process of transformation; but impressive performance has already been achieved in some high-tech industrial fields, such as ICT (Information and Communications Technology), smart phone production, and high-speed railways, in which China is no longer a follower but an innovator and perhaps leader.

Industrialization doesn't go alone but walks side by side with another overwhelming social and population transformation termed urbanization. China was not an urbanized society until after the 1990s when industrialization developed to a point that a huge amount of assembly line workers was demanded in the industrial areas, particularly in southern China in places like like Guangzhou-Shenzhen-Dongguan. In these cities, migrant workers (in Chinese *nongmingong*) from rural regions of China, mainly from inland provinces such as Sichuan, Hunan, Hubei, were able to find factory jobs with a payment higher than what they could get in their hometowns as famers or craftsmen. These young laborers were usually not highly educated but skilled enough for mass production work in factories characterized as Fordism. Some of them were even fortunate enough to make themselves rich and become entrepreneurs finally in a world full of venture capital opportunities. However, most of them are not 'qualified' as urban residents according to Chinese *hukou* policy (China's household or residence registration system), a particular regulation to control the mobility of populations in China. Without an official *hukou* in the cities, citizens find themselves having too many difficulties getting their kids educated, getting social welfare for medical care, unemployment insurance, retirement pay, and even being prohibited from buying a house (in some first-tier cities like Beijing and Shanghai). This makes migrant workers a special group of people who need to travel between home and workplace similar to migratory birds; they come back home each spring festival to visit their families (kids, parents and relatives), and go back again to the city for their jobs after a short break for the new year holiday. And that causes intensive transport phenomena during the spring festivals (in Chinese *chunyun*), leading to a huge number of travelers in a duration of about one month or so, as many as almost double the Chinese population of 1.3 billion.

However, this process of industrial migration is seemingly irreversible, since all of these young workers have lost their skills and motivation to go back to do farm work in the countryside. They tend to search for new urban life for their future, which thus stimulates a great demand for urban facilities and houses in the cities. Urbanization is boosted in the industrializing China. When more and more people gather in the cities, urban expansion speeds out of control. Meanwhile, Chinese governments find that there is endless wealth through selling land to real estate developers, enterprises, and foreign investors. Finally, the industrializing China has now become an urbanizing China; fiscal revenues based on exports have been replaced by land finances relying on housing markets (Cao et al., 2008). According to Chinese laws of land ownership, all of the land belongs to the state, who has right to acquire any land in the name of public benefits, as it has been doing everywhere in China today, so-called *Chaiqian* (demolition). Local governments, usually in a form of state-owned companies, take over the land from residents with very little compensation but sell at high value in the land market. Intense social conflicts are therefore created between these displaced citizens and local governments or these developers. But it is not necessarily the same story for all the demolition cases. In some big cities like Shanghai, Beijing, and Shenzhen, for example, demolition is always good news for local residents who can get high compensation from the governments, such as a new apartment worth of millions of Yuan. But at the same time they lost their farmlands forever, and became jobless, which gives rise to potential social risks for the future.

Urban problems are not unique issues in China, but are repeated in more stories and features in fast-growing China. One problem that can be considered a symbol for China's industrialization and urbanization is air pollution over the past decade, known as smog and haze, especially in the northern areas, such as Beijing and Shenyang, where more than two thirds of the winter days go on with no sunlight, not to mention blue sky. This unconcealed fact reminds Chinese people and in particular the government with a warning that the way of industrialization and urbanization like before can actually not be sustained anymore. Consequences of rapid industrialization and urbanization include even more serious problems such as water pollution, soil pollution, food security, and traffic congestion; and those problems cannot be easily observed while scientific monitoring information is not open for the public yet. All of these present big challenges for the "transitional China" in the new century.

Since the beginning of 21st century, China has been quickening its pace 'going abroad', starting with entering the WTO by exporting a massive amount of products made in China, and continuing with rising entrepreneurs and capitalists who have purchased assets globally in recent years. But, China's emergence is not confined to the field of economy, extending rather as far as the former system of global politics and governance, as well as cultural and educational dimensions. China is making claims for more shareholding in international issues by proposing and providing new game-changing rules such as the leadership of Shanghai Cooperation Organization (SCO), the establishment of Asian Infrastructure Investment Bank (AIIB), the new transnational program of 'One Belt, One Road', which inevitably challenge the West's power, especially the USA. As has been widely noticed by recent media, more political geographic spaces are frequently declaimed for the areas surrounding China. For instance, the South China Sea, which has been under the supervision of the US army since the end of the Second World War, is now declaimed under China's sovereign rights with an understandable reason of geographic proximity and historical precedent. Cross-state tension is therefore created among different political powers, including a group of southeast Asian states like the Philippines, Vietnam, Indonesia, and the political alliance of Japan and the USA. However, it isn't necessary to see this as the omen of war. First of all, the world is now a complex place with great interdependence. These countries with potential conflicts with China are in fact important economic partners with one another. The relationship between China and USA is rather interwoven, which requires a more tolerant and flexible collaborative framework. Moreover, China's emergence in the recent half-century has rarely occurred with invasion and expansion as an armed empire. It might be associated with the Chinese tradition of Confucianism, which highly emphasizes harmony and multi-beneficial relationships instead of hegemony.

The following chapters will present more specific introductions and discussions related to the issues of industrialization, urbanization, and globalization in current day China. In chapter 2, an overview of some new developments in Chinese industries will be introduced, including ICT, smartphone, and high-speed railway production. It aims to provide international readers with updated knowledge about a transitional China which is no longer a low-end manufacturing region but a vital center for high-technology and innovation. Chapter 3 will address a broad range of topics with regard to urbanization in recent China. It helps outside readers understand some unique Chinese facts such as a state-owned land system, *hukou* policy, migrant workers, as well as an increasing number of urban problems in China. In the last chapter of this book, the authors provide a new picture of a globalizing China who is on the way to reconstructing world order strongly and peacefully.

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2 CHINA'S NEW ECONOMY AND INDUSTRIAL TRANSFORMATION IN THE 21ST CENTURY

Chapter contents:

- Development of China's ICT Industry
- Chinese Smart Phone Industry
- High-speed Railway

Since the start of the new century, China's manufacturing industries based on low technology have encountered a big challenge in the increasing costs of labors and raw materials, as well as a deteriorating environment. Chinese economic players thus present great enthusiasm for learning western technologies and new business modes. A "catching-up movement" can been seen everywhere, from the central government to private enterprises. What surprised the world in recent years is that China's absorptive capacity for learning new technologies makes them actually overtake some of their western "teachers". A well-known case is high-speed railway technology, which was initially introduced from global leaders including Siemens, the Bullet Train (Japan), etc. But now China has made a miraculous achievement, leading in producing high quality but low-cost high-speed railway lines and trains. Similar events occurred in some other industrial fields like ICT and smartphone production. A private company Huawei has become the biggest telecommunication producer in the world since 2013. Meanwhile, China has remained the biggest exporter in world trade of ICT products since 2003, sharing 35% of the world market in 2013. Chinese cell phone producers are increasing rapidly in recent years. New smartphone enterprises like Huawei, Xiaomi and Lenovo have been rising and are ready to challenge the global leaders Apple and Samsung.

A conversional point of view regards China as the world factory for mass production, which is stereotyped as "made in China" or by a more recent label "assembled in China". It is true that China still holds the biggest group of labor-intensive factories and producing lines, while it is a less known fact that China is rising as a competitive supplier for cultural and creative products, remaining in the leading position of world exports of creative goods since 2005 (UNCTAD 2010). That of course doesn't take into account China having the largest population. Though it is debatable regarding some creative products which might be not "creative" at all according to a western understanding of creativity, it is not debatable that China is a state with abundant assets of culture and historical heritages. In fact, within the new political framework of the Chinese Communist Party, the former regime by President Hu Jintao-Wen Jiabao and the current new regime by Xi Jinping-Li Keqiang, cultural strategy is considered as an essential competitive edge factor, known as soft power. Especially, in the current Xi-Li new political plan, state-power is somewhat ready to hang back from strict control over cultural sectors and business fields. Market leverage is expected to play a more important role in cultural production.

A wave of a new currency has been washing over China in more recent years, termed here as network economy, or network+ (plus). Never before has China made such a market success and enjoyed the depth of technological revolution that China is now experiencing in the fields of internet and e-business. Network+ is substantially changing China in every aspect of daily life, from consuming behaviors, production, and distribution models, to political governance, or even the financial system, much more profoundly than in other countries. Especially for new Chinese generations who are used to and accept new technologies, they tend to be obsessed with online-shopping and calling for taxis, food searches via smartphone, etc. A private e-business Alibaba presents an example of how a small enterprise in China was able to grow up to be one of the biggest in the world among their kind within 15 years. According to its market value in the New York Stock Market, Alibaba has now surpassed the global leaders Amazon and EBay. The impacts that Alibaba brings to China are as huge as Facebook's for the western world. Alibaba is actually not limited to retail business, extending as far as financial and banking systems, and a new plan to expand into medical and health markets as well. As we can see, in many cases, Chinese people don't use cash but transfer through Alipay – a tool that is equivalent to PayPal, but more convenient since it is bounded with the personal cell phone. Nowadays, the followers of Ma Yun (CEO of Alibaba), mainly young entrepreneurs, seek to apply network technologies to most of the traditional quarters of economy. It sometimes challenges the traditional sectors and brings new ways of businesses, for instance, the recent controversy on APP calling for taxis (DIDI or Uber) vs traditional model of taxi service.

All in all, China's economy in the new century faces great transformation as a traditional production system is losing its competitiveness. A new technological revolution, especially the coming of internet and mobile techniques, drives China from a manufacturing outlet towards a knowledge and culture-based economy in the near future. During this process, a particular mode of learning, sometimes in terms of imitation and replication, is always criticized by the western world, but might be very important and inevitable on the other hand. This chapter will then address some colorful stories about new developments in different fields of China's new economy.

2.1 DEVELOPMENT OF CHINA'S ICT INDUSTRY

ICT (Information and Communications Technology) consists of a broad range of sectors related to internet, multimedia, IT professional services and many other businesses. Its industrial chain is mainly involved with four sectors, namely (1) ICT products and services design, (2) system integration, (2) equipment supply, (3) content supply and value-added services. Over the past decade, China's ICT industry has been witnessing a rapid development, connecting tightly with the global ICT value chain. Since 2013, China has been taking a leading position in exporting ICT products all over the world, accounting for 32% of the worldwide market (Fig 2.1). Along with its wide application in various industries, the ICT industry provides considerable impetus to optimize national economic structure and to improve efficiency of economic operation.

China's ICT has been rapidly rising with a steadily increasing rate for a decade or more. From 2000 to 2014, the profit of ICT industry of China increased by five times from 228 billion to 900 million RMB. The sales revenue of the electronic and information industry, a component of the ICT industry, increased with an average annual growth rate of more than 20% from 2001 to 2014, much greater than the average growth rate of GDP (7%) in the corresponding period. From the perspective of Internet and communications, the numbers of Chinese netizens and mobile subscribers hit 648 million and 1.256 billion in 2014, registering coverages reaching 48.8% and 92.7%, and average annual growth rates were 4.4% and 6.9% respectively (Fig 2.2).

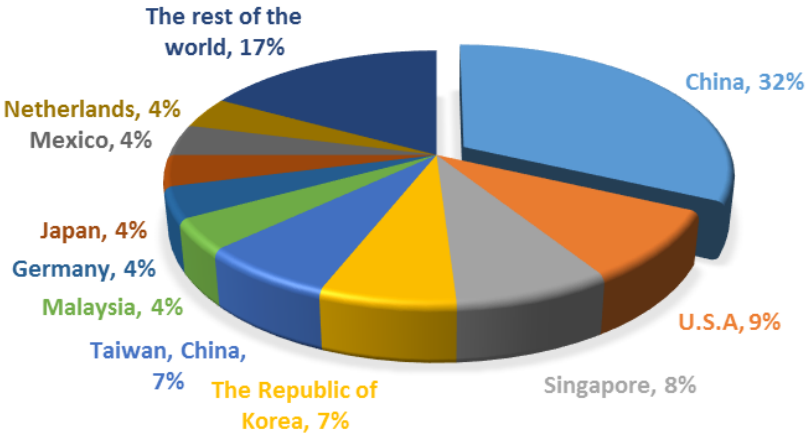

Fig 2.1: ICT production proportion of world's top 6 ICT products export countries
Chart source: Made according to the OECD "Report on Digital Economic Outlook"

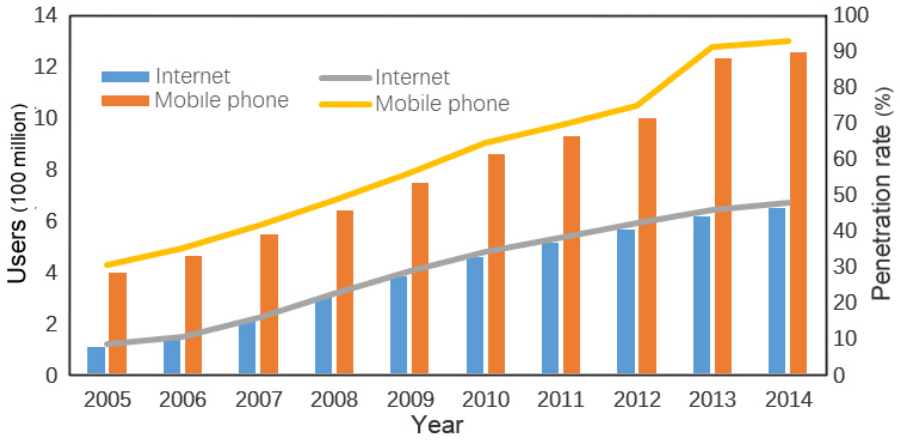

Fig 2.2: Growth and penetrating rates of China's Internet and mobile phone users
Data source: China Statistical Yearbook

2.1.1 DYNAMICS OF CHINA'S ICT INDUSTRY

China's ICT industry plays an increasingly important role in the global ICT value chain (Liu and Ding, 2015). Similar to some western countries, China's rapid development of its ICT industry can be attributed to economic development and innovation investment. Nevertheless, urbanization and industrialization as well as national initiatives are the main factors which boost the development of China's ICT industry, in contrast to western countries where market and technological innovation may take the major role in promoting ICT development.

The rapid growth of China's ICT industry is intrinsically correlated to economic development. According to global statistical data, the correlation coefficient between an ICT development strength index and national income per capita is 0.85, indicating that economic development is highly associated with the ICT industry (Tab 2.1). Besides, as a technology and knowledge-intensive industry, technological innovation is the principal impetus for the rise of the ICT industry. According to previous research, each standardized unit of progress in science and technology innovation is expected to bring directly 0.61 standardized units of progress for the ICT industry (Sun and Seamus Grimes, 2015). China's urbanization and industrialization are also immanent driving forces for ICT industry. Industrialization not only directly stimulates the development of ICT manufacturing, but also promotes its pervasive involvement in other industry sectors and fields through integration of industrialization and informationization (Fig 2.3). What's more, large-scale urban construction during the process of urbanization has created a huge market for the ICT industry. E-government, intelligent transportation, smart medical and green building and other application of ICT technologies are all indispensable approaches for the construction of the Smart City, Safe City or Harmonious City. In Socialist China, emphasis attached by government and national policy has a direct impact on the development of the ICT industry. During the Ninth Five-Year Plan (1996–2000), China started the informatization progress initially. Correspondingly, the ICT industry was at an elementary stage of development. When it came to the Twelfth Five-year Plan (2011–2015), the information industry had evolved into hot developing fields. ICT technologies are greatly promoted and applied in various fields. It helps to enhance sustainable economic development.

Index	Correlation coefficient
ICT comprehensive strength index and national income per capita.	0.85
ICT investment ratio and GDP per capita	0.54
ICT growth rate of investment and GDP growth rate	0.72
The share of ICT industry in national economy and GDP	0.79

Tab 2.1: Competition indexes of ICT and national economy growth
Data Source: China Internet Network Information Center (CNNIC).
http://www.cnnic.net.cn/research/fxszl/fxswz/200908/t20090824_19607.html

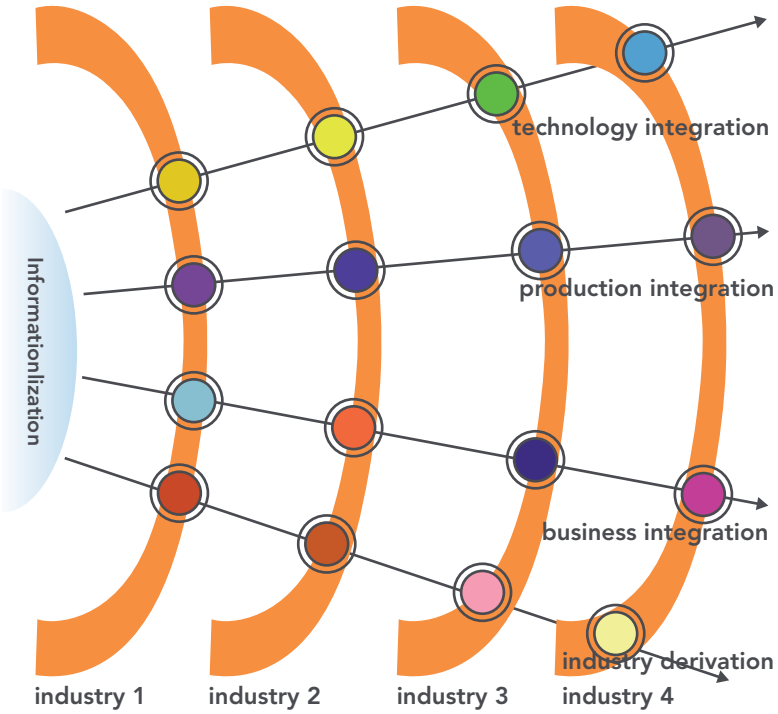

Fig 2.3: Integration of Information and Industrialization.
Data sources: CNNIC

2.1.2 DEVELOPMENT COURSES AND MODES OF CHINA'S ICT INDUSTRY

Compared with developed countries, China's ICT industry started rather late. It didn't come into shape in China until 1994 when internet was first introduced into China. It was there the development of the ICT industry began. Influenced by China's unique economic development path and national policies, China's ICT industry experienced several important stages before it grew to be one of the world leaders. The next section will introduce the characteristics and development modes of the ICT industry during its four development periods.

i) ***1994–2000: Initial Stage of ICT Development***

In 1994, China started to connect with international Internet through the American company Sprint, which was called the 'National Computing and Networking Facility of China' (NCNF). Since then China entered into its new era of internet. However, in the very beginning, China's ICT was still preliminarily developed. According to data released by the Ministry of Industry and Information Technology, the value added by China's information industry accounted for 4% of GDP in 2000, less than the ratio of the global ICT industry to GDP proportion (6.4%). In addition, the innovation ability of China's ICT industry mainly relied on introducing foreign technologies. Overall, China's ICT industry was still out of the global center of ICT technologies before 2000.

ii) ***2001–2005: Rapid Development Stage Dominated by the ICT Manufacturing Industry Driven by Individual Users***

In this period, the international ICT industry reached a stage of rapid expansion and diffusion. Against this background, China began to attach great importance to the ICT industry. By 2005, the value added of the information industry accounted for 7.2% of GDP. In terms of imports and export, the export value of electronic information manufacturing products exceeded 30% of the total export volume of China. Simultaneously, urbanization took off and created large amounts of new urban residents, who were all potential individual users of ICT products and service. In this period, the ICT industry mainly focused on manufacturing individual-user-oriented communication devices and other low value-added equipment. Information Technology also lagged behind. Therefore, the interior industrial structure of China's ICT industry was relatively low-end.

iii) ***2005–2010: Primary Service-oriented Development Stage of the ICT Industry Driven by Individual Users***

Influenced by the international and domestic environment, the most obvious feature of the ICT industry was service-oriented manufacturing. ICT service became a main part of economic growth. In 2010, the revenue of information technology services industry (such as software industry) and information transmission services (such as telecommunications industry) was 2,317 billion Yuan, accounting for 26% of the ICT industry (8708 billion Yuan). Meanwhile, ICT service began to rise. For instance, in 2009, Internet banking represented by Alipay.com achieved great development, which was driven by rapid popularization and development of internet tools like financial payment, cloud computing, and social networking media.

iv) ***2011–2015: Mature Service-oriented Development Stage of the ICT Industry Driven by Enterprise Users***

In 2010, China surpassed Japan and became the world's second largest economy entity. China's continuously elevating international status and increasing involvement in the global economy gave strong impetus to the ICT industry. But its development was faced with competition from South Asia, Latin America and other emerging ICT countries. They possess advantages of cheap labor and land and experienced a momentum of development in the ICT industry. To remedy the cut profit margins of the ICT manufacturing market, China was forced to turn to promoting the ICT service industry; due to extensive applications in various industry branches and fields, the targets of the ICT industry in China evolved from individual-user-oriented toward enterprises-oriented.

It can be concluded that under the dual functions of international compulsion and active choice, China's ICT industry entered a mature stage of service development mainly driven by enterprises. ICT technologies were widely utilized by companies to transform traditional approaches of production and service. Adaptable and dynamic manufacturing and service were possible. And a whole industry chain and cluster network including factory, upstream and downstream manufacturers and stores were constructed. It assisted enterprises in realizing data acquisition and analysis as well as information exchange and communication with consumers. Meanwhile, the export of ICT services also continues to improve. Its proportion to total export reached 35% in 2013 (Fig 2.4).

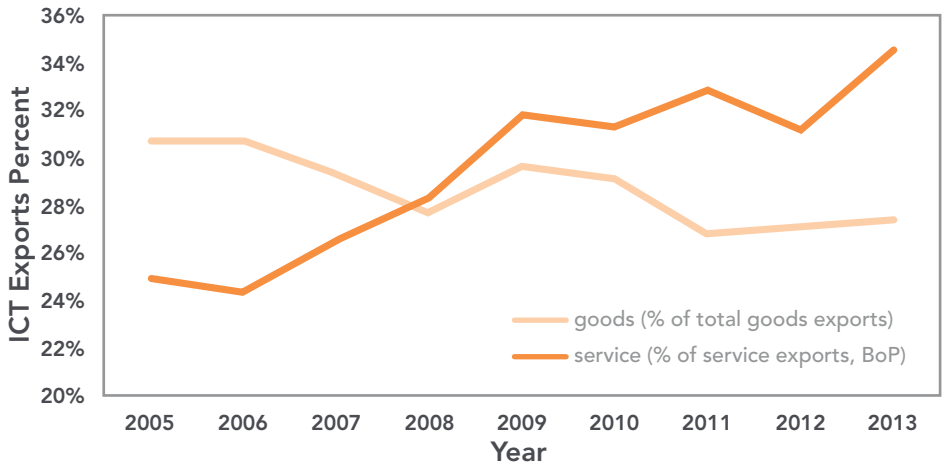

Fig 2.4: ICT exports of production and service (% of total export amount) from 2005–2013
Data sources: World Bank

2.1.3 TWO EXAMPLES OF HUAWEI AND TENCENT

i) ***Huawei***

Huawei Technologies, founded in 1987, is a typical ICT industry enterprise in China, the main business of which is to provide hardware, software, services and solutions to communication operators and professional network owners around the world. In 2014, Huawei was listed the 285th in Fortune, rising by 30 places compared to the previous year. The achievement of Huawei can be seen as a good development of momentum of the ICT industry in China.

The time from 1988 to 1995 was the foundation and startup period of Huawei. It mainly engaged in manufacturing of electronic communications equipment. When it was initially established, it was seriously lacking in capital and strength compared with competitors in large and medium-sized cities. The rural ICT market, however, was not only vast due to low urbanization, but also with low entry threshold. Against this background, Huawei creatively targeted rural areas as its main market. It focused on producing low-end and middle-end communication products. In 1992, Huawei began an official campaign of "rural areas surrounding cities" and launched a program providing solutions to rural digital exchange in 1992. Huawei succeeded in accomplishing its intitial accumulation of capitals. Its sales increased from zero to 1.5 billion by 1995.

Then, Huawei turned towards cities from the rural areas. Its main businesses were still dominated by producing communication equipments and it focused on improvement of device service performance and customer experience. In August 1998, Huawei launched a project with IBM known as "Strategic planning of IT", and made an overall plan about the business transformations needed to perform in the upcoming 3–5 years. It altered its emphasis on IPD (integrated product development) and ISC (integrated supply chain), which contradicted the tendency of the ICT industry. During this period, Huawei became the second largest telecom equipment manufacturer. However, Huawei still remained in a stage of technology accumulation due to lack in capital and relatively weak innovation ability. Transforming from the mode of purchasing foreign patents to self-innovation according to the need of enterprises and market was an additional qualifier.

Influenced by the service-orientation tendency in ICT manufacturing, Huawei focused on achieving manufacturing service development. It carried out large-scale mergers and acquisitions in the fields of optical networks, enterprise networks, Internet technology, and mobile enterprise networks. At the same time, it divested a large number of factors and businesses in optical fiber and cable. In order to cultivate core competence, Huawei increased its R&D investment. Research institutes were set up both at home and abroad including India, the U.S, Sweden, Russia, and China's Beijing, Shanghai, Nanjing, and other places. By 2006, 48% of its 56,333 employees were engaged in research and development. By the end of 2006, Huawei had accumulated 16,887 patents and it held the highest number of patents in China for several consecutive years.

During the period of the Twelfth Five-year Plan, widespread application of the ICT industry in various fields became an irresistible trend and primary clients turned from individual users to enterprises. Huawei promoted a wide range of cooperation with Motorola, Intel, Alter, Sun, Microsoft and other world-class enterprises in technology and marketed on the basis of independent development and openness. These companies were also primary clients of Huawei. At this stage, an internationalization strategy was further developed and strongly focused on, although it was in existence even in the earliest development stage. Another 8 regional commands, 55 representative offices and technical service centers as well as sales and service networks were set up, covering most areas worldwide. In addition, Huawei provided products and services for more than 270 operators. Over 70 countries including Germany, France, Spain and the United States were all destinations of Huawei's products and services (Fig 2.5).

Regions/Countries	Production value in 2014 (100 million)	Production value in 2013 (100 million)	Growth rate (%)
China	108881	82785	31.5
Europe, Middle East, Africa	100990	84006	20.2
Asia-Pacific	42424	38691	9.6
America	30.852	29.346	5.1
Other areas	5050	4197	20.3
Total	288197	239025	20.6

Tab 2.2: Business conditions of Huawei in 2014
Data sources: Annual report of Huawei in 2014

Fig 2.5: Huawei's global distribution map
Figure source: http://fiber.ofweek.com/2013-09/ART-210007-8500-28730502.html

ii) ***Tencent***

Tencent is another ICT company, different from Huaiwei. It focused on services based on internet and social media. It has built four major network platforms, QQ (a software for chatting), Tencent, QQ games and pat Network, as well as the largest online community in China. Tencent is changing people's lifestyle at an unprecedented speed, and is creating a broader Internet application prospects. It also witnessed the development process of China's ICT industry. It was the initial development period of Tencent from 1998 to 2003. Its main business was to provide solutions to wireless internet websites. In 1999, instant messaging service was brought into being. Registered users of QQ was increasing year by year, and reached 200 million in 2003.

Tencent developed rapidly from 2003 to 2010. It focused on producing basic requirements for individual users of QQ and interfacing with other online platforms such as video, games, and e-business. Initially, QQ could only provide functions of instant message and information exchange. Then it launched a series of derivatives like QQ game, QQ fantasy, QQ space, Tencent microblog, and was capable of offering diversified functions such as chatting, news and audio-video entertainment. In addition, QQ interface design continued to be personalized and humanized. As a result, Tencent occupied almost all the online instant messaging market. In June 2004, Tencent Holdings Ltd became the first Chinese internet company to be listed on the Main Board of the Stock Exchange of Hong Kong Limited under the stock code 700. In March 2010, the number of QQ users online at the same time exceeded 100 million (Fig 2.7). It became a milestone in China's internet development.

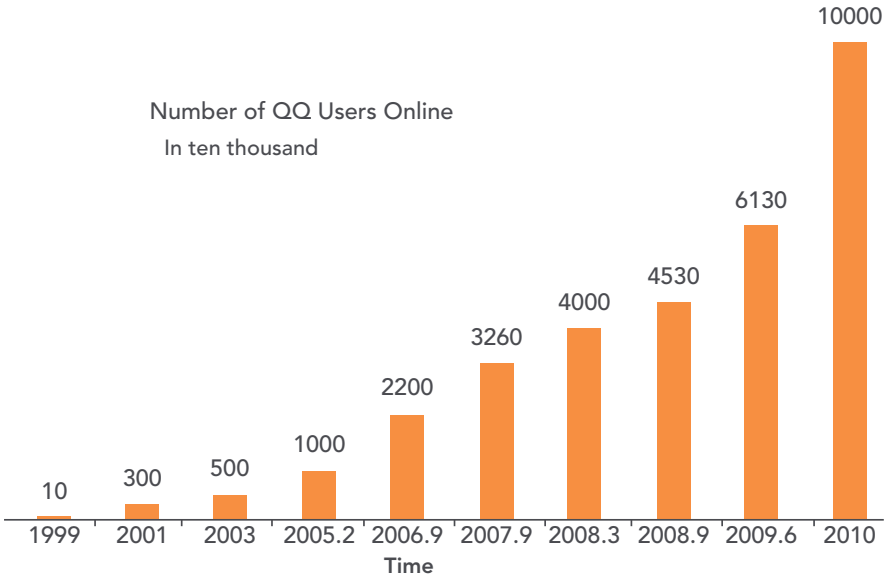

Fig 2.6: Online users of QQ from 1999 to 2009

From 2011 to 2015, while further promoting the accessible degree of platforms and increase of individual users, Tencent managed to augment its scale of enterprise QQ users. It devoted itself to providing a stable, safe and convenient communication medium for enterprises so as to support them in achieving real efficient customer service and effective customer relationship management. Simultaneously, Tencent always attached great importance to internationalization strategy. On the one hand, most of its products are internationalization oriented. For example, WeChat successfully entered the market of Thailand, Malaysia, India and other countries and regions. It was one of the most popular applications in iPhone's App Store and the Google Play platform. Overseas investment also continued to increase. In 2013, Tencent invested around $2 billion in promoting its internationalization process. In addition, Tencent paid great attention to innovation development. More than 50% of its personnel engages in innovative practice. It helped to maintain its core competence in the fast changing internet industry.

2.1.4 DEVELOPMENT TRENDS AND CHALLENGES OF CHINA'S ICT INDUSTRY IN THE FUTURE

At present, the ICT industry has become a strategic pillar industry of China's national economy whose scale and development speed lie in the forefront of all industries. Internet plus, big data, cloud computing, internet banking and other services are becoming hotspots of ICT technology and service. Besides, integration of ICT technology into industries like finance, energy, agriculture, education, medical and other fields are irresistibly to follow. Government is also paying more and more attention to the potential of the ICT industry in promoting economic development. For example, in the recently enacted planning implications of the Thirteenth Five-Year plan, proposals related to the ICT industry are mentioned 40 times. ICT products and services will become the focus of development in China in the coming future.

However, as a result of slowdowns in national economic growth and reduced demand for ICT production and services of developed countries, the growth rate of China's ICT industry is declining. China's ICT industry is evolving from a rapid development stage to intermediate or slow speed development. Now the growth rate has fallen back to around 10%, far less than the average sales revenue growth rate of 21% from 2001 to 2010, although it's still much higher than the global growth rate of 2%.

In the next stage, China's ICT industry will unswervingly take the internationalization development strategy, and further promote the "going global" strategy of China's ICT products and service (Qiu and Wu, 2014). According to analysis of the global ICT industry, China has enormous potential in communications equipment, optical electronics, and information technology and services (Tab.2.3). Huawei, Tencent, Baidu, Alibaba, and other world-famous enterprises have occupied large shares in communication equipment manufacturing, ICT services and other fields. However, the comprehensive strength of the ICT industry lags relatively behind in world ranking (Fig 2.7). International cooperation is still in its primary stage. The vast majority of enterprises are weak in comprehensive cross-regional and cross-border coordination. In addition, ICT has been in severe deficiency of private brands for a long time under the mode of OEM (Original Equipment Manufacturer). In the "2015 World Brand500" proposed by Brand Lab World, only a few Chinese ICT companies like CCTV, Lenovo, Tencent and Huawei were listed, far less than the number of US companies. Furthermore, China's "going global" strategy is also challenged by trade protectionism. For instance, Huawei and ZTE are unable to participate in American market competition due to "threats to U.S. security."

Nations	ICT specialized field
America	Information Technology and services, semiconductors, optical electronics,
Korea	Computer, electronic and optical products
Britain, Ireland, Sweden	Information Technology and service industry
Luxembourg	telecom
China	Communication services, optical electronics, Information Technology, and information services

Tab. 2.3: Specialized fields of major countries in global ICT industry
Data sources: Reports of primary trend of global ICT industry in 2015

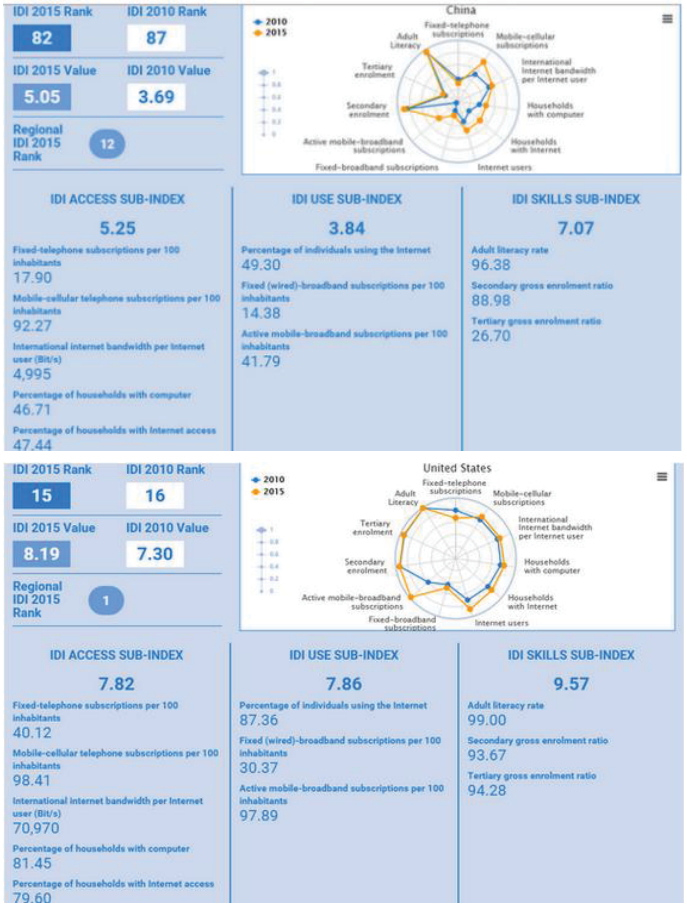

Fig 2.7: IDI indexes of China and the United States in 2015
Data source: the new edition of *report on the measurement of information social* by International Telecommunication Union (ITU)

2.2 CHINESE SMART PHONE INDUSTRY

Through an in-depth investigation of the growth path of two important Chinese Smart Phone players (namely Xiaomi and Huawei), this section will present a colorful story of how Chinese mobile phone enterprises have been growing from low-end assembling factories and foundries to today's global leaders in the Smart Phone market. Meanwhile it will also discuss what challenges and problems exist in further development of China's Smart Phone industries.

2.2.1 DEVELOPMENT COURSE OF THE CHINESE MOBILE PHONE INDUSTRY

i) ***The First Rise (1999–2003)***

In this period, the early Chinese mobile phone enterprises could only survive in the way of OEM while foreign brands, such as NOKIA, Motorola, and so on, monopolized the mobile phone market in China. However, this situation changed in the 21st century as the mobile phone industry witnessed its first module integration. Wavecom, founded in 1993, was the first company in the world to launch a module integrating BB(basic band), IF (intermedate freqency) and RF (radio frequency) together. Following this innovation, a small amount of peripheral components, such as LCD screens, shells and MMI human-computer interface, were the only components needed to basically complete a mobile phone design, which significantly lowered the technical threshold of the mobile phone industry. Then, Chinese enterprises could create products of their own brands based on past technology accumulation. Owing to module integration and effective sales strategies, the market shares of Chinese enterprises increased rapidly, 3% in 1991, 7% in 2001, 15% in 2002, over 30% in 2002, and finally exceeding 55% in 2003, overtaking the foreign brands (Li, 2010).

ii) ***The Decline Period (2004–2006)***

Following 2004 was a turning point where Chinese mobile phone brands declined from prosperity. The global component shortage crises interrupted the production plans of Chinese enterprises, resulting in a mass attack of "weakness in chips" symptom. Comparatively, NOKIA, Motorola, Samsung and other foreign giants, which controlled the supply chain of mobile phone components, retook the mobile phone market of China with technology advantages and re-integrated sales channels. Therefore, many famous Chinese brands encountered difficulties and even collapsed, which also caused severe speculation behaviors (Liu and Si, 2010).

iii) ***The Second Rise (2007–2009)***

Different from the first rise led by formal Chinese enterprises, the second rise of the Chinese mobile phone industry from 2007 to 2009 was driven by "Shanzhai" mobile phones (a product based on piracy and imitation)[1], which was mainly owed to the "Turn-key" solution developed by MediaTek (a Taiwanese chipmaker) in 2006. This "Turn-key" scheme featuring integration of core chips, software platforms and third party application software and can even provide LCDs, cameras and other components for mobile phone manufacturers. Then the manufacturers only needed to purchase MTK chips, shells and batteries to assemble a mobile phone, which could greatly shorten the previous mobile phone R&D cycle of 6 to 8 months, to less than 3 months. The profound reason for the rise of "Shanzhai" mobile phones was the second module integration, which provided more comprehensive functions and eliminated technical barriers for the mobile phone industry (Wu and Liu, 2010). Therefore, not only the formal Chinese manufacturers with national licenses but also the "Shanzhai" manual workshops were able to produce mobile phones.

iv) ***The Third Rise (2011–)***

In 2007, the first iPhone and Google Android meant the advent of the smart phone era. Continuous development of communication technologies significantly contributed to the mobile internet industry and smart phones while related applications and equipment started to go deep into people's daily life. In addition, Google Android, as an open and free system platform with abundant supporting resources, reduced the technical barriers for smart phones to some extent. The rapid development of Chinese manufactures was also largely owed to the momentum of Android systems. After 2011, the Chinese mobile phone industry ushered in a new round of fast development, owing to demographic dividends, growing demands of smart phones and increasingly optimized communication networks in China, as well as products with high cost performance, successful overseas development, etc. These Chinese enterprises, including Huawei, Xiaomi, and Lenovo, have advanced towards the global market and achieved excellent performance, successfully exceeding NOKIA, Motorola, SONY and other past giants (Fig 2.8).

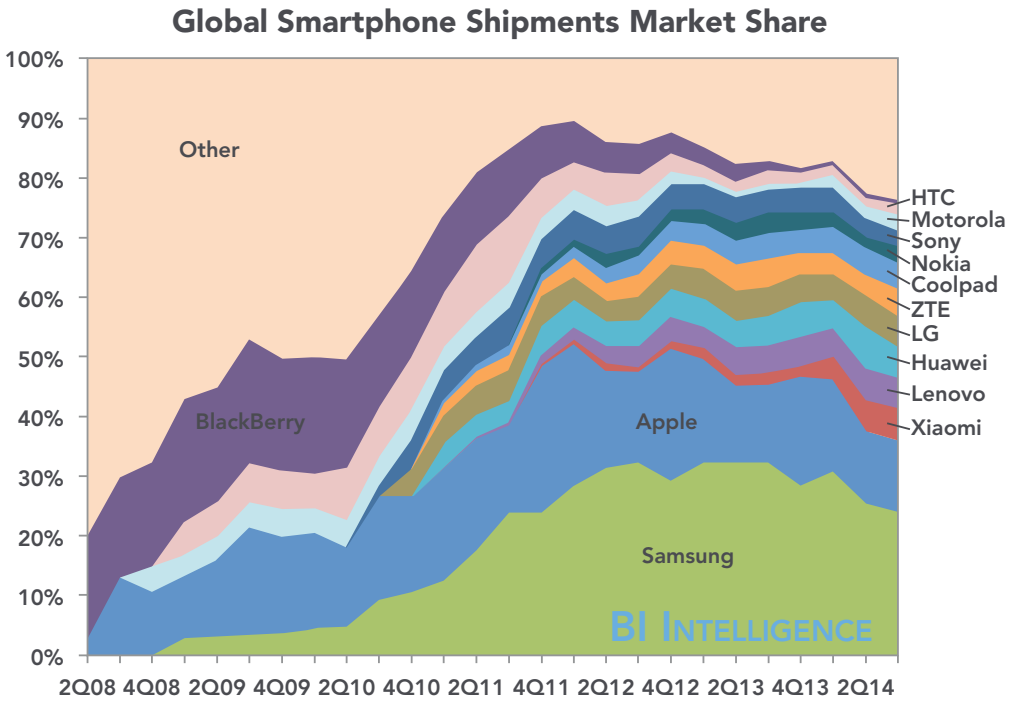

Fig 2.8: Historical Worldwide Smartphone Sales Figures, in millions
Source: IDC, Strategy Analytics, BI Intelligence Estimates
Note: Coolpad, ZTE, Huawei, Lenovo, and Xiaomi are Chinese Brands. Lenovo bought Motorola in 2014, after which Motorola's market share belongs to Lenovo. HTC is an enterprise of Taiwan, China.

2.2.2 CASE ANALYSIS OF CHINESE SMART PHONE ENTERPRISES

The global market share of Chinese smart phone enterprises has continuously increased since 2009. Nowadays, Huawei, Xiaomi, and Lenovo have become manufacturers second only to Samsung and Apple. Although these Chinese enterprises possess similar external environments, it's worth interpreting their unique development patterns. As the most outstanding representatives of Chinese smart phone enterprises, Xiaomi and Huawei have great differences in their development paths, which can be summarized as two main modes of Chinese smart phone enterprises.

The Global Value Chain (Kaplinsky, Raphael, Morris and Mike, 2003) incorporates all the subjects that are involved in the production activities of a product or service, mainly describing the process from production to delivery, consumption, and service (Fig 2.9). The Smile Curve reveals different additional value obtained by different links in the production process. The combination of the Global Value Chain and Smile Curve can provide us with a better theoretical perspective to understand the strategic choices of Chinese smart phone industry leaders.

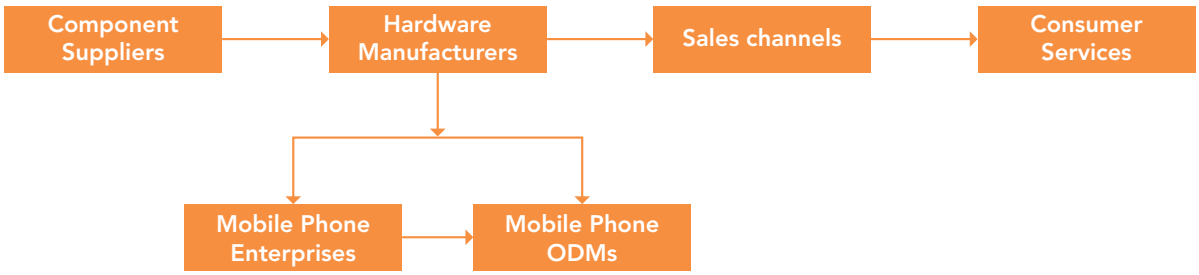

Fig 2.9: Global Value Chain of Smartphone Industry

i) ***Xiaomi (An Outstanding Practitioner of Internet Thinking)***

Xiaomi Technology, founded in 2010, is a mobile internet company specializing in independent R&D of intelligent products, the product concept of which is "Birth for Fever" (pursuing ultimate performance). On August 23, 2013, the second financing valuation of Xiaomi hit $10 billion, meaning that Xiaomi had become the fourth largest internet company in China, after Ali, Tencent, and Baidu. In view of its outstanding achievements in such a short time, Xiaomi can be viewed as a prominent model for internet companies.

Development Pattern

As Xiaomi has no equipment factory, it's experienced in integrating internet thinking into the upstream R&D links and the downstream links of marketing and customer service, which can produce much more additional value than the intermediate production links. We can focus on the following aspects to analyze its originality.

1) **Excellent Management Structure**
   Xiaomi has an elite management team made up of 7 top players from Google, Microsoft, Kingsoft, and so on, whose cooperation has helped Xiaomi achieve great success (Huang and Hu, 2015). These founders are Lei Jun, Hong Feng, Lin Bin, Li Wanqiang, Huang Jiangji, Zhou Guangping and Liu De. Lei Jun used to be the chairman of Kingsoft and a famous angel (financial) investor. Lin Bin once worked as the vice president of the Google Research Institute. These senior executives and technical talents from world-famous enterprises have given Xiaomi more chances to cooperate with other technology enterprises and obtain advanced technical support (Zhou, 2013).

2) **Unique R&D Mode**
   Xiaomi initially created the mode of online R&D, which involves fanciers to realize innovative applications corresponding with Chinese habits (Zhou, 2013). In the testing process, Xiaomi chooses about 250 extremely active users from the Mini Forum to form an honorary development team, who will then test and optimize products together with Xiaomi staff. This unique R&D mode not only takes advantage of external social forces to simplify complicated test links, but also can attract public attention and interact with users more effectively, which cultivates customer loyalty and popularizes its products.

3) **Innovative Marketing Methods**
   First, online marketing: The B2C (business to customers) sales mode can significantly reduce marketing and logistics costs to achieve high cost performance, which also has set an example of online marketing for Chinese enterprises. Second, hunger marketing: hunger marketing strategies are adopted to boost sales, mainly concentrating on creating frequent social reactions and guiding target groups. The combination of its unique R&D mode and marketing methods has formed an economy based on fans (Chao-Ching et al., 2014).

4) **Profit Mode focusing on Internet Services and Product Ecosystems**

Xiaomi hopes to maintain costs in smart phone hardware and make profits through related services and product ecosystems, including an electronic business platform, as well as intelligent hardware and mobile internet applications (Fig 2.10). The electronic business platform of Xiaomi has become the third largest business platform in China, behind only Taobao and Jingdong. Meanwhile, Xiaomi are trying to cooperate with traditional home appliance manufacturers, in order to build a smart home ecosystem centering on Xiaomi routers. Based on MIUI system (a customized Android system by Xiaomi), Xiaomi seeks to construct a mobile ecosystem with the Xiaomi application store and huge network traffic brought by Xiaomi devices. The combination of these three ecosystems are essential to stable market share and improvement of profitability.

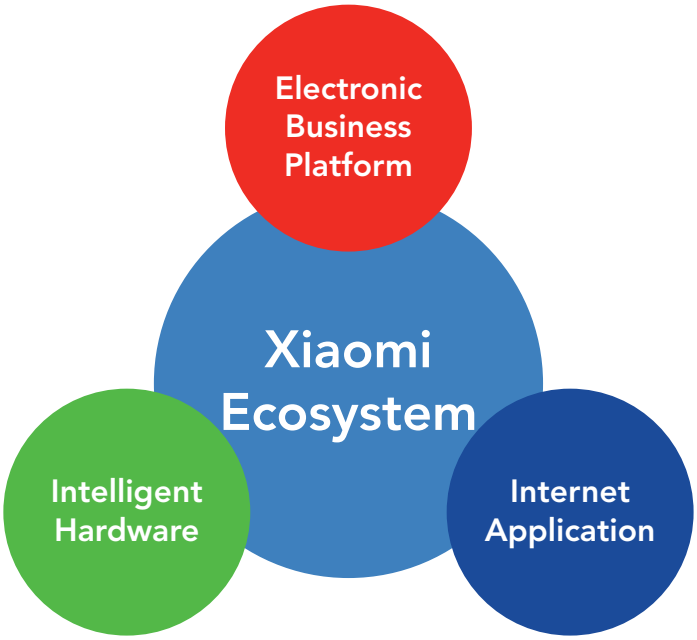

Fig 2.10: Xiaomi Ecosystem

Major Disadvantages

1) **Blocked Overseas Expansion**

Nowadays the increasingly fierce competition in China has forced many Chinese enterprises to enter overseas markets. Xiaomi landed in India in July, 2014. However, due to a backward penetration rate of internet and online retailers in India, online marketing can hardly become the mainstream of the Indian market, which makes Xiaomi's dsadvantaged in India. Besides, during overseas expansion, Xiaomi is in severe deficiency of technology accumulation and experience in dealing with patent litigation and other inevitable legal issues. For example, Xiaomi suffered a temporary ban in India due to patent litigation presented by Ericsson. Xiaomi also has been struggling to enter the European and American markets for the same reason.

2) **Lack of Non-Replication**

The rapid rise of Xiaomi has snatched large numbers of customers from Lenovo, Samsung, ZTE, etc. Correspondingly, these enterprises surpassed by Xiaomi have begun to research and copy the Xiaomi mode in everything from hardware configuration to marketing strategy. Once imitated by other enterprises, Xiaomi may lose its characteristics of development mode and product lines. Also, some internet enterprises like Qihoo 360 and LETV have launched smart phones to join the fierce competition. In addition, imitation of Xiaomi is not just limited to China. In 2016, a Thai smart phone manufacturer named IMI copied the Xiaomi mode in terms of brand logo, marketing strategies and marketing orientation, which again manifests the technology shortage of the Xiaomi mode.

3) **Inferior Ecosystem**

Xiaomi believes that every product it has launched will serve its huge ecosystem and subvert other industries. While aiming at destroying the original industry chains with low prices and intelligent gimmicks, however, most of these products don't have much sense of being, such as the Xiaomi bracelet, Xiao socket, Xiaomi earphone, and Xiaomi TV, which are more market spoilers than subversive innovation. Launching a variety of low-end smart phones and a few ultimate products that can be celebrated, the original concept – "Birth for Fever" – has gradually faded out of the public view.

ii) ***Huawei (A Brilliant Innovator)***

Huawei is not only the third largest smart phone manufacturer in the world market, trailing only Samsung and Apple, but also the largest manufacturer of communication equipment in the world. From 2010 to 2014, the global sales revenue and shipments of Huawei handsets underwent steady and rapid growth (Fig 2.11). Among the 100 most valuable global brands released by Interbrand in 2014, Huawei was the first Chinese mainland enterprise ever listed.

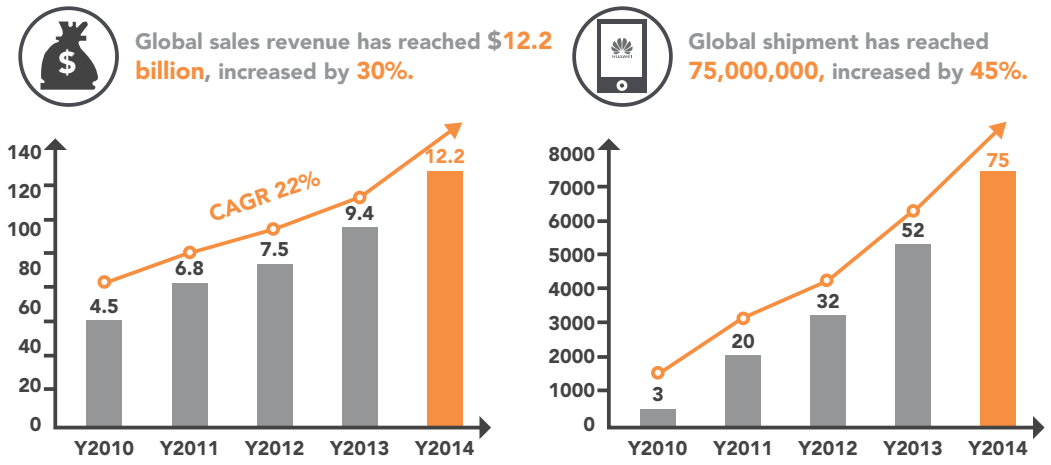

Fig 2.11: Global Sales Revenue and Shipment of Huawei between 2010 and 2014

Development History

1) **ODM (Original Design Manufacture) Period**

The achievement of Huawei's terminal sector has definitely not been smooth sailing; Huawei has endured several frustrations. The mobile phone business unit of Huawei, founded in 2004, mainly aimed at providing terminal services to promote communication equipment. After obtaining the national production license of telecom mobile phones in March, 2005, this unit was positioned as a terminal customization department for telecom operators. The mode of low pricing strategy and combination with telecom operators was an important bargaining chip for Huawei to promote sales of enterprise communication devices. This early ODM mode can also be called "white brand" business, where Huawei only performed a supporting role for telecom operators (Liu, 2015). According to the statistics of the International Data Corporation (IDC), in the fourth quarter of 2012, the shipment of Huawei smart phones reached 1,080,000 and occupied about 5% of the global market, making Huawei the third largest smart phone enterprise. Until 2012, the shipments through telecom operators accounted for approximately 80% of its total shipment (Su, 2014).

However, over-dependence on telecom operators not only led to high sales and low profits, but also hindered the brand construction of Huawei. Due to the lost chance of facing customers directly, Huawei were considered to be lacking in individual customer service and weak in product design, thus seriously harming its customer recognition.

2) **Transition Period towards Consumer Market**

In 2010 the mobile phone department of Huawei endured a great disturbance. Huawei's management planned to transfer it to an investment institution in the US, but they finally recognized the bright prospect of handheld terminals, determining to enter the open market and start its private brand. Since then, the status of Huawei's terminal department has risen rapidly and it soon became one of the four core sectors. In addition, Huawei established a channel department and a marketing department to conduct brand construction and channel expansion. This process was fairly slow because the past B2B (business-to-business) mode of cooperating with telecom operators was significantly different from the current marketing mode for popular electronic products (Liu, 2015).

In the new battlefield of the consumer market, surrounded by world-class competitors including Samsung, Apple, and HTC, as well as emerging Chinese challengers like Xiaomi and Meizu, Huawei has initiated a transformation in order to become more customer-oriented. Huawei has gradually reduced shipments through telecom operators and expanded open channels. In 2013, its online brand known as Glory started to operate independently. Then in 2014 Huawei began to utilize telecom operators, social channels and internet channels, which indicates the formation of a multi-channel sales system.

Major Strategies

1) **Consumer-oriented Values**

Before 2010, as Huawei's major clients, telecom operators dominated the product specifications and appearances. After deciding to enter the open market, Huawei encountered a big challenge again – who are the real customers of terminal enterprises? In 2011, on the basis of numerous intense discussions and research of excellent consumer-oriented enterprises around the world, Huawei started to transform its business structure towards consumer markets. Then Huawei established its plan to surpass HTC and NOKIA and become one of the top 3 smart phone enterprises. In order to realize this, Huawei set the fundamental principle of pursuing the ultimate user experience, which involved comprehensive reforms in retail channels, online sales, brand popularization, user experience design, optimization of supply chains and establishment of customer service centers, and so on (Liu, 2015).

For example, Huawei Mate, also known as a "C2B" (customer to business) smart phone (Su, 2014), could be viewed as a milestone of Huawei's transformation towards individual customers, as its R&D process was completely based on or determined by the consumers. Huawei Mate was also the result of cooperation with Tmail (a B2C platform of Taobao), making use of big data from Tmail users. Then lots of surveys and interviews were conducted on target consumers, mainly concerning CPU, RAM, ROM, screen and shell materials, etc. In fact, introducing C2B phones is only one step of Huawei's business pattern and another strategy is the O2O (online to offline) mode. It's essential to improve user experience, pre-sale consultation, after-sale services and so on with O2O channels, which can integrate the entire online and offline consumption process, thus creating a comprehensive O2O service system.

2) **Comparative Advantages based on Patent Technology and Sustained R&D**
Another core competitiveness factor of Huawei is constant innovation and sustained R&D, including independent CPUs (the Kirin series developed by Huawei Hisilicon) and 4G patents, which can provide Huawei with dominant positions in international competition. Huawei has maintained considerable innovation investment for a long time. By 2014, Huawei possessed over 160,000 employees, of which the research staff accounted for nearly 50%. In 2014, the R&D investment of Huawei was 40.8 billion Yuan (equivalent to $6.13 billion), an increase of 29.4% compared with 2013. Besides, as the world's largest ICT equipment manufacturer, Huawei has strong technical accumulation in the field of communication devices. According to the statistics of international patent applications in 2014 published by the World Intellectual Property Organization, Huawei possessed the largest number of international patents (Gao and Wang, 2015).

Huawei seems to be considerably skillful in the transition towards the consumer market, as it has integrated its global R&D centers and optimized the R&D cycle, supply chains, hardware-software coordination, and so on (Lin, 2015). In contrast, many Chinese smart phone enterprises lack core technology, still playing the role of assemblers, which consequently causes product homogeneity and absence from the key technological innovations. Nowadays, Huawei is the only Chinese smart phone enterprise that can produce CPUs, the performance of which is as excellent as or even better than those of Samsung and Apple (Fig 2.12).

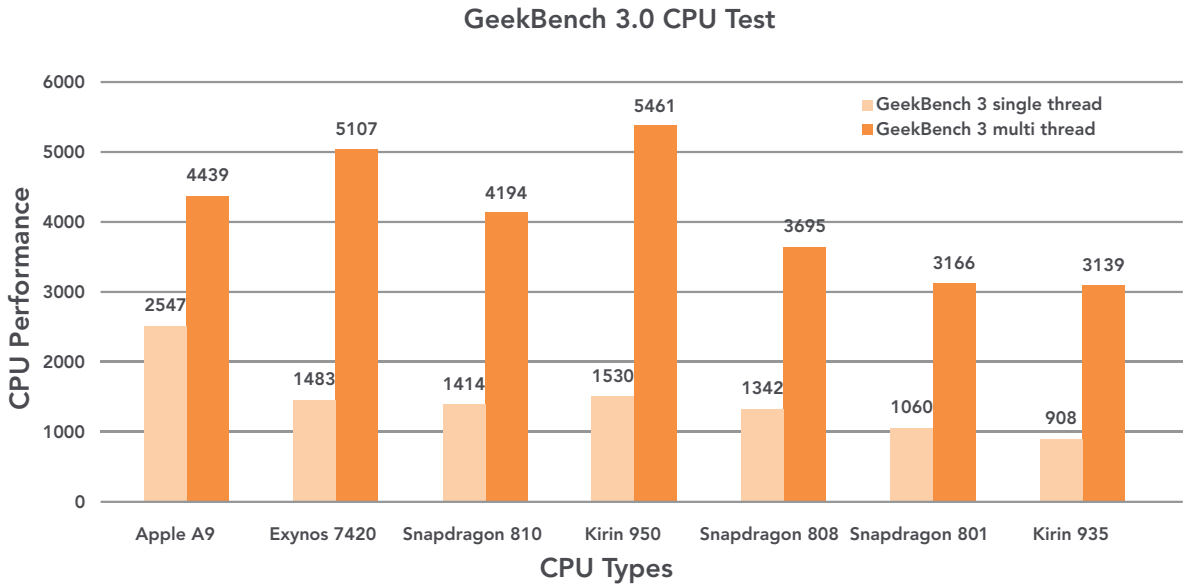

Fig 2.12: Performance Comparison of Mainstream Mobile Processors
Source: www.android.tgbus.com

3) **Successful Overseas Expansion**

Although it lost plenty of consumer resources in the ODM period, Huawei has built a trust relationship with local governments and telecom operators, thus having a good knowledge of local market rules and management styles. Also, the successful expansion owes to a profound accumulation of patents and technology, as well as rich experience with the disposal of patent litigation and other legal issues. Compared with the dilemma Xiaomi was caught in, Huawei's expansion has really been smooth sailing. Besides, its international R&D team can make Huawei become more accustomed to diversified global markets and then lead international trends (Zhang and Huang, 2015). Moreover, Huawei has taken various measures to improve global brand awareness. For example, since 2012, Huawei has conducted a series of brand marketing activities, such as sponsorship of the Spanish Football League, Russia's national team, and other top leagues and teams, as well as partnership with AC Milan, Dortmund, A Senna, Ajax, etc.

On the one hand, according to IDC (Internaitonal Data Copoeration) statistics, China's smart phone market share will decrease from 29.6% to 23% in the next 5 years and the demand growth of other Asian countries, Latin America, and Western Europe will also slow down. On the other hand, the demand of India, Africa, the Middle East and others shows an upward trend (Ma, 2015).

In 2014, the Huawei terminal sector witnessed substantial revenue growth in overseas markets, accounting for 52% of total revenue. Compared with 2013, smart phone shipments in the Middle East and Africa, Asia-Pacific, Latin America, and Europe increased by 254%, 122%, 104% and 77% respectively. Huawei's market share exceeded 5% in 11 key countries (Fig 2.13). In the second quarter of 2015, Huawei overtook HTC and Sony, becoming the second largest Android smart phone enterprise in major European markets (UK, Germany, France and Italy). In some western European countries, Huawei's market share of high-end brand of smartphone in price between 400 and 500 euros even exceeded 60%. When most Chinese enterprises are still struggling with overseas expansion, Huawei has already achieved brand-oriented and value-driven development in foreign markets.

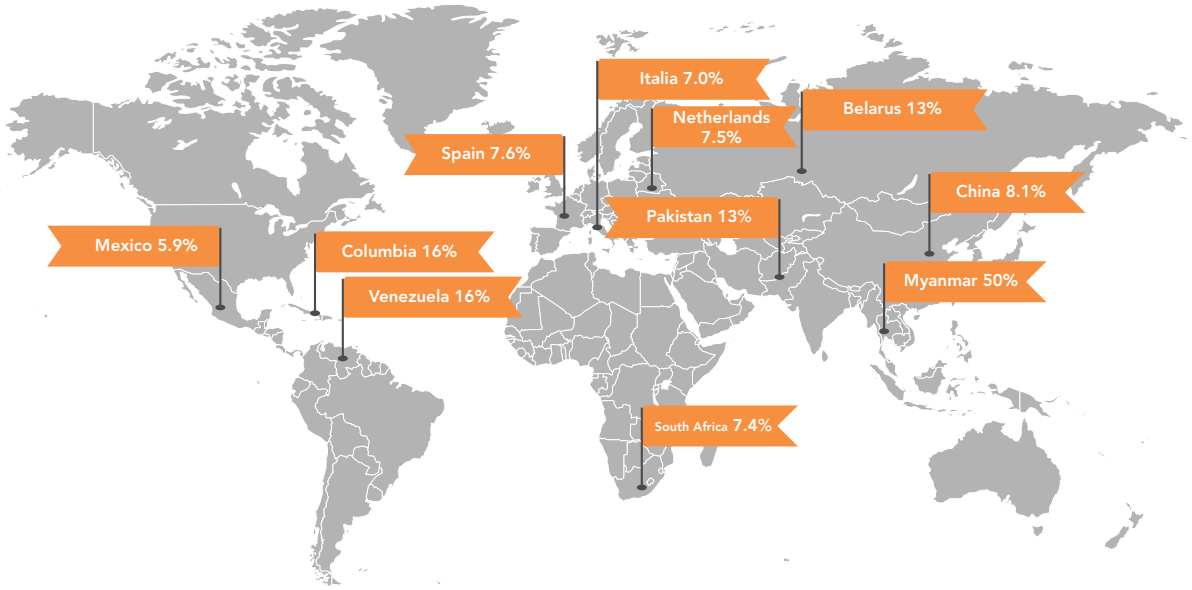

Fig 2.13: Market Share of Huawei smartphone in 11 Key Countries

2.2.3 DEVELOPMENT PATTERN OF THE CHINESE SMART PHONE INDUSTRY

i) ***Development Course of the Chinese Mobile Phone Industry***

The Chinese mobile phone industry has undergone three rising periods in its development course. It can be seen that the basic factors affecting the rise and fall of Chinese mobile phone industry are module integration, operating systems, and other core technical elements. Significant technological progress can obviously reduce the knowledge required for mobile phone manufacturers, namely, lowering the technical entry barriers, which can consequently advance the development of the whole industry.

In addition to the common technology base, independent R&D and innovation are also extremely important for enterprises. In the smart phone era, owing to internet marketing and demographic dividends in China, most enterprises have achieved considerable sales. However, compared with innovation and technology, marketing possesses a low threshold and lacks lasting core competitiveness. The most prominent example is Huawei. With profound accumulation of technology and patents, it has gradually exceeded Xiaomi, whose strengths lie in speculative marketing and the fan economy, becoming the leader of China's smart phone industry.

ii) ***Strategic Path of Chinese Smart Phone Enterprises***

As a new internet enterprise, Xiaomi has combined internet thinking with R&D and marketing, occupying a large part of the domestic market. Although it still performs well in the capital market, actually, Xiaomi has encountered a development bottleneck, due to factors including poor accumulation of technology and patents, challenges in component chains and blocked overseas expansion, as well as external replication of its marketing strategies.

Huawei is a world-class ICT giant with a long history of hardware production and abundant patents and technology. Although the ODM sector endured several years of downturn, Huawei has positively responded to the in-depth development of internet economy and consumer markets. Based on its superior hardware, mature channels of telecom operators, innovative network marketing, successful domestic and overseas expansion, and so on, Huawei has achieved great performance at home and abroad and possesses strong dominance in all links of the global value chain.

iii) ***Comparison of Chinese Smart Phone Enterprises with Samsung and Apple***

1) **Huge Gaps in Sales, Profits, etc.**

According to Canaccord Genuity Research in 2013, Apple accounted for 84% of the total profit of the global smart phone market, Samsung occupying 11%, which also indicates that most enterprises like Microsoft, Lenovo, Blackberry, LG, SONY, HTC were still suffering from financial loss (Huawei, Xiaomi and some Chinese enterprises were not included). The cause of these phenomena is probably that Samsung and Apple have controlled the high-end market (consumer products over $450), while Huawei and Xiaomi adhere to small profits and quick turnover (products priced around $150). Enterprises using Android systems usually have various types of products to occupy more of the market, but a complex production line means less R&D cost and time for each product and causes fiercer competition, which may have negative effects on sales and profits.

2) **Gradually Narrowing Technology Gap**

Nowadays the R&D investment of Huawei has significantly exceeded other international enterprises (Tab 2.4), which can gradually narrow the technology gap with its competitors. Concerning the innovation bottleneck of the smart phone industry, some people believe that future innovation may derive from integration of core components like AP (Access Point), baseband, GPY (camera technology), etc. Therefore, the ability of designing independent chips is essential to the diversified competitiveness and remodeling of business value. After more than 10 years of development, the performance of Hisilicon chips can support current and future differentiated competition for Huawei. Nowadays Huawei, Samsung, and Apple are listed in the same competition level, not only in terminal products, but also in innovation and integration of SOCs (system on chip). Although there is still a huge technical gap between Huawei and international giants like Samsung, Qualcomm, and Apple, immense potential can be seen in its recent achievements.

Enterprise	2015 R&D Investment	2015 Revenue	R&D Revenue Ratio
Huawei	154	600.6	25.6%
Apple	81.5	2330	3.5%
Google	99	650	15.2%
Qualcomm	55.6	253	22.0%

Tab 2.4: Comparison of R&D Investment and Annual Revenue between Huawei, Apple, Google, and Qualcomm

2.3 HIGH-SPEED RAILWAY

Although the International Union of Railways (UIC) considers that there is no single standard definition of high-speed rail (HSR), the maximum speed of most newly-built high-speed railways around the world is 250–350 km/h. High-speed railway in China refers to railways with commercial train service at a speed no less than 200 km/h, which is usually known as "China Railway High-speed (CRH)" (Fig 2.14). As of January 2016, China has the world's longest HSR network (over 19,000 km in service), which is even longer than the rest of the world's total high-speed mileage.

Fig 2.14: China Railway High-speed (CRH)

2.3.1 THE DEVELOPMENT OF HIGH-SPEED RAIL IN CHINA

i) ***Early exploration and experiments (1990–2004)***

State planning for China's current high-speed railway network began in the early 1990s. In December 1990, the Ministry of Railways (MOR) submitted a proposal to build a high-speed railway between Beijing and Shanghai to the National People's Congress. The proposal was jointly studied by the Science and Technology Commission, State Planning Commission, State Economic and Trade Commission, and the MOR. In December 1994, the State Council commissioned a feasibility study. In 1995, Premier Li Peng announced that preparatory work on the Beijing Shanghai HSR would begin in the 9th Five Year Plan (1996–2000), but construction was not scheduled until the first decade of the 21st century.

Through five rounds of "Speed-Up" campaigns in April 1997, October 1998, October 2000, November 2001, and April 2004, passenger service on 7,700km of existing tracks was upgraded from 48km/h in 1993 to sub-high speeds of 160 km/h. A notable example is the Guangzhou-Shenzhen Railway, which in December 1994 became the first line in China to offer sub-high-speed service and use domestically produced DF-class diesel locomotives. The line was electrified in 1998, and Swedish-made X 2000 trains increased service speed to 200 km/h. Additionally, from 1999 to 2003, China conducted independent attempts to domestically develop high-speed rail technology.

ii) ***National planning and technology introduction (2004–2008)***

In 2004, the Chinese State Council and the Ministry of Railways defined a modern railway technology and equipment policy known as "the introduction of advanced technology and joint design and production to build China's brand". On April 9, 2004, the Chinese government held a conference on modern railway equipment and rolling stock, in which they drafted the current Chinese plan to modernize the country's railway infrastructure with advanced technologies. On June 17, 2004, the Ministry of Railways launched the first round of bidding on high-speed rail technology. After extensive review and negotiation, three consortiums won the bid: Changchun Railway Vehicles Co., Ltd. (owned by China North Car) with France's Alstom; Sifang Locomotive (owned by China South Car) with Japan's Kawasaki Heavy Industries; and Sifang Locomotive (owned by CSR) with Canada's Bombardier. In November 2005, the Chinese Ministry of Railways and Siemens reached an agreement, and Siemens in a joint venture with Changchun Railway Vehicles and Tangshan Railway Vehicle (both owned by CNR) was awarded sixty 300 km/h high-speed train orders.

The completion of the sixth round of the "Speed-Up" Campaign in April 2007 brought HSR service to more existing lines: 423 km capable of 250 km/h train service and 3,002 km capable of 200 km/h. In addition to track and scheduling improvements, the MOR also deployed faster CRH series trains. During the Sixth Railway Speed Up Campaign, 52 CRH trainsets (CRH1, CRH2 and CRH5) entered into operation. The new trains reduced travel time between Beijing and Shanghai by two hours, to just under 10 hours. Higher-speed express train service allowed more trains to share the tracks and improved rail transport capacity, but high-speed trains often have to share tracks with slower, heavy freight trains. To attain higher speeds and transport capacity, planners began to consider passenger-dedicated HSR lines on a grand scale.

In 2006, the state embarked on an ambitious campaign to build passenger-dedicated high-speed rail lines. Total investment in new rail lines grew from $14 billion in 2004 to $22.7 and $26.2 billion in 2006 and 2007. On August 1, 2008, the Beijing–Tianjin Intercity Railway opened in time for the 2008 Summer Olympics. This line, connecting northern China's two largest cities, was the first in the country to accommodate commercial trains with top speeds of 350 km/h.

iii)***All-around development, slowdown and recovery (2008–present)***

In response to the global economic recession in 2008, the Chinese central government accelerated the pace of HSR expansion to stimulate economic growth. Total investments in new rail lines including HSR reached $49.4 billion in 2008 and $88 billion in 2009. In all, the state planned to spend $300 billion to build a 25,000 km HSR network by 2020. The MOR's "Mid-to-Long-Term Railway Network Plan", revised in 2008, called for building a national high-speed rail grid composed of 4 north-south corridors and 4 east-west corridors, which, together with upgraded existing lines, would reach 16,000 km.

However, the rapid development slowed down after the Wenzhou train collision accident and the subsequent investigation into corruption in the Ministry of Railways in 2011. On July 23, 2011, at approximately 20:00 CST, two high-speed trains travelling on the Yongtaiwen railway lines No. D301 and No. D3115 collided on a viaduct near Wenzhou, Zhejiang, leading to 40 deaths and 191 injuries. The accident, the first of its kind, had a profound impact on the development of high-speed rail in China. Public confidence in high-speed rail eroded, leading to lower ridership. Construction of high-speed rail lines in China was temporarily suspended while the accident was under investigation. Speeds of other major high-speed rail lines in China were reduced.

By early 2012, the Chinese government renewed investments in high-speed rail to rejuvenate the slowing economy. Premier Wen Jiabao visited train manufacturers and gave a vote of confidence in the industry. Over the course of the year, the MOR's budget rose from $64.3 billion to $96.5 billion. Five new lines totaling 2,563 km in length entered operation between June 30 and December 31, including the Beijing–Wuhan section of the Beijing–Guangzhou line. By the end of 2012, the total length of high-speed rail tracks had reached 9,300 km, and ridership had exceeded levels prior to the Wenzhou collision. China's 1,580 high-speed trains were transporting 1.33 million passengers daily, about 25.7% of the overall public transportation passengers. In 2014, high-speed rail expansion gained speed with the opening of the TaiYuan-Xi'an, Hangzhou–Changsha, Lanzhou–Urumqi, Guiyang-Guangzhou, and Nanning–Guangzhou trunk lines and intercity lines around Wuhan, Chengdu, Qingdao, and Zhengzhou. High-speed passenger rail service expanded to 28 provinces and regions. The number of high-speed train sets in operation grew from 1,277 pairs in June to 1,556.5 pairs in December (Fig 2.15).

Fig 2.15: Railway map of China

2.3.2 TECHNOLOGICAL INNOVATION AND TECHNOLOGY EXPORTS

The introduction of high-speed trains, a foreign advanced technology, was required in order to implement China's "Long-term Scientific and Technological Development (2006–2020)". The core technology innovation necessary for a high-speed rail system resulted in the Ministry of Science and Ministry of Railways signing the "Independent Innovation of Chinese High-speed Train Cooperation Agreement Joint Action Plan" on February 26, 2008. Under the agreement, China's joint action plan to improve train service and infrastructure has four components: (1) developing key technologies to create a network capable of supporting speeds higher than 350 km/h, (2) establishing intellectual property rights and international competitiveness, (3) Ministry of Science and the Ministry of Railways cooperation to enhance industry research alliances and innovation capability, and (4) promoting China-related materials and equipment capacity. The Chinese Ministry of Science has invested nearly 10 billion Yuan in this plan. The project has involved a total of 25 universities, 11 research institutes and national laboratories, and 51 engineering research centers. The Ministry of Science hopes to produce key technology necessary to develop trains capable of 500 km/hr through the "863 Project" and "973 Project".

Date	Train		Type	Track	Speed
1997/1/5	SS8		Electric locomotives	Beijing Circular Railway	212.6 km/h
1998/7/29	X2000 Speed"	"New	Electric Multiple Unit(EMU)	Guangshen Line	200 km/h
Sep-99	DDJ1 Shark"	"White	EMU	Guangshen Line	223 km/h
1999/10/1	NZJ1 Aurora"	"New	Diesel Multiple Unit (DMU)	Huning line	194 km/h
Nov-00	DJJ1 "Blue Arrow"		EMU	Guangshen Line	235 km/h
2002/9/10	DJF2 "Pioneer"		EMU	Qinshen PDL	292.8 km/h
2002/11/27	DJJ2 "China Star"		EMU	Qinshen PDL	321.5 km/h
2002/12/9	NZJ2 "Shenzhou"		DMU	Qinshen PDL	210.7 km/h
2008/4/24	CRH2C		EMU	Jingjin ICL	370 km/h
2008/6/24	CRH3C		EMU	Jingjin ICL	394.3 km/h
2010/12/3	CRH380AL		EMU	Jinghu PDL	486.1 km/h
2011/1/9	CRH380BL		EMU	Jinghu PDL	487.3 km/h

Tab.2.5: Speed records of China's rolling stock (non-maglev)

Chinese train-makers and rail builders have signed agreements to build HSRs in Turkey, Venezuela and Argentina and are bidding on HSR projects in the United States, Russia, Saudi Arabia, Brazil (Sao Paulo to Rio de Janeiro), Myanmar, etc. (Fig 2.16). They are competing directly with established European and Japanese manufacturers, and sometimes partnering with them. In Saudi Arabia's Haramain High Speed Rail Project, Alstom partnered with China Railway Construction Corp. to win the contract to build phase I of the Mecca to Medina HSR line, and Siemens has joined CSR to bid on phase II. China is also competing with Japan, Germany, South Korea, Spain, France and Italy to bid for California's high-speed rail line project, which would connect San Francisco and Los Angeles. In November 2009, the MOR signed preliminary agreements with the state's high-speed rail authority and General Electric (GE) under which China would license technology, provide financing and furnish up to 20 percent of the parts, with the remaining sourced from American suppliers, and final assembly of the rolling stock in the United States. In January 2014, the China Railway Construction Corp. completed a 30-km section of the Ankara–Istanbul high-speed railway between Eskisehir and Inonu in western Turkey.

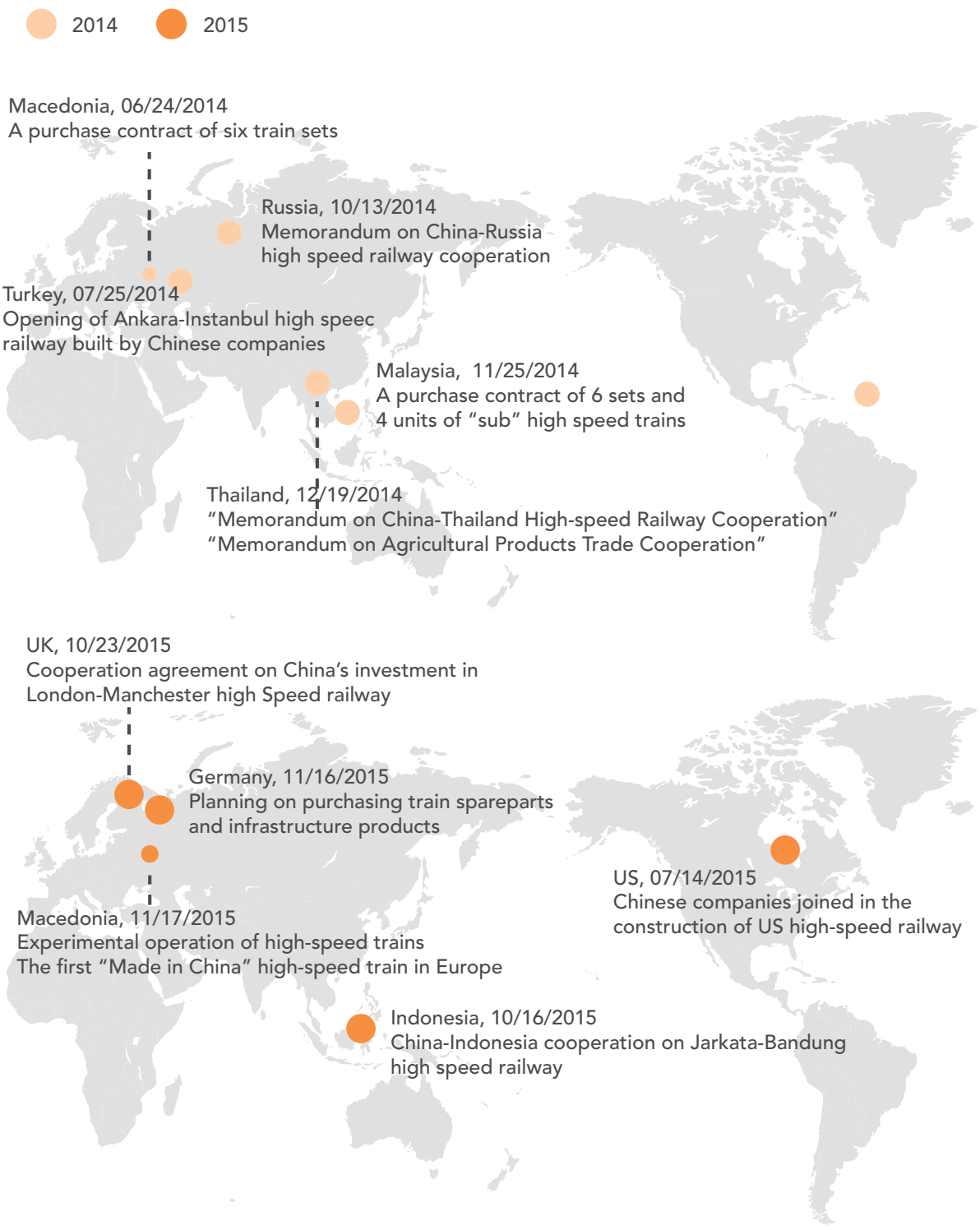

Fig 2.16: Chinese High Speed Railway Going Overseas

2.3.3 TRANSITION OF CHINA'S HIGH-SPEED RAIL MANAGEMENT SYSTEM

i) ***High-speed rail operating at a loss***

Currently, China's high-speed rail service costs significantly less than similar systems in developed countries, but it is considerably more expensive than conventional rail service. For the 419 km trip from Beijing to Jinan, HSR costs CNY185 (US$30) and takes 1 hour 32 minutes, while a conventional train costs CNY73 (US$12) and takes about 6 hours. By comparison, the Acela train from Washington DC to New York City (one of the most expensive trains in regular service), covering a slightly shorter distance of 370 km, costs US$152–180 (Y930) and takes 2 hours 50 minutes. It should be noticed that the high-speed rail service system as a whole is still losing money amidst concerns about corruption, safety, and high ticket prices. For example, HSR in western China is still faced with huge debts and sluggish increase in ridership, though some lines located in developed and densely-populated regions of East China are already making profits, such as the Beijing–Shanghai line running through Beijing, Tianjin, Hubei, Shandong, Anhui, Jiangsu, and Shanghai, to connect two major economic developed regions in China.

The MOR encountered a debt-repayment peak in 2014. Some economists recommend further subsidies to lower fares and boost ridership and ultimate revenues. Others warn that the financing side of the existing construction and operation model is unsustainable. If the rail-backed loans cannot be fully repaid, they may be refinanced or the banks may seize ownership of the railways. To prevent that eventuality, the MOR is trying to improve management of its rapidly growing HSR holdings. Overall, ridership is growing as the high-speed rail network continues to expand. High-speed rail is also becoming relatively more affordable as fares have remained stable while wages have grown sharply over the same period.

ii) ***Changes in high-speed rail administrative authorities***

The Ministry of Railways (MOR) is a now defunct under the State Council of the People's Republic of China. The ministry was responsible for passenger services, regulation of the rail industry, and development of rail networks and rail infrastructure in mainland China, though in light of recent accidents, there have been calls to institute independent supervision of the rail industry. The ministry was also in charge of operating China Railways and managing railway bureaus and companies in mainland China. In 2008, 2 million people worked under the mammoth Ministry of Railways, known as the "Railway Big Brother", which operated its own schools, hospitals, and telecommunications and construction companies. For such a gigantic bureaucratic body to function efficiently while maintaining its own regulation and supervision would be surprising.

In the past three decades of economic reforms, other industrial ministries have spun off their business operations to become industrial regulators or have simply been dismantled. But the Ministry of Railways remains a stronghold of the command economy, as it continues to monopolize rail transportation while also acting as the industry's regulating body. The annual session of the National People's Congress (NPC) endorsed the latest restructuring of the State Council, China's cabinet, to merge ministries with similar functions into several super-ministries. The Ministry of Railways once again escaped restructuring, despite early talks that it would be merged into the Ministry of Transportation and Communication. After the Wenzhou collision, calls were renewed to reform the Ministry of Railways into a business operation with independent supervision. On 10th March 2013, it was announced that the Ministry would be dissolved and its duties taken up by the Ministry of Transport (safety and regulation), State Railways Administration (inspection), and China Railway Corporation (construction and management) (Fig 2.17).

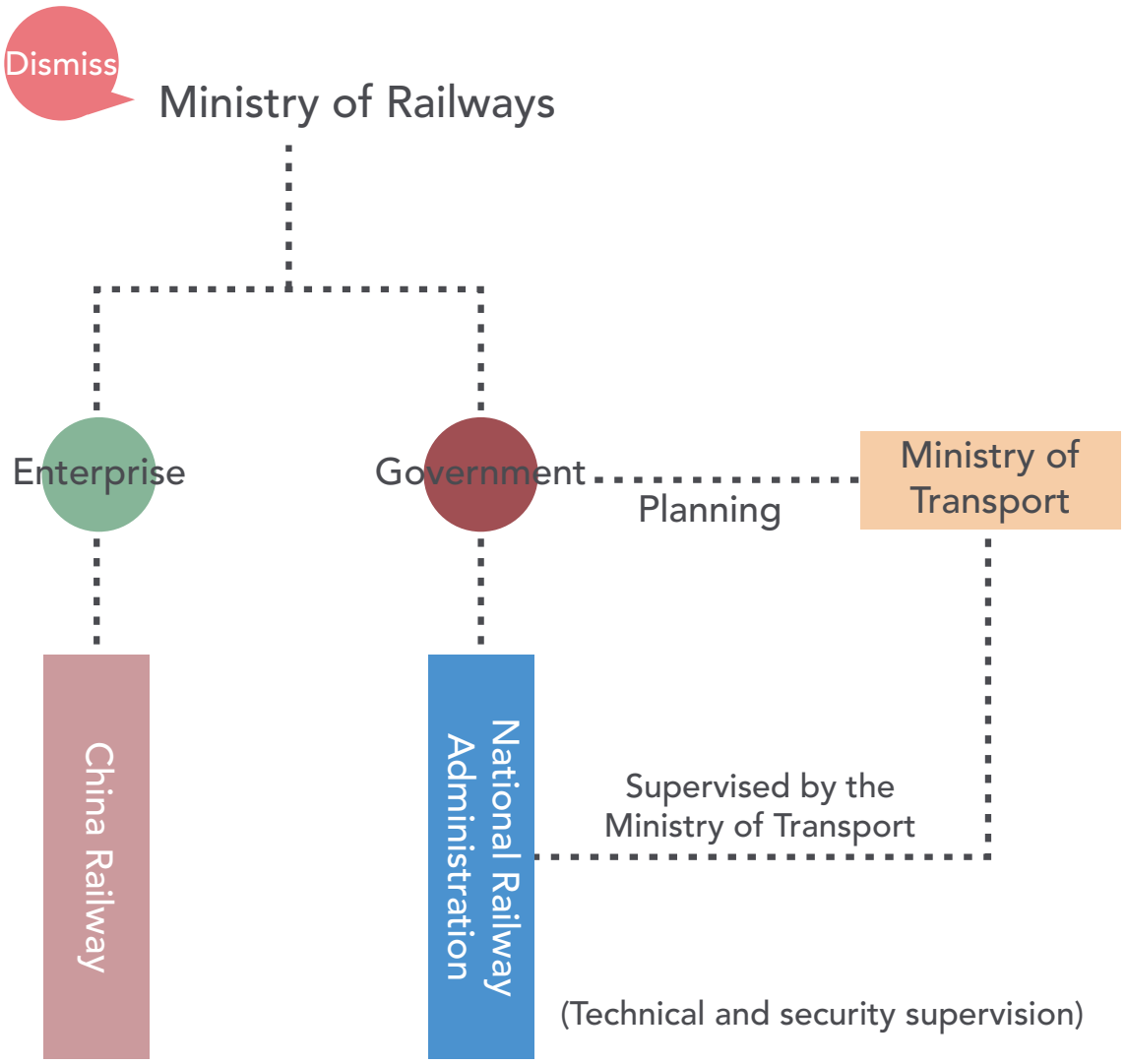

Fig 2.17: Dismission of the Ministry of Railways

iii) ***Negative effects brought by "leapfrog development"***

The "leapfrog development" promoted by Ministry of Railways lasted for 8 years until the Wenzhou collision accident in 2011 sounded another alert for the country's security and safety. Officials responded to the accident by hastily concluding rescue operations and ordering the burial of the derailed cars. These actions triggered strong criticism from Chinese media and online communities. In response, the government issued directives to restrict media coverage, which was met with limited compliance, even on state-owned networks. The collision was the first fatal crash involving high-speed rail (HSR) in China, and the third-deadliest HSR accident in history.

The Ministry of Railways announced that three high ranking railway officials were fired immediately after the crash. They were Long Jing, head of the Shanghai Railway Bureau; Li Jia, party secretary; and the deputy chief of the bureau, He Shengli. Furthermore, the Chinese government sacked railways minister Liu Zhijun in February 2011, for allegedly taking over 800 million Yuan in kickbacks connected with contracts for high-speed rail expansion. As the Railway Minister, Liu oversaw numerous expansions of China's railway system and he was a figure of national praise until February 2011, when he was arrested and expelled from the Party over allegations of corruption. After the Wenzhou train collision, a government report singled out his leadership as one of the main contributors to the crash and he was publicly criticized. In July 2013, he was convicted and received a death sentence with reprieve.

2.3.4 THE DEVELOPMENT MODE OF CHINA HIGH-SPEED RAILWAY

i) ***Great power of the "whole-nation system"***

China's high-speed rail expansion is entirely managed, planned and financed by the government. A powerful national government enables China railways to get enough financial support and strong national planning for high-speed railway development, as well as active diplomatic actions to promote technology export. China's high-speed rail construction projects are highly capital intensive. About 40–50% of financing is provided by the national government through loans from state-owned banks and financial institutions, another 40% by the bonds issued by the Ministry of Railway (MOR) and the remaining 10–20% by provincial and local governments. The MOR, through its financing arm, the China Rail Investment Corp (CRIC), issued an estimated ¥1 trillion (US$150 billion in 2010 dollars) in debt to finance HSR construction from 2006 to 2010, including ¥310 billion in the first 10 months of 2010.

The centerpiece of the MOR's expansion into high-speed rail is a new national high-speed rail grid overlaid onto the existing railway network. According to the MOR's "Mid-to-Long Term Railway Network Plan" (revised in 2008), this grid is composed of eight high-speed rail corridors, four running north-south and four going east-west, with a total mileage of 12,000 km. Most of the new lines follow the routes of existing trunk lines and are designated for passenger travel only. Several sections of the national grid, especially along the southeast coastal corridor, were built to link cities that had no previous rail connections. Those sections will carry a mix of passenger and freight. High-speed trains on PDLs can generally reach 300–350 km/h. On mixed-use HSR lines, passenger train service can attain peak speeds of 200–250 km/h. This ambitious national grid project was planned to be completed by 2020, but the government's stimulus has expedited time-tables considerably for many of the lines.

ii) ***From technology introduction to innovation***

The Ministry of Railways spokesman Zhang Shuguang once stated that due to historical reasons, China's overall railway technology and equipment is similar to that of developed countries' rail systems in the 1970s; high-speed rolling stock development is still in its infancy stage. If using only their own resources and expertise, the country might need decades or longer to catch up with developed nations.

For example, the first round of bidding on the high-speed rail technology in 2004 demanded that bidding companies must be both legally registered in the PRC, with rail EMU manufacturing capacity, and able to manufacture trains with the ability to reach 200 km/h. High-speed EMU design and manufacturing technology companies, including Siemens, Alstom, Kawasaki Heavy Industries and Bombardier, initially hoped to enter a joint venture in China, which was rejected by the Ministry of Railways. The MOR set these guidelines for joint ventures to be acceptable: comprehensive transfer of key technologies; the lowest price in the world; and use of a Chinese brand. A comprehensive transfer of technology to Chinese enterprises (especially in systems integration, AC drive, and other core technologies) was necessary to allow domestic enterprises to master core technology. While foreign partners might provide technical services and training, Chinese companies must ultimately be able to function without the partnership. Railway equipment manufacturers in China were free to choose foreign partners, but foreign firms must pre-bid and sign technology transfer agreements with China's domestic manufacturers, so the Chinese rolling stock manufacturers could comprehensively and systematically learn advanced foreign technology.

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3 URBAN DEVELOPMENT OF CHINA IN THE 21ST CENTURY

Chapter Contents:

- Land Policies and Demolition Issues in Urban China
- Population Transition and Social Transformation of China
- Population Flow in China
- Urban problems

3.1 LAND POLICIES AND DEMOLITION ISSUES IN CHINA

3.1.1 EVOLUTION OF CHINA'S LAND POLICIES

P.R. China has been implementing an urban-rural dual land system since its establishment in 1949. Since the initial nationalization of land ownership in 1956, all of the land in China's cities has been owned by state, being administrated by different levels of city governments. Before the reform and opening-up in 1978, state-owned urban land systems in China adopted the Soviet mode that allows governments to take over the land from residents with no compensation and no limitation of period, which is absolutely unfair policy and could cause great damage to individual benefits. China started to get rid of the Soviet mode and adopt the British pattern after reform and opening-up, by which the land use rights were first emphasized and then divided from ownership, meaning that the tenant of the land can get compensation for transferring their land use rights.

The evolution of rural land policies can be considered as 3 periods since the founding of China: in the first period (1949–1953), Agrarian Reform Law of the PRC was promulgated to transform private land ownership of feudal landlords into private ownership of peasants; in the second stage (1953–1978), socialist transformation of agricultural means of production as well as the People's Commune Movement were conducted to transform private land ownership of peasants into land ownership of rural collectives, which was featured with 3 levels of ownership and the foundation of production teams; in the third stage (1978 up to now), after the implementation of the reform and opening-up, 7 "No.1 Documents" were formulated by the state authority to resolve the drawbacks of the "big-pot" system and the low economic efficiency which resulted, and was attributed to the People's Commune Movement. The household contract responsibility system was formally established to improve productivity in rural areas.

3.1.2 MAJOR LAND SYSTEMS OF CHINA

All the land in China adopts socialist public ownership, namely, ownership by the whole citizenry and collective ownership by the working people – land ownership by the whole citizenry is realized in the form of socialist state ownership. The state occupies the land belonging to the whole citizenry on their behalf and exercises the rights of possession, use, revenue, and disposition. Collective ownership by the working people adopts the form of peasant collective ownership by rural collective economic organizations. A rural collective economic organization occupies the land on behalf of all the peasants within the organization, and exercises the rights of land management and disposition. All the land in urban districts is owned by the state. Land in rural areas and urban suburbs, except for some that is clearly owned by the state by law, belongs to rural collectives, including village collectives and township (town) collectives. The system of compensated use of state-owned land is implemented in these areas.

Unlike most other countries, the fundamental characteristic of China's land system is urban-rural segmentation. Land in urban districts is owned by the state while land in rural areas and urban suburbs belongs to rural collectives. Under this system, property rights and subsidiary interests (powers and functions) of state-owned urban land and rural collective land, are different (Research group of China Financial Forum, 2013).

Currently the total quantity of land in China on which construction may be undertaken is also controlled by the state. Any organization or individual who needs land to build houses or facilities must apply for permission from state-owned construction land according to law. If the transformation of agricultural land into construction land is involved, agricultural land conversion procedures should be approved by the Sate Land and Resource Bureau. In addition, China has a strict land management system, which is highly planned and aims at food security. Hence China has the strictest protection system for cultivated land, namely, planning measures to ensure an arable land red line (1.8 billion mu, 1 mu equals 0.0667 hectares). The supply mode of construction land is also planned, wherein the government directly acquires land from rural areas based on land expropriation systems and then sells land according to bid invitation, auction, and listing systems.

3.1.3 DISADVANTAGES OF URBAN-RURAL DUAL LAND SYSTEM

1) **Inefficient land use**

First, use efficiency of urban construction land has decreased substantially. It's generally believed that land use should have become more intensive as mass development of urbanization took place in recent years. However, such a trend has not been clearly manifested in China and extensive land use is constantly aggravating. From 2000 to 2010, national urban industrial and mining land per capita increased from 130 m^2 to 142 m^2 while population density in urban built-up areas decreased from 7700 people/km^2 to 7000 people/km^2.

Second, rural land is in a severe idle state. Due to numerous rural surplus laborers flooding into cities, as well as low agricultural incomes, much cultivated land has been wasted. It's estimated that the current idle scale of rural settlements has reached 1.85–2.85 million hectares, accounting for almost 25–35% of total urban construction land.

Third, quality decline of cultivated land may affect food safety. Sticking to the arable land red line of 1.8 billion mu is only a control of total amount and does not account for preservation of land quality. Of the 1.826 billion mu of cultivated land in China, 1.3 billion mu can only provide low or medium yields. Also, over 70% of current farmland is polluted by excessive use of fertilizers and pesticides, along with discharge of industrial waste water, which has significantly influenced sustainable development and security of food production. Besides, during the last decade, urbanization construction has taken up 2.42 million hectares of cultivated land, most of which has preferable quality (Research Group of China Financial Forum, 2013).

2) **Unfair distribution of land revenue**

The urban-rural dual land system created unfair distribution of land-value-added income between urban and rural areas. Collective land is appropriated by the government and turned into urban construction land, while land compensation is decided according to its original use. And land compensation fees and settlement subsidies can't exceed 30 times of 3-year average output value before expropriation. According to the above principle, land-expropriated peasants will lose the future land-value-added income after compensation. As the urban government is the subject carrying out land expropriation and the only supplier of the primary land market, the first round of value-added revenue brought by land conversion belongs to the urban government. Under the current rules of the state-owned construction land market, land users will have the rights of possession, usage, income, transfer, and guaranteed mortgage, after acquiring land use rights by law. With accelerating urbanization procedures, land value has significantly increased. So the main part of land-value-added revenue belongs to the land owner, and the local government can still obtain some tax income in the transaction link (Liu, S.Y., 2014).

In a market-oriented economy environment, China's distribution system of land-value-added income is definitely inconsistent with its production mechanism, leading to huge unfairness in distribution among different interested parties. Former land owners and peasants in urban districts are excluded from the distribution of future land-value-added income and can only obtain very limited compensation. The urban government can get huge disposable land-value-added revenue based on its administrative authority. Although developers and buyers have to pay high one-time land transfer fees, they will enjoy considerable future value-added revenue. Therefore, the urban-rural dual land system has become an institutional element attributed to the current unfair income distribution and has given rise to urban villages (similar to slums), demolition, and many other social problems.

3) **Prominent land finance**

According to the National Audit Office, by the end of 2010, 40% of China's governmental debts were repaid with land income. From 2010 to 2012, transfer revenue of state-owned land use rights was respectively 2939.8 billion Yuan, 3347.7 billion Yuan, and 2888.6 billion Yuan, accounting for 35%, 32% and 25% of annual fiscal revenue and 7%, 7% and 6% of China's GDP during the same period. What's more, due to increasing costs of demolition and decreasing land revenue, the net income of land transfer of local governments is also gradually declining. In 2012, net income of land transfer accounted for 21% of local fiscal revenue. A significant decrease can be observed if compared with the peak of 31.7% in 2010, which indicates that prominent land finance is unsustainable (Research group of China Financial Forum, 2013).

3.1.4 DEMOLITION IN URBAN CHINA

According to law, agents with permits remove housing and appendages on construction land, resettle the former residents, and compensate their losses. Since the reform and opening-up, the rapid urbanization of China has resulted in a big amount of demolition projects. Meanwhile, interest conflicts attributed to demolition have gradually entered the public's sight and showed an aggravating trend. According to statistical data from the State Bureau for Letters and Calls, from 2003 to 2006, nearly 40% of the petitioners were involved with demolition. In fact, Chinese demolition is more like a radical and unfair interest game (Guo, Y.L., 2011).

The key to demolition conflicts lies in compensation. Unreasonable and unfair compensation will result in various social problems. A demolition game is played between the demolition side and the relocated side. The demolition of urban areas in China is dominated by the government, who holds more chips in the negotiation, such as a non-marketed prices and forcible eviction schedules. While the local government, developers, and relocated residents become the major interested parties in the demolition, relocated residents often struggle against such programs, sometimes with acts of violence or suicidal tragedies. All these social impacts are created due to unfair and under-established land use policies in recent China.

If compared with the real demands of diversified participation, the governant mechanisms to coordinate multi-stakeholder relationships and realize multidimensional policy objectives with respect to demolition and construction in China today seem to have significantly lagged behind. Without effective institutional guarantees, major participants in demolition, the government, the market, and the society will have to adopt various non-institutionalized measures to maintain or seize more economic benefits. On one hand, it's difficult for demolition projects to attract social capital and then urban construction may encounter funding obstacles, thus preventing upgrading and transformation of cities and damaging overall interests. On the other hand, different interested parties possess different social resources and consequently different decision-making power. The absence of a reasonable and effective game platform may bring about interest deprivation for disadvantaged groups, thus leading to unfair distribution and affecting social integrity and stability. In recent years, due to the lack of effective governance mechanisms, unfair distribution phenomena can often be found in newspapers, such as 'nail households' (these householders who refuse to move away), self-immolation to safeguard rights, group conflicts, etc. The negative outcome is that local residents are excluded from decision-making and implementation procedures and their interests can't be effectively guaranteed, which will form extremely unfair games between the demolition side and the relocated side. In combination with the American "Growth Machine" theory, some scholars have concluded that the alliance of the local government and developers and their governance mode is an economic growth alliance with socialist characteristics.

Another unfair social distribution phenomenon due to the absence of reasonable governance mechanisms is manifested as extremely self-serving behaviors (superfluous construction for the purpose of gaining more compensation). Nowadays during the implementation of urban renewal and demolition projects, extremely self-serving behaviors are often common among these relocated residents. When the compensation standards have satisfied most residents, the opposition of only a few residents can hinder the progress of whole projects and hurt the interests of most residents. Simultaneously, market uncertainty and urban development costs will also be improved. However, offering these residents compensation higher than the normal market price is contrary to the principle of equality, which may easily generate implicit rules against social equity and encourage more people to adopt extremely self-serving behaviors in future demolition (Zhang, Lei., 2015).

1) **Institutional roots of demolition chaos**

Within 6 months after the promulgation of *the Regulation of Housing Expropriation and Compensation on Sate-owned Land*, there were at least 11 cases of casualties owing to compulsory demolition. Violent and bloody demolition can't be completely stopped despite repeated bans and new regulations from the central government. There are 2 major reasons for the demolition chaos. One is the tax sharing system and the other is the cadre evaluation system (Liu, D.L., 2012).

What makes the local government enthusiastic about demolition is to acquire as much land and financial revenue as possible. In fact, local finance has become land finance. This mode of making money through land is commonly known as "city entrepreneurship", which is a characteristic of capitalist states relying entirely on selling land for growth. For example, the land in Kangbashi New District of Ordos, Inner Mongolia, created a brilliant record of expropriation at the price of 250 Yuan/mu and total transfers at 820,000 Yuan/mu, the value of which increased by 3,280 times over the past two decades (1996–2015). Driven by huge profits, the demolition economy was started all over China. However, the institutional root of land finance can be traced back to the reform of the tax sharing system which started in 1994. Its outcome is that the local government receives a small part of tax revenues while the central government receives a large part. But the local government can obtain land transfer fees as compensation. It's generally believed that the reform of the tax sharing system cannot scientifically and properly divide the financial and administrative authority between the local and central government. Mismatching of local financial and administrative power has led to land transfer fees becoming the major financial resource of the local government, giving rise to serious distortion of the urban development mode. Almost every city has established its own city investment company to conduct massive construction of new towns, development districts, and infrastructure. Huge profits from land sales can integrate the local government and developers closely to create a local growth alliance, which may even push forward compulsory demolition in spite of national laws and regulations (Liu, D.L., 2012).

In addition to land finance, demolition chaos is also connected with the current cadre evaluation system, which not only focuses on performance evaluations, but also implements the policies of young cadres. Pursuing short-term performance and achieving quick success becomes the psychological orientation of most local officials. On the one hand, they try to strengthen vanity projects like urban demolition in order to get attention and approval from superiors. On the other hand, the policies of young officials compel some officials reaching age limits to achieve faster and bigger success within their terms of office. Besides, some local evaluation mechanisms have also stimulated relevant behaviors. Guided by these mechanisms, no matter what means are adopted, only those cadres that can finish demolition tasks are qualified; those who fail to complete tasks may be punished or even demoted. To guarantee retention and promotion, many local officials resort to every conceivable means to implement demolition projects. As a result, bloody and violent demolitions have become common phenomena.

2) **Social problems generated by demolition**

So far the Chinese demolition has been charactized by a lack of reasonable compensation standards and interest coordination mechanisms. Hence the local growth alliance tends to seize benefits from the relocated side with its advantaged capital and authority. The relocated side can only resort to informal measures to express their demands due to the absence of rights to expression and social relief mechanisms, which directly produces a series of social conflicts like group events, violent demolition, self-harm confrontations, etc. These conflicts are not isolated phenomena but interrelated with each other, and a slight move among them may affect the situation as a whole. To comprehensively resolve radical confrontation issues of demolition requires not only systematic construction of interest coordination and expression mechanisms, but also the transformation of development modes that are excessively dependent on land economy for the local government and developers.

Violent events in demolitions happen commonly when relocated residents are under-paid or forced to move out. In this process, the government, on behalf of public interests, abuses state or administrative power to push forward demolition and realize self-interests. Beside violent events, there are also vicious occurences of self-destruction when the victims feel helpless against the superior power of the state, the damage of which is difficult to repair in a short time. As vicious events result from the huge gap of interest demands of different parties, they can hardly be reconciled. Examples of vicious events are not rare in China. In November, 2009, in Tianhui Town, Jinniu District, Chengdu City, Tang Fuzhen died from self-immolation but still failed to defend her house from demolition. In March, 2010, one family in Donghai County, Jiangsu Province committed self-immolation with gasoline to fight demolition, which caused a tragic death and injuries.

Group events refer to groups formed by individuals with the same goal adopting illegal group behaviors to achieve certain interest demands. Demolition has now become a major cause of group conflicts all around China. In November, 2009, a real estate company conducted violent demolition on residents living in No. 36 Putuo Lane and No. 20 Guiwunan Road, Guiyang City, which caused a confrontation between residents and development staff. About 30 residents adopted aggressive behaviors, including using red cloth and liquid gas storage tanks to obstruct urban traffic, to demand justice from the government. In this case, illegal blocking behaviors such as violent demotion turned into a revolt event, which seriously affected normal production and living conditions.

In addition to violent means, some moderate confrontation measures have been adopted by relocated households to seek higher compensation, such as nail residents. Simultaneously with in-depth development of urbanization in China, many cities have entered the era of stock land development, especially in those high-density and economically developed areas with optimized demolition systems. Urban renewal and demolition in urban villages and rural-urban fringe zones have become a substantial approach to seek more land and space. However, although relocated residents can get considerable compensation, it's still difficult for them to adapt to city life and the sudden appearance of huge sums of money due to their long-term identity of peasants living rural lifestyles, which has aroused many problems like family disruption, unemployment, lack of cultural life, etc.

Nail Households refer to residents living in the downtown area or development zones and refusing demolition. For example, in November 21, 2012, a 4-floor building (Fig.3.1) was still standing in the middle of a road before Wenling Railway Station, Zhejiang Province. 2 residents were even living there. Although the road had not officially opened, vehicles passing by had to run around the house. According to residents nearby, they refused to sign the demolition agreement due to dissatisfied compensation. Generally speaking, nail households will avoid violent confrontation, adopting instead the strategy of refusing to move and hindering the whole progress of demolition to seek more compensation from developers. On the other hand, the government and developers can also adopt moderate measures, like cutting off water and electricity and setting up obstructions around their houses. The local growth alliance may even force friends and relatives of relocated residents, who are working in the government, public institutions, and enterprises, to exert pressure on them. The final outcome is usually the surrender of nail households.

Fig 3.1 Nail Household in Wenling, Zhejiang

Most people in the second-generation of relocated households (*Chaierdai*) were born in urban suburbs in the 1980s, who inherited property from their parents, acquired huge deposits overnight, and formed a special group. They are in the dilemma of excessive dependence on land compensation, conspicuous consumption, lack of spiritual life, blocked social mobility, family tensions, etc. In fact, from conspicuous consumption to family disruption, all of these demonstrate their inability to adapt to rapid changes. Chaierdais are not ready for new urban life. Lifestyle and social networks are restricting their further advance. Now they can afford apartments and cars, but except for the improvement of living quality, their identity remains the same: peasants. They maintain the concepts of villagers and encounter great difficulties when adapting to urban life, so they are considered the real victims in the process of urbanization (Zhang, X.X., Zhao, J.G. & Zhu, Z.Y., 2015). China has only taken 30 years to complete the urbanization process and transform from an agricultural society towards an urban society, which took western countries nearly 100 years. However, unlike western countries, China's urbanization is not complete, but is still in the materializing stage. Urbanization in rural China means more than that the simple transition of household registration, occupations, living space and landscape, but includes the reproduction process of social and cultural attributes of peasants, the changes of lifestyles and values. The birth of the Chaierdais can be viewed as the epitome of materializing urbanization in China. After demolition, the social identity of the Chaierdai is still that of peasants. Their family, education and living environments all have restricted their future development. They are unable to achieve upward social mobility based on their poor social and cultural capital bases.

3.2 POPULATION AND SOCIAL TRANSFORMATION OF CHINA

The world history of populations indicates that population structure will not only change with historical development, but also follow established rules, thus possessing similar transition paths. Therefore, the UN described the demographic transition process as 4 stages (Tab.3.1) in 1968. Nowadays China has entered the fourth stage – the final stage of population transition, during which China will maintain a low birth rate, a low death rate, and a low natural growth rate for a long time (Fig.3.2) (Zhang, 2013).

With the maintenance of low fertility levels, China's population has witnessed a significant transition and will continue to change. By the end of 2014, in terms of age structure, the proportion of people aged over 65 to total population exceeded 10.1% and will keep increasing in the future (it is recognized that when the percentage of people aged over 60 to the total population reaches 10% or the percentage of people aged over 65 to total population reaches 7% in a country, then this country has entered the aged society); in terms of urban-rural structure, 54.8% of China's population have become urban residents, exceeding the agricultural population for the first time in history (Fig.3.3); in terms of labor structure, less than 35% of China's population are working in the primary industry, characterized by agriculture, and this percentage will continue to decrease in the process of China's agricultural modernization (Zhang, 2013). Currently, there are two main factors functioning as the momentum of China's population transformation: firstly, the compulsory implementation of family planning; secondly, the population control mechanism. This so-called one-child policy, formulated in the 1980s when Chinese government realized that too much population was inhabiting a land with limited resources, is now showing its consequences and led to a suspension of the one-child policy in 2015 (Zhang and Jing, 2012). All in all, this section will focus on analyzing the characteristics of China's population and labor structure as well as its relationship with its socioeconomic transformation, and then interpret the corresponding adjustment of China's population policies.

Stage	Stage Name	Characters			
		Birth Rate	Death Rate	Natural Growth Rate	Total Fertility Rate
1	Pre-industrialization	30–40	30–40	0–10	≥6.5
2	Preliminary	30–40	40–10	10–30	4.5–6.5
3	Further	40–10	10	30–0	2.5–4.5
4	Full industrialization	10	10	0	≤2.5

Tab.3.1: Stage Population Model of Population Transition (Unit: ‰)
Source: China Statistical Yearbook 2015, Chapter. 2
http://www.stats.gov.cn/tjsj/ndsj/2015/indexch.htm

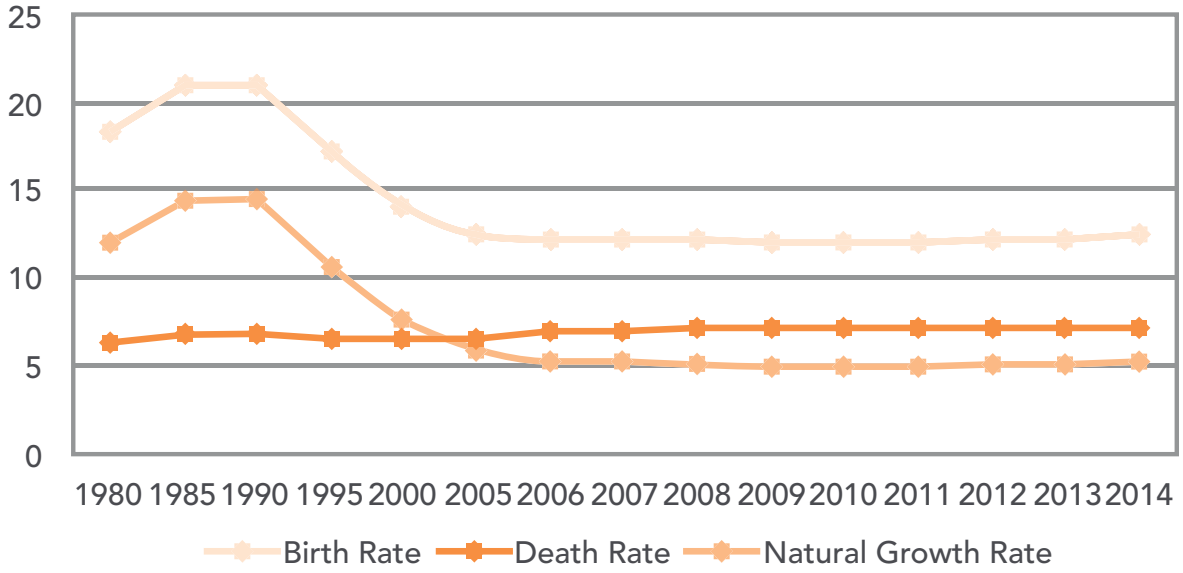


Fig. 3.2: Birth Rate, Death Rate and Natural Growth Rate of China from 1980 to 2014 (‰)
Source: China Statistical Yearbook 2015, Chapter. 2
http://www.stats.gov.cn/tjsj/ndsj/2015/indexch.htm

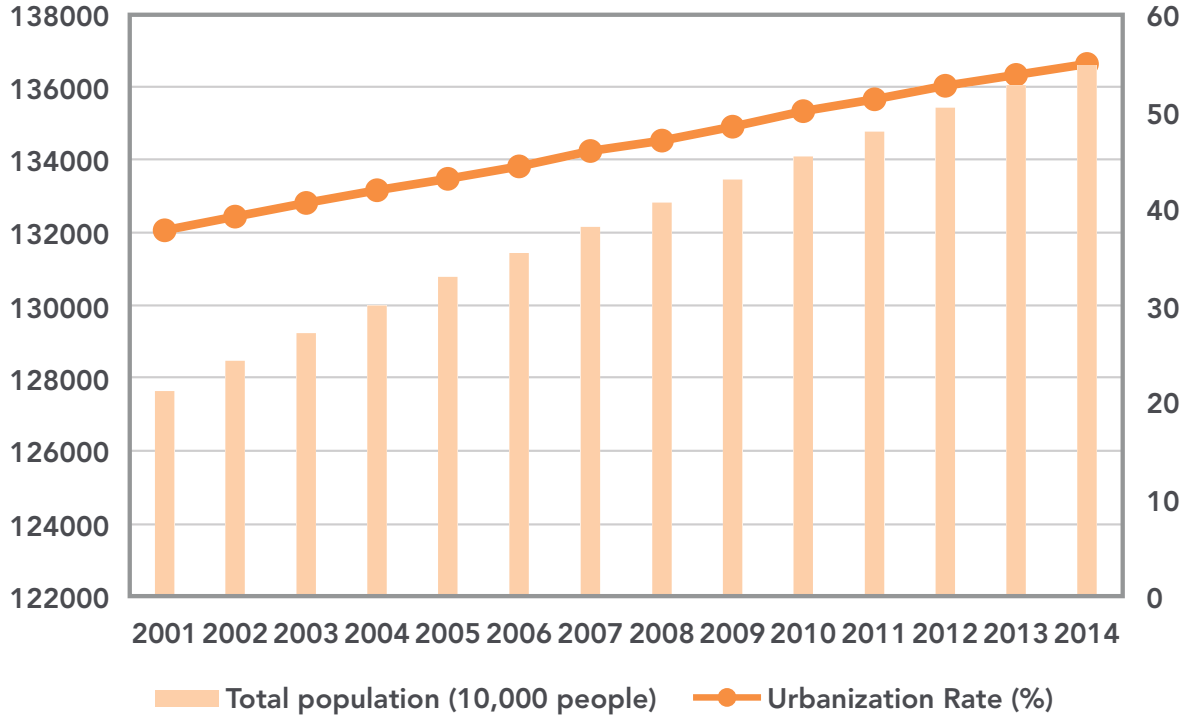


Fig. 3.3: Total Population and Urbanization Rate of China from 2001 to 2014
Source: China Statistical Yearbook 2015, Chapter. 2
http://www.stats.gov.cn/tjsj/ndsj/2015/indexch.htm

3.2.1 DILEMMA OF CHINA'S POPULATION AND LABOR STRUCTURE

Under the dual control of socioeconomic development and population policies, China has completed its population transition, which took many developed countries more than a century, in just 30 years. Although control of the population size has been successful, a lot of problems have been neglected. One of the severest issues is the problematic distribution of population age caused by this rapid population transition, especially the aging problem and labor structure imbalance (Zhang and Jing, 2012). It is generally believed that the 30-year rapid development of China since the reform and opening-up is attributed to its great demographic transformation. Different from developed countries like the US and Japan, China is now facing the issue of aging before getting rich, namely, serious challenges in economic development, the social security system, etc. Therefore, the structural imbalance of population and labor age will become a prominent problem for China's socioeconomic development henceforth.

China's working-age population increased rapidly before 1990. Then it kept rising with a decreasing annual growth rate. From 2005 to 2015, the total labor force of China gradually reached its peak, which will be followed by a continuous decrease in the future. In 2020, China's working-age population may decline to 9.9652 billion (Tian, 2007).

While China's working-age population starts to decrease, significant changes can also be observed in its labor age structure. Based on the age-shift algorithm, an estimation of the internal structure of China's future working-age population shows no optimistic results. Generally speaking, as for age structure, laborers aged 16–44 are at their prime time; people aged 45–44 belong to middle-aged and elderly labors; and people aged 55–64 are elderly labors. These 3 groups usually construct a typical pyramid shape. However, through estimation, it can be discovered that the bottom of China's pyramid will gradually decline from 2000 to 2013. Instead, the top part will increase, as the percentage of the 14–44 group decreases and that of the 55–64 group increases. So the comprehensive situation of China's population involves aging and the internal structure of working-age population has also showed an aging trend, which indicates a gloomy labor supply in the future.

3.2.2 SOCIOECONOMIC STRUCTURAL TRANSFORMATION AND POPULATION TRANSITION OF CHINA

Chenery et al (1975) established the standard transformation model of industrial structures with the multi-country model, dividing the whole of economic growth and structural transformation into 3 major stages: the primary production stage, the intermediate industrialization stage, and the advanced industrialization stage. The reform and opening-up of China has brought rapid economic development and expansion of its economic scale, as well as the resulting transformation of economic structure. China's manufacturing industry witnessed a fast development from 2003 to 2010; the Hoffman coefficient[2] reached 0.40. According to the standard of Chenery, China has stepped into the advanced industrialization stage.

The improvement of industrialization levels manifests socioeconomic structural transformation, which can be measured with the transition and development of the labor market and urbanization levels. One of the most far-reaching impacts of China's reform and opening-up is also the transformation and development of its labor market, along with the resulting massive migration of rural laborers. This migration includes 4 stages: leaving land but not home in the early 1980s, leaving land and home from the late 1980s to the early 1990s, the massive tide of migrant workers in the late 1990s, and the wave of transfers of new-generation migrant workers since 2000. It is believed that the first-generation migrant workers pursued poverty alleviation and the increase of their family income, while the new-generation are not only seeking income increases, but are also eager for vocational training and better development opportunities. The new-generation migrant workers have become the main body of China's industrial labor force, and have put forward higher requirements for urban social integration and urban social identity. The huge changes in the labor force have significantly given impetus to the socioeconomic development of China, and simultaneously massive flows of rural laborers have greatly contributed to the transformation and development of China's labor market.

China has an enormous population and limited per capita resources, but its industrialization process is based on resource-intensive and labor-intensive industries. Hence China's industrialization has encountered severe challenges of human resources. There are also deteriorating contradictions between population, resource, and environment, which cannot be released through the market. With intensifying international competition, as well as increasing pressure for industrial upgrades and sustainable development, the fact that labor quality and skills cannot satisfy social demands has become a prominent issue. In addition, during the upgrade of the industrial structure, the continuous occurrence and expansion of migrant worker shortages have revealed the structural problems of China's population and labor. This series of transitions can spread to every family through the market price of labor, thus influencing their reproductive decisions and education investment. So, with the increase of family consumption and the rise of relative resource price in China, population control mechanisms that can play a vital role in family planning decisions. This is also taking shape. And its major impetus is economic growth and social development.

In conclusion, the logical relationship between China's structural transformation and demographic transition reveals that urban-rural segmentation has been broken by institutional reform intended to accelerate labor migration and mobility. Labor migration and mobility can promote socioeconomic structural transformation, which can consequently expedite population transition.

3.2.3 LEWIS TURNING POINT OF CHINA

The issue of migrant worker shortage raised wide concern and heated discussion. For example, through deep social investigation, Cai Fang, et al. (2011) demonstrated the approaching the Lewis turning point of China[3], from the size and age structure of rural labor, wage growth and wage convergence, demographic dividend, and so on. However, the Lewis turning point is also affected by the urban-rural dual structure, the structure of labor supply and demand, the inertia of the economic and industrial structure, and so on, all of which can conceal the arrival of China's Lewis turning point to some extent.

Diversified structural transformation and contradictions could occur in China after the arrival of the first Lewis turning point. Firstly, there will be a huge population transition in the next 10–20 years, including the decrease of the labor supply growth rate, the coming decline of the total labor force size in the near future, and the acceleration of aging in the population. The decrease of total labor force size could reduce the employment pressure on China, thus undoubtedly having a positive impact on the transformation from a dual structure to unitary structure. However, such rapid transformation of population structure has brought enormous challenges to China's economy and society during its structural transition. For example, the labor supply structure cannot adapt to the changes of the demand structure; an aging population has led to severe problems with pensions and medical care, social-security, etc. In addition, the savings scale of China will be influenced, which could even affect investment scales. The disappearing demographic dividend will also create great pressure on economic growth.

Secondly, changes of resource endowment and upgrading of the industrial structure are facing great pressure when China steps into the advanced stage of industrialization. The traditional industrialization mode of China is based on labor-intensive and resource-intensive industries. So, the significant changes of resource shortage, environmental pollution, and labor age structure, force China to transform its economic structure into the capital- and technology-intensive mode. Adjustment of the industrial structure and technology upgradC are a necessary condition towards the advanced stage of industrialization. However, as nowadays China lacks capital accumulation, independent innovation, technology talents, and natural resources, the resource endowment of China cannot provide a solid foundation for industrial upgrading, not to mention produce strong impetus to change the dual structure.

The third structural contradiction is the pressure of social structure transformation and urbanization in China. Although the urbanization level of China has greatly increased from less than 30% in 1990s to more than 50% in 2010s, the rate of China's urbanization level to the industrialization level in 2010 was 1.09, far below the world average, which means that the urbanization of China has fallen far behind the industrialization process. Also, the radiation and driving effects of metropolises and metropolitan areas on small towns and rural areas should take an important role. Besides, influenced by the dual structure, large numbers of migrant workers in China are still living a life like migratory birds, unable to settle down in cities and thus forming an enormous social group of migrants. The social phenomenon of new-generation migrant workers, who constitute the mainstay of China's huge industrial labor force, has become an especially arduous task, putting forward great challenges for urban-rural integrated development and urban governance.

3.2.4 ADJUSTMENT OF CHINA'S POPULATION POLICIES

i) ***China's population policies***

China's current population policies are formed based on continuous optimization of the population policies in the 1970s, as a whole, presenting strong stability. However, with rapid socioeconomic transformation, population policies have been constantly adjusted to reduce the negative impacts and costs of family planning. After China reached the population replacement level in the 1990s and the *Population and Family Planning Act* was promulgated, China moderately adjusted national and provincial population policies according to respective conditions during the 9th, 10th, 11th, and 12th 5-year plans (Ma and Gui, 2014).

Reviewing China's population policies over the past 60 years, it can be found that there is a process of decision-making, implementation, evaluation, and adjustment. In 1949 when the PRC was just founded, the nation's population was only 450 million and the government encouraged fertility. In 1954 the population reached 602 million and the total fertility rate was 6.8%. Policy assessment gradually emerged and *Instructions on the Promotion of Family Planning* was promulgated based on the New Population Theory by Ma Yinchu. In 1969 the population exceeded 800 million and the "late, rare and little" policy was started in 1973. In 1978 China began to enforce comprehensive family planning and its population policies were functioning effectively and stably. But the one-child policy, which aimed at decreasing the birth peak and suppressing fertility inertia, was strongly hindered during its implementation. In 1984 the interests of the state and people were integrated and then the error correction mechanism was firstly established. A significant adjustment was made. According to the policy assessment based on the 4th population census in 1990, the former target of exceeding 1.2 billion people in 2000 was changed, which also left some space for optimizing population policies. In 1991 the target was changed into 1.3 billion people. In 1993 China reached the population replacement level and there came into being a directional shift in its inner population growth. Then since 2000, prominent problems of population quality, structure, distribution and so on, have given new challenges and research subjects toward the development of birth policies.

ii) ***China's population policies need urgent adjustment***

China has great achievements in controlling population growth, but there are also some historical experiences and lessons: firstly, realizing the target of low birth rate does not mean the end of population issues, and it is also combined with population transformation. China's population has already evolved from population growth problems under the planned economy into imbalanced population structure under the market economy, from a natural population problem to a policy-oriented problem, and from high birth rates to low birth rates. Secondly, simple population control is not enough to comprehensively resolve population issues and a low fertility rate is not always good. Thirdly, the essence of population issues is socioeconomic development, which is the best criterion (Mu, 2014).

Experiences of many developed countries have proved that the manifestation of population has obvious temporal lag effects. It's often too late when the seriousness of population problems can be recognized. China should abandon the one-child policy as soon as possible and start the new era featuring two-child and diversified policies to encourage proper fertility. Disadvantages of the one-child policy outweigh its advantages and the current population polices should be fundamentally changed. The reasons are as follows: firstly, the compulsory one-child policy has led to gender balance. China's sex ratio at birth reached 118 in 2010, far deviating from the normal range of 103–106. This phenomenon has lasted for over 30 years in China and caused the most severe gender imbalance in the world. Secondly, risks of one-child families are significantly increased. Since the implementation of family planning, the average family size has decreased from 4.8 people in 1975 to 3.1 in 2010. Some functions of family have also been weakened. Now China has more than 180 million one-child families and the parents are facing great risks of losing children and the resulting pension problems (Zhai and Li, 2014). Thirdly, an aging population with fewer children as well as the decrease of the working-age population have already been introduced and will not be repeated here.

3.3 POPULATION FLOW IN CHINA

In a country during its rapid urbanization stage, residents will vote with their feet, effecting large-scale intercity and urban-rural migration under the guidance of better employment opportunities, good life expectation, advanced urban civilization, and other factors. It will promote the transformation of this country from a backward agricultural country towards a developed industrial country, from a traditional agricultural society towards the modern urban society, and finally complete the process of industrialization, urbanization and modernization (Chen and Ye, 2013).

In general, population flow refers to the activities of the people leaving their original residence due to employment, schooling, retirement, marriage, etc. Population flow includes population migration, as the aim of the latter is settlement. However, in the official discourse system of China, population flow and population migration are clearly different. Population migration refers to interregional transfer of household registration and is approved by the household registration management authority, while population flow is the change of settlement without transferring household registration. So in China, the migrant population is linked with the change of household registration, and a floating population refers to people who do not settle in their place of household registration (Guan, 2014). This section firstly analyzes the major characteristics of population migration in China, and then explains the most representative migrant workers and Spring Festival Transportation among China's population migration phenomena from the dimension of group and time.

3.3.1 MAJOR CHARACTERISTICS OF POPULATION FLOW IN CHINA

i) ***Large-scale population flow has a higher growth rate.***
As shown by Fig.3.4, the total floating population of China was 298 million (including 45 million separated from their household registration place within the same prefecture-level cities). The percentage of floating population to total population increased from 11.6% in 2000 to 21.8% in 2014, which means that China has entered the migration period. From 2000 to 2014, the floating population of China increased by 107%, much higher than the growth rate of total population in the same period, wherein the floating population of 9 provinces grew by more than 100%, including Shaanxi, Shanghai, Zhejiang, Ningxia, Tianjin, Beijing, Qinghai, Chongqing and Jiangsu.

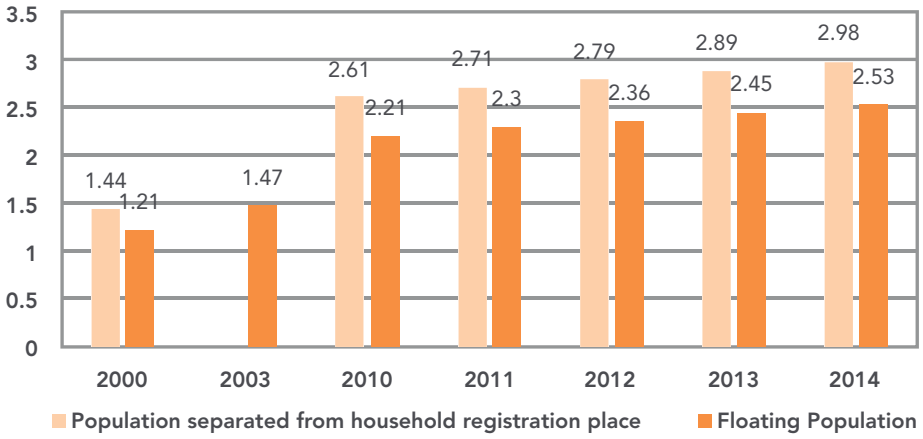


Fig. 3.4: Changes of Floating Population in China in recent years (unit: 100 million)
Source: China Statistical Yearbook 2015, Chapter. 2
http://www.stats.gov.cn/tjsj/ndsj/2015/indexch.htm

ii) ***Population flows are mostly located in eastern areas and are increasing faster in central and western areas.***

Considering the population flows in different geographical regions of China, the eastern region has the largest floating population, followed by the western region, the central region and lastly the northeastern region. Floating population in the eastern region was 137.98 million in 2010, accounting for 51.6% of total floating population in China. Although this rate had decreased by 1.2% compared with 2000, the eastern region still attracts the largest floating population. As for the rate of floating population to total population, the percentage of floating population to total population of the 4 regions all witnessed a significant growth, among which the eastern region had the largest percentage (27.3%), followed by the northeastern region (17.7%), the western region (16.0%) and the central region (12.8%). As a whole, the distribution of floating population is consistent with the pattern of regional economic development in China. The eastern region remains the major destination of floating populations, owing to a better economic development foundation. Meanwhile, since entering the 21st century, the economy of the western region and central region has experienced rapid development, due to the implementation of the Western Development Strategy and the Central Rising Strategy. The transfer of labor-intensive industries from the eastern region to the central region and western region has provided more employment opportunities for local laborers.

iii) ***The trend of floating population agglomeration in cities has become more obvious***

According to the statistical data of 2010, most of the floating population was mainly distributed in cities (65.3%), then organic towns (21.3%) and villages (13.4%). Compared with 2000, a more evident trend of floating populations gathering in cities can be observed, as floating population in cities increased by 5.9% and in rural areas decreased by 8%. Floating population distributed in organic towns had a slight increase (2.1%). The population flows in central regions of China (e.g., Hunan, Hubei and Jiangxi provinces) appear to be oriented towards coastal regions such as Guangzhou and Shanghai, wherein the eastern region has the most significant trend, with its percentage of floating population in cities increasing by 9.9% from 2000 to 2010, followed by the northeastern region (4.4%) and the western region (3.3%). The percentage of floating population in organic towns in the central region had an apparent increase (10.6%), followed by the western region (6.2%) and the northeastern region (2.9%). Different transitions presented by floating populations are closely related to the stages of regional economic development in different regions. The eastern region has entered the middle and late stages of industrialization. With the backward processing industries in rural areas transferring to the central and western regions, population and other elements are agglomerating in cities. However, the central and western regions are now in the early and middle stages of industrialization, so enterprises in rural areas and towns will still play a major role in local economic development, which can be characterized by the increasing rate of floating populations in organic towns.

3.3.2 PHENOMENA OF MIGRANT WORKERS

i) ***The rise and role changes of migrant workers***

Labor transfer is not a unique phenomenon for China. As for developing countries going through rapid economic development and transformation of industrial structure, labor transfer from rural areas and agriculture to cities and non-agricultural industries is an inevitable result of economic and social development. But there is no other country in the world that has experienced such a large scale of migration as China under the *hukou* policy.

Since the early 1980s, with implementation of the reform and opening-up as well as acceleration of industrialization and urbanization, the rural labor force began to flood into cities, forming a specific group of migrant workers in China. According to the statistics from the Ministry of Human Resources and Social Security, there were 242 million migrant workers in 2010, 252 million in 2011, 263 million in 2012 and nearly 269 million in 2013 (Guo, 2015). The group of migrant workers, which accounts for about 1/5 of the total population, has become an urgent issue for China and attracted more attention from politics and academia. In fact, the controversial appellation, Nongmingong (migrant workers) (Fig.3.5 and 3.6), reflects the particularity of this group: they are a mixture of farmers and workers; their institutional identity is farmers, but they are not engaged in agriculture in rural areas; actually they are engaged in industrial production in cities, so their occupational identity is workers. The deviation of institutional identity and occupational identity derives from the household registration system started in the late 1950s, which makes migrant workers live and work in cities but leaves their institutional rights in rural areas. The appellation of migrant workers has undergone a series of changes: they were initially called "the blind" with great derogatory sense, and once known as "jobber boys" and "jobber girls" with less derogatory meaning. In the middle 1980s, they were formally named the "Nongmingong" and later also called "new citizens" and "new residents". The transformation of the appellation for migrant workers not only reflects the social cognition process of this group, but also demonstrates the whole process of China's modernization.

Since entering the 21st century, more attention has been paid to the issue of the Nongmingong. How to treat migrant workers, how to resolve the relevant problems, and how to achieve public service equalization of both migrant workers and urban residents, have become significant research subjects in politics and academia. Nowadays it's generally believed that the bad circumstances of migrant workers were not the result of economic development, but was mainly caused by institutional isolation including household registration, the urban-rural dual land system, etc. Therefore, public value judgement on migrant workers is also becoming more neutral and positive. People now suppose that this group has made a great contribution to socioeconomic development, but meanwhile shares little the benefit that they have achieved. With the transition of this cognition, the appellation of migrant workers has gradually transformed from the past Nongmingong to the current "new residents' and "new citizens". Remarkably, the transition of appellation is not just a change of terms, but also reflect the change of overall social attitude towards migrant workers, namely, from opposition, exclusion, and discrimination to approval and acceptance.

Fig. 3.5 and 3.6: Migrant Workers in China

ii) ***Influences of the household registration system***

Household (*hukou*) registration (Fig.3.7), as a basic population management system, can be viewed as an important foundation of all social management, which is widely applied in China and many foreign countries. Household registration in these countries has similar basic functions, mainly including two aspects: population information registration and population migration management. In foreign countries, household registration is usually known as civil registration or life registration, aiming at the registration and management of population information with detailed and strict registration contents. But there are few restrictions on population migration. In contrast, the household registration of China is strict with population migration management. Residents must reach some entry criteria of immigration areas to get resettlement permits from a local management authority. Before this, the social welfare and rights of migration residents can hardly be guaranteed. Hence household registration has a core position in China's urbanization and civilization, with direct and profound influences on all socioeconomic development.

The hierarchy of household registration is a major issue of China's current household registration system, which not only exists in between cities and rural areas, but also between different cities. Some scholars believe that the household registration system has led to a severe social spatial hierarchy and injustice. The core reason of this phenomenon is that household registration is attached to too many social and economic interests. In China, the existing household registration system is not only a basic population management system based on population registration and migration management, but also a basic social management system involving employment, housing, education, medical care, social security, etc. Therefore, there is an obvious problem of functional overload in China's household registration system, in which too much social welfare and too many interests are imbedded. The core position of household registration in social welfare and interest distribution is the fundamental cause of great difficulties in the reform of the household registration system (Li and Hu, 2013). Moreover, the hierarchy of household registration is also connected with its strict regulations on population migration. If people can migrate freely, then they can change their social status and identity through migration, thus dispelling the value of household registration. Meanwhile, imbalanced regional development between cities and rural areas and between different cities won't turn into social spatial hierarchy. However, strict control of household registration on population migration has led to severe segmentation in both regional space and social space.

There is still no breakthrough in the reform of China's household registration system, so consequently migrant populations in cities cannot enjoy the same public service as those with urban household registration, especially affordable housing and youth education services. Thus, migrant populations and families can hardly realize permanent migration and complete civilization. China's urbanization mode does not ensure the basic civil rights of migrant workers and simultaneously works against the expansion of domestic demand, which is crucial to China's sustainable economic development. Over 200 million "half citizens" are living in cities and thousands of left-behind children, women and the elderly are created in rural areas (Tao et al., 2015). The spatial and social segmentation between different cities and between cities and rural areas, has formed many invisible barrier walls and kept large numbers of rural and external populations outside the cities, which has significantly affected China's urbanization and civilization process.

Fig. 3.7: Urban Residence Booklet of China

3.3.3 CHUNYUN

Chunyun (Spring Festival Transportation) refers to the phenomena of large-scale interregional transportation during the Spring Festival, lasting for about 40 days. From the 1970s up to now, the population force of Chunyun has increased from 100 million to 3.7 billion passengers, equal to the migration of all the people in Africa, Europe, America and Oceania, so Chunyun is also known as the largest periodical migration in human history (Fig. 3.8 and 3.9). In fact, Chunyun is the contradiction and integration of tradition and modernity in Chinese culture: on the one hand, Chunyun contains a profound concept of traditional family and pilgrimage return during the Spring Festival; on the other hand, Chunyun also contains the unstoppable pursuit of interests, which is caused by the expansion of modern urbanization and industrialization. Chunyun is not only due to the transformation of the macro-social structure, but also owing to the rich culture and traditions of China. Chunyun, in essence, is the outcome of conflicts between tradition and modernity (Dong and Chen, 2008).

To be specific, there are mainly three reasons for Chunyun: firstly, imbalance of urban-rural and regional development as well as rational choices of migrant workers have become a momentum of population migration. Urban-rural and regional institutional isolation has provided developed areas with precious labor resources at the lowest price. Therefore, these areas can attract the laborers they need or dismiss the laborers they don't need, without taking the institutional responsibility to provide social support for them. Secondly, there is still some institutional isolation. Using the household registration system as well as the resulting institutional arrangements, including education, medical care, employment, social security and so on, city governments refuse to provide equal treatment for migrant populations. Therefore, moving like migratory birds becomes their only choice. Thirdly, the cultural factor. Returning home at the Chinese new Year is a cultural tradition and an emotional need of the Chinese. People working away from home must return home during the Spring Festival. In agricultural society, population migration involves limited mobility and distance, thus imposing little pressure on the transportation system. However, in modern society, large-scale spatial movement of this enormous group during a specific time will lead to great pressure on the national transportation system (Chen and Miao, 2010).

Fig. 3.8: People waiting in Railway Station during Chunyun

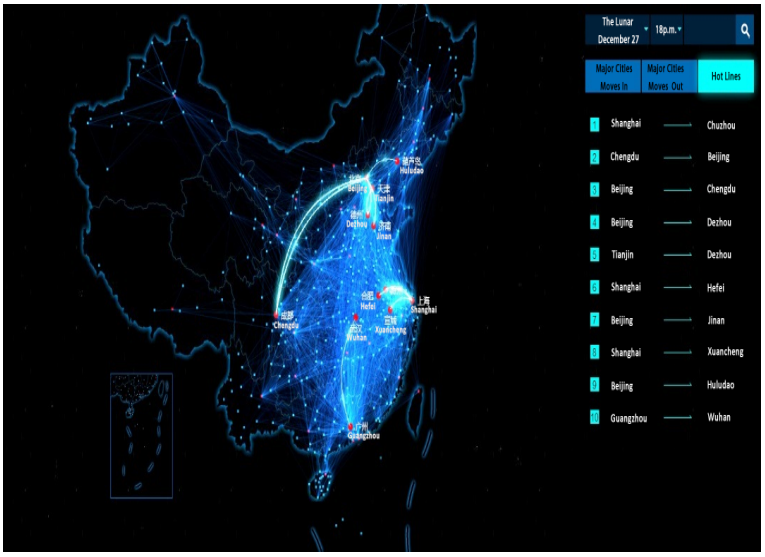


Fig. 3.9: Traffic Connections between major cities during Chunyun period based on Baidu

3.4 URBAN PROBLEMS

By the end of 2012, the urbanization rate in China reached 52.7% and exceeded the global average level, with approximately 0.7 billion Chinese people living in cities. Meanwhile, the number of reviewed, reported, or researched urban problems, so-called "Urban diseases," also has increased tremendously, mostly as urban environmental pollution, traffic problem, housing, and social issues (Wei et al. 2013). There is no doubt that the emergence of such a huge amount of urban problems has brought great worries to Chinese citizens, who are anxious all the time about their everyday life, about the air, the water, the food, and the way to work. This collective uncertainty is challenging the basic driving force of urban development; how can development continue if the cost is happiness and security?

Nevertheless, when looking back at the history of urban development globally, similar stories emerge repeatedly. The 1930 Meuse Valley fog in Belgium, the 1948 Donora smog in US, the great smog of 1952 in UK, and the Minamata disease in Japan are all tragic lessons written at the cost of innocent lives. Unfortunately, those lessons were augmented with more Chinese cases, like the 2013 Eastern China smog, which may be less fatal than formal tragedies, but influenced a much larger amount of urban population. As in other cases, the incident reveals the illness hidden under booming economic growth and massive infrastructure construction. Furthermore, it evokes the public attention and discussions on urban problems that are not limited to environmental issues but extend to every detail of urban life. Though it is ironic that one only learns after it hurts, it has been a good start to rethink things before further damage is done. In this section, the main challenges, roots, and responses to current urban problems in Chinese cities are preliminarily collected and reviewed to form a general platform for further discussion.

3.4.1 ECOLOGICAL AND ENVIRONMENTAL PROBLEMS

The high speed of urbanization in the past three decades has brought massive progress in urban infrastructure and significant negative impacts on urban environments. Economically, China is quickly catching up with developed countries; on the other hand, its ecological and environmental quality is sometimes among the poorest (Jin, Dong et al. 2009). It is now an urgent task to sort out the problems, search for the roots and take immediate actions for the improvement of life quality.

i) ***Air Pollution***

The air quality in urban areas has been deteriorating quickly in the past five to ten years, especially in large urban agglomeration areas like the Yangtze River Delta, the Pearl River Delta, Beijing–Tianjin–Hebei Region, and the Guanzhong area, where extreme atmospheric pollution incidents occur frequently (Wang et al., 2014). Though urban air pollution has received great attention since 2010, an average number of 29.9 days were recorded as haze days in 2013, which is the highest since 1961 (Wang, 2015). One of the extreme cases happened in January of 2013; severe smog attacked multiple cities in the middle and eastern parts of China (Fig. 3.10). From Beijing to Shanghai, 10 provinces with a total area of about 1.3 million km^2 of land were affected by the haze, and the poor visibility led to massive delays of flights and the shut off of highways. In the Beijing-Tianjin-Hebei Region, which has been the most polluted area in the past decade, the level of PM2.5 particulate matter averaged over 150μg/m^3 and only 4 days in the whole of January reached the new Ambient Air Quality Standards of 35μg/m^3 (Wang et al., 2013). Such air pollution also poses great threats to public health. It was proved that exposure to high levels of PM2.5 even for a short time could lead to a series of health risks. More than a thousand respiratory illnesses were reported just in Beijing during haze days in 2013, which caused a health-related economical cost of approximately 500 million Yuan (Xie et al., 2014). For many normal citizens, breathing masks became a new necessity and photos of a clear blue day sometimes could be a hot topic in social media.

The haze and smog in urban areas has a complex physical and chemical formation mechanism and there is no final and exact explanation. Three reasons are generally accepted as the main factors: the extensive use of fossil energy, the increasing amount of automotive vehicles, and anomalies in atmospheric circulation. Through the analysis of the particular matter, studies were able to identify the 6 main sources of PM2.5 in Beijing, as secondary inorganic aerosols (26%), industrial pollution (25%), coal (18%), soil dust (15%), biomass incineration (12%), automobile exhaust gas, and waste incineration (4%) (Wang, 2015). Some believe that specific weather conditions could be a more critical cause of retention of haze pollution. Most haze days appear in winter, when the weather in most parts of Eastern China is calm and stable, with low wind speeds and high levels of humidity that would weaken the capacity of natural diffusion. Besides, the combination of sand and dust from nearby regions, together with local aerosols, often aggravate the pollution level. More importantly, the local pollution from automotive vehicles, industrial production, and central warming systems are the prime culprits (Wang et al., 2013).

The increasing rate of acid rain (PH under 5.6) is another phenomenon caused by air pollution but less realized by urban residents. In 466 cities and towns that were under constant monitoring, 46.1% had acid rain in 2012 and in 28.5% of the cities and towns the acid rain constituted over 25% of all rainfalls (Wang, 2015). Nationally, such phenomena mainly showed along the south of the Yangtze River and east of the Tibetan plateau, which are traditionally important agricultural areas.

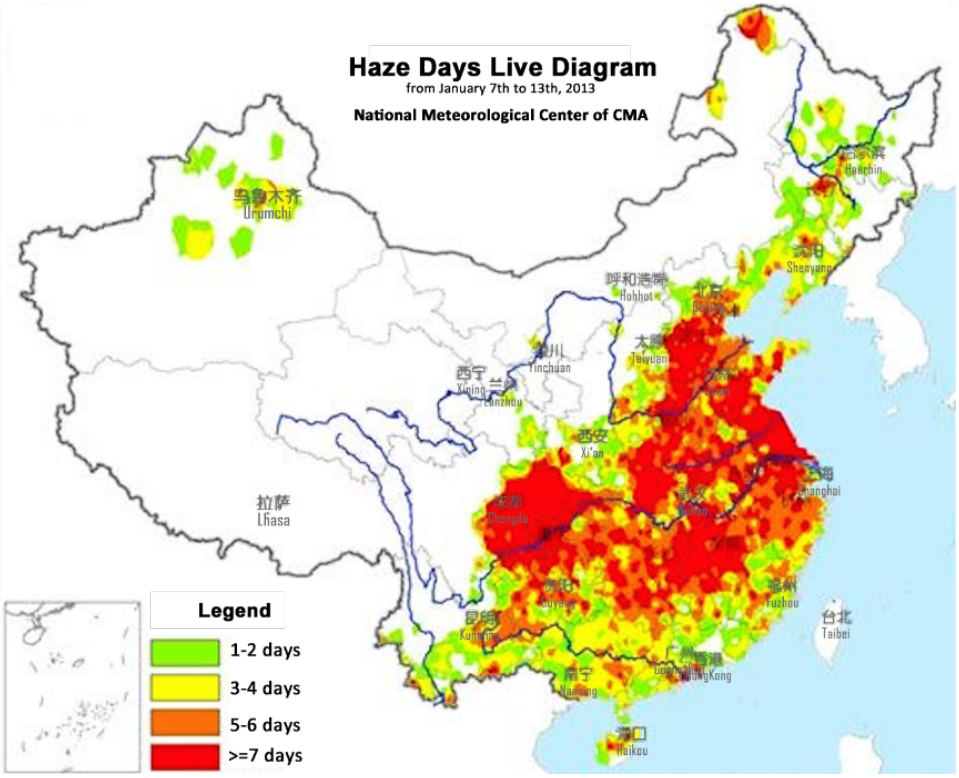


Fig. 3.10: The distribution of Haze from January 7th to 13th, 2013,
Sources: from China Meteorological Agency.
Notes: The color from green to red refer to the number of haze days, green areas have haze for 1–2 days in these 7-day period, yellow areas have 3–4 days, orange are 5–6 days, and in red areas all 7 days are haze days.

In fact, lots of reforms and regulations have been made in the past five years. First, the old Ambient Air Quality Standards Act (GB3095-1996) was replaced by a new one (GB 3095-2012), in which not only new indicators were added like PM2.5, but also the standards of the old regulation were greatly improved to meet international levels. Therefore, results show that according to old standards, 91.4% of the cities could meet air quality goals, but actually only 40.9% are qualified based on the new standard. Second, in order to meet the new standard, new atmospheric monitoring sites and devices were put into use. There are 74 cities that have started the new monitoring agents since 2013 and the number rose to 161 in between 2014. Some positive results could be seen from the comparison of the air pollution indices 2013 and 2014 (Fig. 3.11) (MEP 2015). In 2015, all 338 cities (prefecture level and above) finished the construction and online networking of the 1,436 atmospheric monitoring sites which cost about 2 billion Yuan.

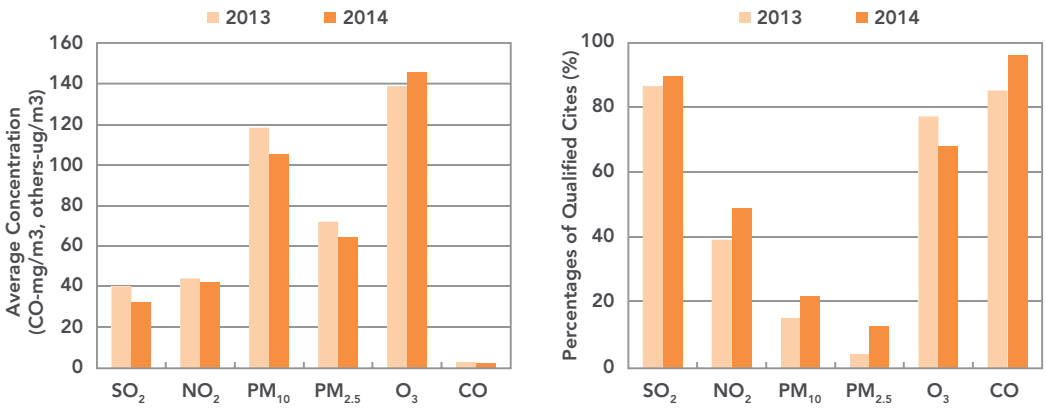
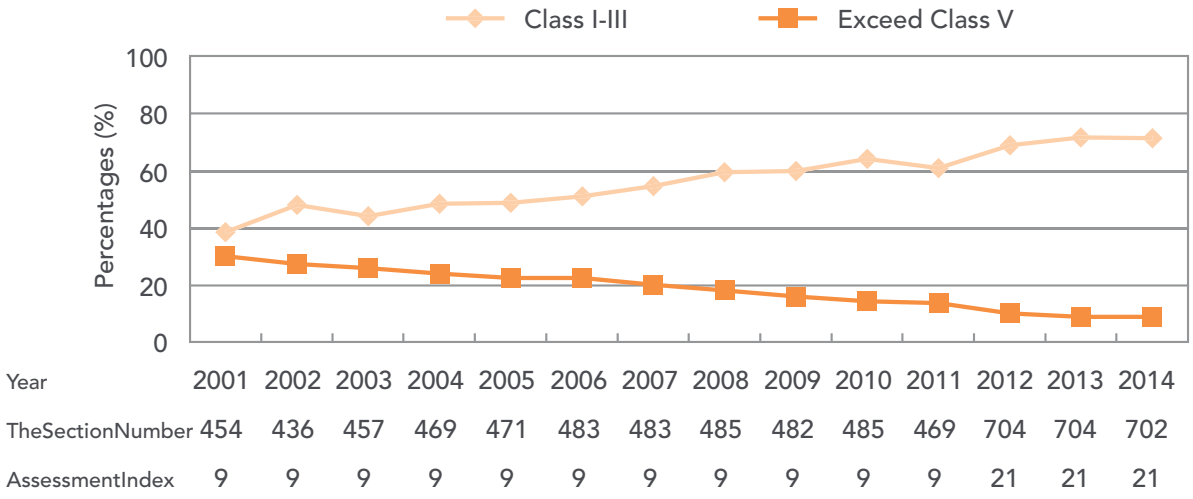


Fig. 3.11: The comparison of average concentration of targeted gas (left) and percentages of qualified cites (right) in 2013 and 2014, **Sources:** Wang, 2015.

In 2013, the Air Pollution Prevention and Control Action Plan was published by the central government to cope with the urgent challenge of air quality, including the beginning of a series of studies on the sources of atmospheric particulates, the comprehensive management of industries, the upgrading of automobile standards, remote sensing for straw combustion, a new action plan for low-carbon development, an alert system and emergency plan for extreme air pollution situations, and so on. Though data shows some improvement in major cities since 2013, the average air quality is still far behind global standards. At least another decade is needed to test the real effects of these new actions.

ii) ***Water resources and water environment***

Water pollution is becoming another severe problem for urban environments. The surface water across the country was generally identified as "slightly polluted" in the past three years (MEP 2015). According to Chinese Environmental Quality Standard for Surface Water (GB 3838-2002), water quality is classified into five grades based on the aims of use and protection: Grade I to Grade III are for the water in headwater areas and national natural preserves or for drinking purposes; Grade IV is for industrial and entertainment uses; and Grade V is for agricultural irrigation and general landscape aims. In fact, though the water quality of the seven main water basins and sub-basins have shown positive changes during the past 15 years and the percentage of Grade I to Grade III almost doubled (Fig. 3.12), water quality in 10% of the monitoring sections is worse than Grade V, and cannot serve any function. Ground water is not satisfactory either. Among the 4,896 monitoring points, 61.5% are certified as poor in water quality and exceed multiple indices and some were found with high heavy metal ions.



Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
TheSectionNumber	454	436	457	469	471	483	483	485	482	485	469	704	704	702
AssessmentIndex	9	9	9	9	9	9	9	9	9	9	9	21	21	21

Fig. 3.12: Annual changes of water quality in the 7 main water basin and some vital rivers from 2001 to 2014, from MEP 2015

Water pollution directly affects the security of drinking water for urban dwellers. With the expansion of urban building areas and human activities, the range of preservation areas and buffer zones of water sources shrinks year by year, which further lowers the capacity of natural purification. Besides, lots of heavy industries locate along the main rivers. Taking advantage of the still incomplete regulations of pollution control, tons of toxic production waste, including that from chemical plants and petrification factories, were directly poured into the main rivers. 30 water pollution incidents happened in 2012 and 26 of them affected sources of drinking water. To make things worse, due to the loose and inefficient control over such industries, the pollution sources are hard to trace after an incident. For instance, Hangzhou, whose drinking water relies on the Qiantang River, found a bad odor in its tap water in December 2013. Later tests showed it was contaminated by o-tert-butyl phenol, a chemical which smells similar to phenols and is used widely in the production of medicines and pesticides. In order to locate the pollutant source, the department of environmental protection used more than one month to check a thousand related companies. The increase of similar incidents has been an alert to the security of urban water environment.

Nevertheless, pollution is not the only water problem threatening the well-being of Chinese citizens. Global climate change has brought more extreme weather to the vulnerable urban areas, especially storms (Zhai and Liu, 2012). On the one hand, most Chinese cities have a higher rate of impermeable area and river channelization (Zhang et al., 2014); on the other hand, the drainage standards are behind the time; moreover, about two thirds of the cities didn't reach the national flood control standard. In 2012, 184 cities suffered from flooding or waterlogging, among which the megacities like Beijing, Chongqing, and Tianjin bore the brunt. 426 sites inside Beijing's urban area were flooded, 79 people died and millions in economic losses were caused directly and indirectly by one storm (Wang, 2015).

More scholars have realized the serious situation presented in current urban water environments and the necessity to undertake integrated, comprehensive, and workable actions to secure the water system and increase its resilience. In April 2015, the *Water Pollution Prevention and Control Action Plan* was published by the state council to guide the works on every government level. Inside this plan, 238 specific controlling and management measures were proposed, focused on the control of water-related resources, the building of early warning systems, the use and compensation of resources, social capital input, environmental information open to the public, enhanced social supervision, and so on. The goal is to improve national water quality and preliminarily restore the ecological functions of the water system by 2030.

iii) ***Waste and noise***

As urban populations and urban living standards are quickly rising, the amount of urban waste also increases sharply. On average, one urban dweller produces about 1.2 kilograms each day and how to deal with the tons of garbage emerging everyday has become a top priority in every city. In 2014, 179 million tons of urban waste was produced (MEP, 2015), which is almost 30% of the world's total waste, and the number keeps growing by 8%–9% every year (Feng, 2013). Due to the limited capacity of eco-friendly garbage disposal methods, landfills are still the main option, which leaves over one third of Chinese cities literally besieged by huge landfill sites that lead to further environmental pollution (Fig. 3.13).

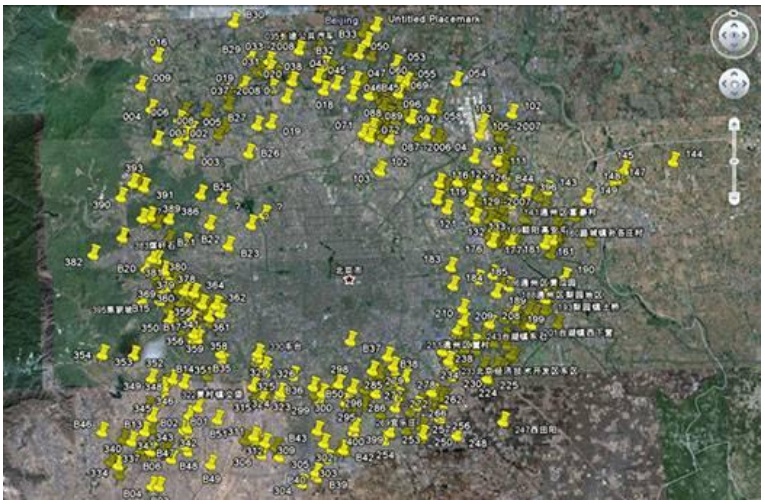


Fig. 3.13: The location of approximately 500 landfills surround Beijing, from documentary
Sources: film *Beijing Besieged by Waste*, Wang Jiuliang 2010

The growing consumer culture during urbanization, the poor application of waste classification systems and the low state of development of waste treatment technologies are the main causes of the current crisis. Even in big cities like Beijing and Shanghai, waste classification and recycling is still unfamiliar for citizens. Without the completion of further procedures of recycling, separated trash tanks alone are useless (Deng et al., 2013). Landfills are still the main destinations for waste in Chinese cities, which receive 65% of the waste; incineration, which is the main method in many developed countries, is used for 33% of Chinese waste (MEP, 2015). According to national statistical data, more than 500 million km^2 land was used as landfill for urban waste (Jiao and Sun, 2015). A high proportion of such landfills didn't reach urban hygienic standards and have led to secondary pollution on urban soil and water bodies. Several related national regulations and measurements on solid waste were published, however, the challenge of urban waste lies not only in present and future garbage, but more on the old garbage that may already be causing damage and pollution.

Another problem that is always underestimated or neglected is the noise in urban environments. The national data showed that 50% of cities were suffering from mild noise pollution in 2013; 18.2% and 11.8% were under moderate or severe noise pollution, respectively (Liu and You, 2015). The quality of the aural environment in urban areas generally dropped 1%–3% in 2014; only 1.8% cities reached the first level of the national standard, which refers to less than 50 dB(A) in day time and less than 40 dB(A) at night (MEP 2015). In urban areas, noise levels at night are normally worse than in the day. Like other pollution, noise has negative and long-term impacts on human well-beings, and apparently it should be a top priority issue to deal with in China.

iv) ***Urban green space and ecological environments***

Urban green space has been proved to have multiple positive functions for the well-being of urban residents and for urban ecological resilience. Generally, 50% urban greenery coverage will help maintain a healthy environment for urban developed areas (Jin et al., 2009), however, this ratio in Chinese cities is 36.3% on average (MEP, 2015). In fact, much more attention has been paid to in recent years on the building of urban public green space and the total area keeps growing. By the end of 2012, 3062 km^2 gardens had been built and that makes only 12.26m^2 per person. It is a great improvement compared with 30 years ago when parks barely existed, but this quantity is not sufficient, especially comparing internationally. For instance, the number is about 50 m^2 per person in Berlin and 41m^2 in Washington.

More problems surrounding urban green spaces have been emerging in the past decade, including the loss of local characteristics and convergence in design, poor maintenance and management in the long term, and inequality in green sites. Chinese gardens are well known for their unique combination of landscape design and cultural tradition. However, many contemporary gardens are just imitations and simple packing of popular elements(Ma and Cao, 2008). The use of inappropriate ornaments, like luxury fountains in semiarid cities, leave agonizing maintenance work and are usually not sustainable. Moreover, it has been a global problem that disadvantaged groups – disabled people, poor people, the old and young – who need public open spaces the most, have the least accessibility to parks.

On a larger scale, greenbelts failed in several major cities due to unexpected urban expansion. Greenways, national parks, and landscape destinations in the countryside are new hot projects across provinces. Since 2010, many cities in the Guangdong Provinces have built regional greenways and have tried to connect them together as a network for non-vehicle tourists and local residents. Some necessary facilities, like rest stops, are not yet developed to a point of satisfaction. However, as an example set for other districts, its main aim is achieved in giving new possibilities to meet the growing demands of citizens.

Due to such insufficiency of public green spaces from local to regional scales, it is natural that the urban ecological system is quite fragile and the footprint is large. Research on the rationing of the urban ecological footprint and ecological capacity shows that among the 100 cities studied, only four cities' scores were lower than 1.22, the global average number. Other cities normally exceed 3, and even over 20 in four big cities, which are Tianjin, Wuhan, Beijing and Taiyuan (Fig. 3.14). The most affected function in urban ecosystems is natural water conservation, which is accomplished through construction or reclamation of lakes and natural wetland (Zhao et al., 2013; Li et al., 2014). As more extreme weather is happening because of global climate change, urban areas with weak ecosystem functions are more vulnerable. In the past five years, urban heat waves, enhanced by the urban heat island effect, have become a vital threat to megacities in summer. Big cities, which have better economic performance like Beijing and Shanghai, have already set an early alarm system for extremely hot days and made new urban green plans, including artificial afforestation, constructed wetlands, and local landscape networks (Huang, 2007). It is the debt that no city could escape.

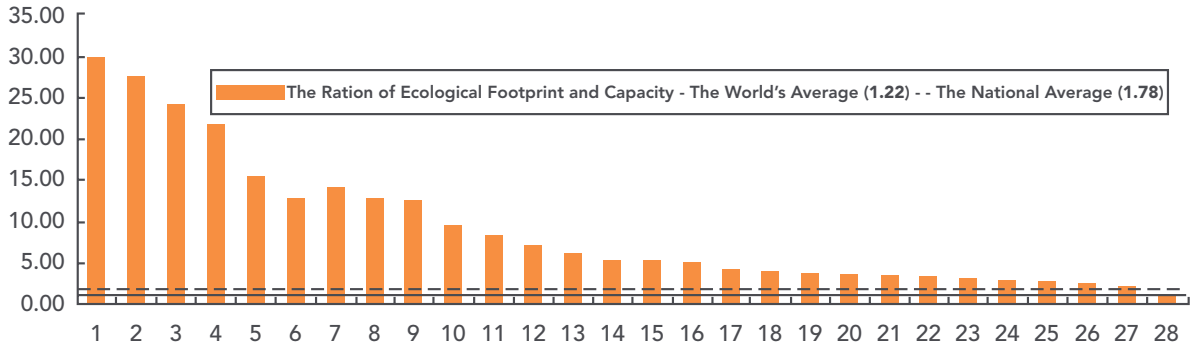


Fig. 3.14: The ration of ecological footprint per capital and ecological capacity in 26 selected cities
Notes: 1 Tianjin, 2 Wuhan, 3 Beijing, 4 TaiYuan, 5 Xiamen, 6 Ningbo, 7 Guangzhou, 8 Urumqi, 9 Hefei, 10 Shanghai, 11 Suzhou, 12 Zhuhai, 13 Jinan, 14 Shenzhen, 15 Chongqing, 16 Xian, 17 Kunming, 18 Chengdu, 19 Dalian, 20 Xuzhou, 21 Hangzhou, 22 Baiyin, 23 Shenyang, 24 Baotou, 25 Qingdao, 26 Harbin; number 27 refers to the national average ration (1.78) and number 28 is the global average (1.22)
Sources: Jin et. al., (2009).

3.4.2 TRAFFIC PROBLEMS

By the end of 2012, the number of private cars in Chinese cities was about 88.4 million, with 18 cities having more than one million private autos. This number in Beijing already exceeded 5.2 million. To cope with the growing traffic jams and potential exhaust pollution, seven big cities, like Beijing, Shanghai, Guangzhou, Tianjin, which all have more than 10 million people, enacted strict policies against the purchase and use of private cars by giving out a limited number of license plates each year, or by the control of even-odd-plating, which means that private cars are restricted for use inside the cities based on the last number of the license plate. In the meantime, the construction of public transportation systems is speeding up. As of June 2013, 16 cities had operational rail transit systems and the total number of buses was about 0.5 million.

Despite such great effort, traffic conditions worsen, but differently in different areas. The first type of problem is the normalization and regional expansion of congestion. Taking Beijing as an example, the average congestion time of the whole road network rose to 4 hours on working days, with an average car speed of 15km/h on many of the main roads (Guo et al., 2011). Another type of problem happens in megaities with populations of several millions, where traffic jams will normally affect the main traffic road in a single direction during commuting rush hours, since many such cities have a monocentric land use pattern. The third type of problem is more common in small and medium sized cities, where the weak points of networks may suffer from temporary blocking, or sometimes traffic jams are caused by the mixing of multiple means of transport, such as buses, private cars, motorcycles, bicycles, and pedestrians. The last type mainly contributes to the planning and design of road networks and incomplete regulatory systems. However, the first and second types, which affect all the big cities in China and cause millions of economic losses every year, have deeper and more complicated reasons.

The basic reason is the high density of urban populations in megaities. In 1978, there were only 29 cities with populations over one million, and in 2014, the number was 142. Six cities had more than 10 million people and most of the population gathered in the center of the city. For example, the density of Beijing shows a clear and sharp gradient change; the density is 23,407 people per km^2 in the core functional area; 7,488 in sub-centeral areas; and 958 in urban new districts (Beijing Municipal Bureau of Statistics). And the numbers only include registered permanent residents. Situations are similar in other mega cities which all show typical monocentric patterns (Wu and Gao, 2010). Because of such distribution of residents, the center of Beijing (inside the second ring road) covered 6% of the total urban area but accounted for 30% of the traffic (Peng et al., 2011). Meanwhile, the construction of new roads mainly took place on the outskirts and in new urban districts.

Internationally, the average number of private automobiles is normally inversely proportional to urban population density, like in New York, where the number is 0.15 cars/person in the city center, which has 365,000 person/km^2. However, the number in central Beijing is about 0.3 cars/person and 70% of private cars are located inside the sixth ring (Guo et al., 2011). Parking lots are also becoming rare resources since many residential areas are not designed for a 1:1 parking rate. This unusual situation aggravates the contradictions in the already crowded city center and is deeply rooted in the fast process of urbanization. Unlike western cities which took almost a century to transition to industrialized society and built a set of regulations and corresponding value system, the development has been too fast in China. Without necessary laws and regulations, consistent policies, and an appropriate social environment, Chinese residents are rich enough to buy cars but not wise enough to use them properly.

Despite the intensive publicity by government, the development of public transportation system is slow and incomplete. About 37% of residents choose buses and rail transit and 33.6% use private cars in Beijing, whose public system is one of the top among Chinese cities (Zou, 2010). This ratio is already a point of progress but less than half of that of Hong Kong (90%) and Washington (80%) (Xu et al., 2012). The lagging of public transit has caused a vicious cycle, leading to higher purchase rates on private automobiles. Most Chinese cities have not built complete rail transit systems. In Shanghai and Beijing, which have more than 500 km of rail, the metro carriage is extremely crowded and the convenience is greatly diminished in rush hours, while buses can be as slow as 11–16 km/hour. Either way, they are not alternatives attractive enough to replace private cars.

Due to above reasons, as well as growing environmental pollution, it is not so hard to understand the large dependency on private cars in Chinese cities. In fact, it further affects the percentage of green transportation like bicycles and pedestrians due to the safety reason. Bicycles took 16.7% of the traffic load in Beijing in 2010, while the percentage was about 63% in 1986. At the same time, almost half of the private cars were used for short distances – under 5 km (Fig. 3.15) – which is exactly the appropriate distance for walking and biking.

Last but not the least, the pattern of urban land use and road networks is among the most critical reasons for current traffic problems. To cope with rapid urban development, most cities adopted zoning blocks which are super blocks, with 500–800 meter sides, surrounded by wide roads (Fig. 3.16). The secondary roads connected to main roads tend to have much lower traffic capacity due to limited width, complicated form, or dead ends. However, in monocentric cities where commuting traffic is huge during rush hour, limited numbers of main roads are apparently insufficient. In Shanghai, the main roads in city center are about 22% of the total length in the road network, but they are responsible for 69% of the total traffic. Such a situation is hard to change once the pattern is set. While the number of private cars grows at over 15% each year, the total increase of roads in length and area is only 1.2% and 3.7% respectively.

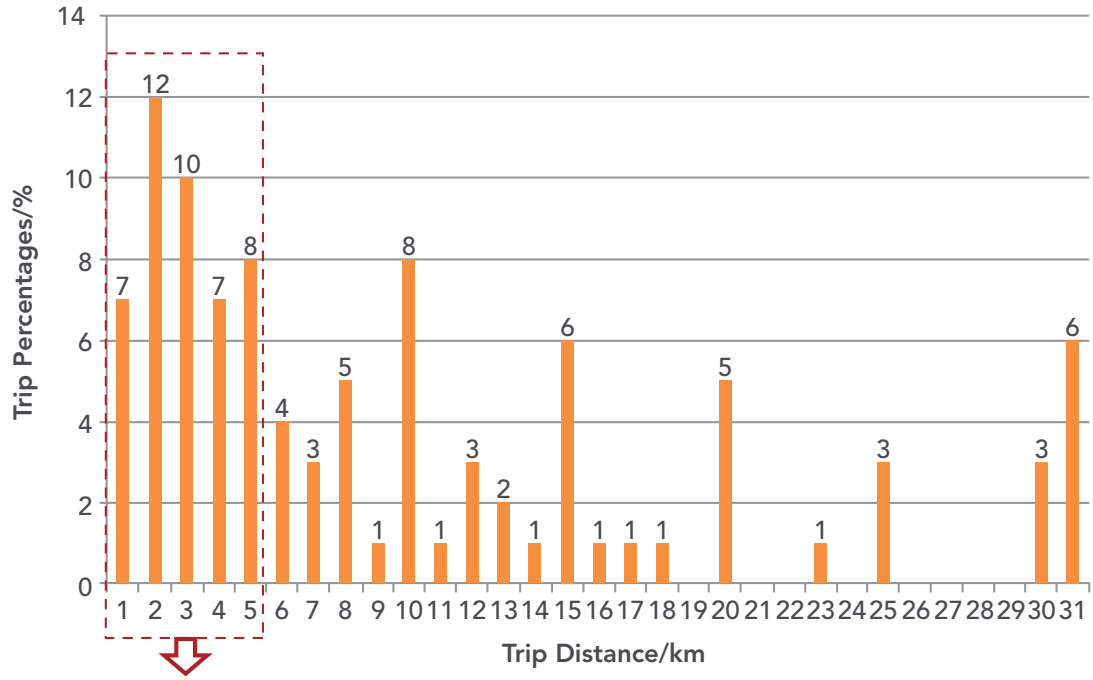


Fig. 3.15: The trip distance of private cars in Beijing
Notes: Lateral axis refers to the trip distance and ordinate axis refers to the percentage of use in private cars.

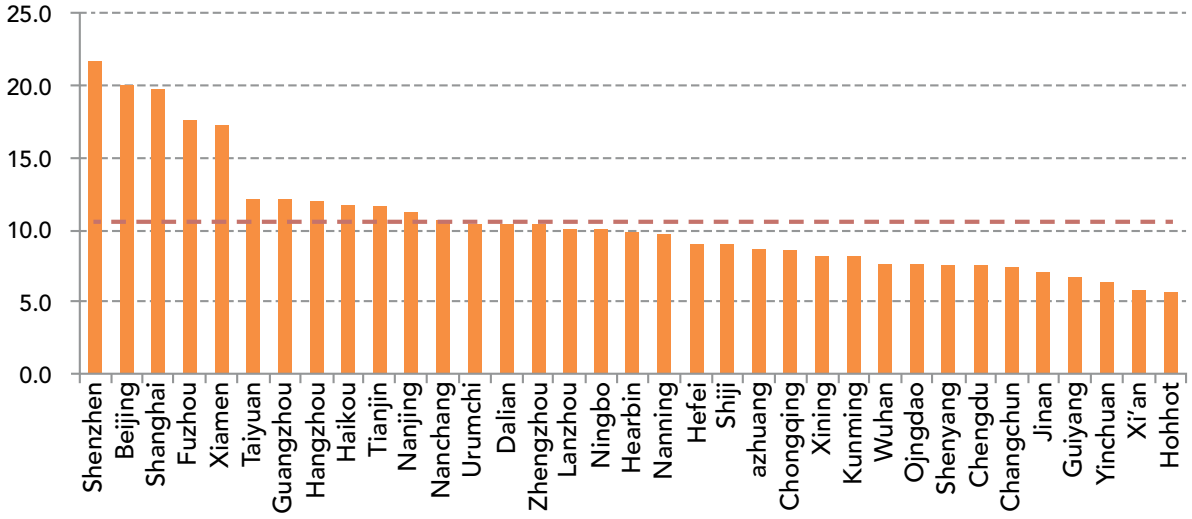
Sources: from Guo et. al., 2011.

Fig. 3.16: The comparison of road density in one km2 area in the center of New York (left) and Shanghai (right)
Sources: http://www.thepaper.cn/baidu.jsp?contid=1435920

Traffic problems have become worse in recent years and the difficulty lies in the complexity of reality. Unlike environmental problems that normally have many international "good practices" to learn from, urban traffic problems have deep local roots. All the reasons are inter-related and no single policy alone could have direct effects without influencing the convenience of citizens. Furthermore, there is no example to directly learn from, because each case is different, in either the physical built environment of the urban area or in the collective understanding and cultural issues. The best strategy now is to take incremental but constant improvement measures and find a solution that could maximize the welfare of local people. In fact, many such actions have been tried in the past five years. Besides the growing attention paid to the construction of public transportation, especially on urban metro systems, new attempts have been made, like rebuilding tram systems in big cities, opening gated communities to public road networks, publishing new regulations, the application of simulation tools, and the redesign of road sections for green transportation. This transformation will be slow and painful, but Chinese cities are on the way.

3.4.3 HOUSING PROBLEMS

If using just one word to describe the current housing market in the eyes of normal citizens, it could probably be "unaffordable". Since the beginning of the 21th century, the Chinese real estate market has grown tremendously and gained enormous wealth, which mainly has come from the bonus of a growing population, globalization, and 30 years' reformation of the real estate market in China (Ding, 2013). However, housing prices also have grown by a large scale and far more quickly than the increasing of residents' income. Especially in big cities, a residential apartment is cost-prohibitive and may cost a lifetime's saving. The Housing Price-to-Income Ratio, one vital indicator to evaluate the degree of health of real estate markets considering economic development and social income level, is reasonable to be kept under 7 considering realistic conditions in China (Lv, 2010). However, the average ratio in the top 35 Chinese cities is 10.6 (Fig. 3.17 up) and more than 15 in megaities like Shenzhen, Beijing, and Shanghai. Shenzhen, which has only 35 years' history as an economic development zone that was built from bare land, had a ration as high as 21.7 in 2014. This ratio dropped in 19 cities in 2015, taking the average ration down to 8.7, but Shenzhen's increased to 23.7 (Fig. 3.17 down).



Sources: Yiju Real Estate College

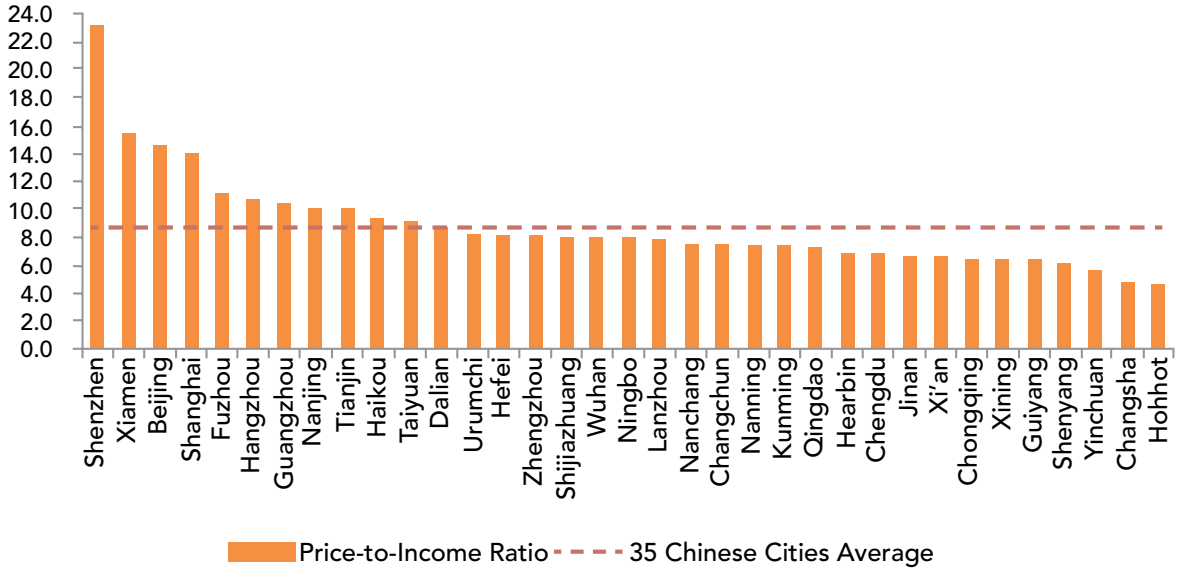


Fig. 3.17: The Housing Price-to-Income Ratio in 35 Chinese cities in 2014 (up) and in 2015 (down)
Sources: Yiju Real Estate College

Contrary to the rising housing prices, the owners of houses and apartments are getting younger. Although the real estate market has only existed for about three decades, Chinese people have become true believers in houses. To possess housing property, however, has become a necessity to get married. Reports show that about 60% of buyers in the second-hand real estate market are under the age of 35, born from the 1980s to 1990s, and haven't worked for long. Though more or less supported by their parents, these young people have become so-called "House Mortgage Slaves" who will pay the debt of the house for the coming 10–30 years. Meanwhile, the purchase of houses greatly depresses the creativity of the young generation. Instead of starting their own businesses, more people prefer to invest on housing which will definitely be a potential problem for the future society. In 2014, 89% of the Chinese households, including those in the countryside, were owned by private families. The golden time for real estate may finally have come to an end.

When looking back at this part of history, the plot twists and turns, the policies go up and down (Bai, 2010). Housing was part of welfare for workers at the beginning of the People's Republic of China. The national reform of the housing system started in 1988, shortly after the national policy of reformation and opening; it lasted until 1998, when the whole system turned into a commercial market. The Housing Provident Fund (HPF), published by the state council in 1991, aimed at the insurance of the housing purchase capacity of workers and was a vital component to assisting the housing reform (Chen, 2010). The HPF was a fund paid monthly from the salary of workers and the enterprise, and it could only be used later in a house purchase. Related policies at this time all aimed at the construction of a functional market, however, the market turned too hot and too quickly. From 2003 to 2008, housing policies changed from promotion to the control of the overheating market. Then, affected by the global financial crisis, the housing market was for a time depressed but quickly went up through a series of stimulation policies in 2008. Since 2010, the second round of regulatory policies which aimed at the control of the fast-increasing real estate market has come out every year, with growing control intensity and expanding control range, from land provisioning to the process of trading, yet few real effects ever show. The first commercial houses sold were in the winter of 1987 in Shenzhen, with an average price of 1,600 Yuan/m^2; in 2015, the price was 40,000 Yuan/m^2 and only 30% of residents had housing property. The housing price generally grows continuously, like a monster swallowing decades of hard work of average residents.

In fact, the problem lies not only in the price; the whole system is still incomplete and with a certain deformity. Compared to commercial housing, the development of social housing is lagging, with a huge financial gap (Lu and Mi, 2011). Moreover, the existing social housing system is lacking both efficiency and equity. Half of social housing is still too expensive for people in real need and poorly designed; many unqualified families are using low-rent apartments or get a stipend for the poor (Ma, 2015). The renting market also shows certain management confusion. Due to the lack of related regulations, landlords have great power over the price of housing and can cease contracts any time. The housing situation is even worse for the "floating population", who come from nearby small cities or the countryside to work as low-paid physical laborers in big cities. Because of the Household Registration System, they are excluded from social housing and are too poor to rent apartments with standard living quality. Instead, many of them gathered in urban villages, slum or shantytowns with poor living conditions (Fig. 3.18) (Lin et al., 2014). These people are the ones who build the skyscrapers in the daytime but can never afford a proper house.

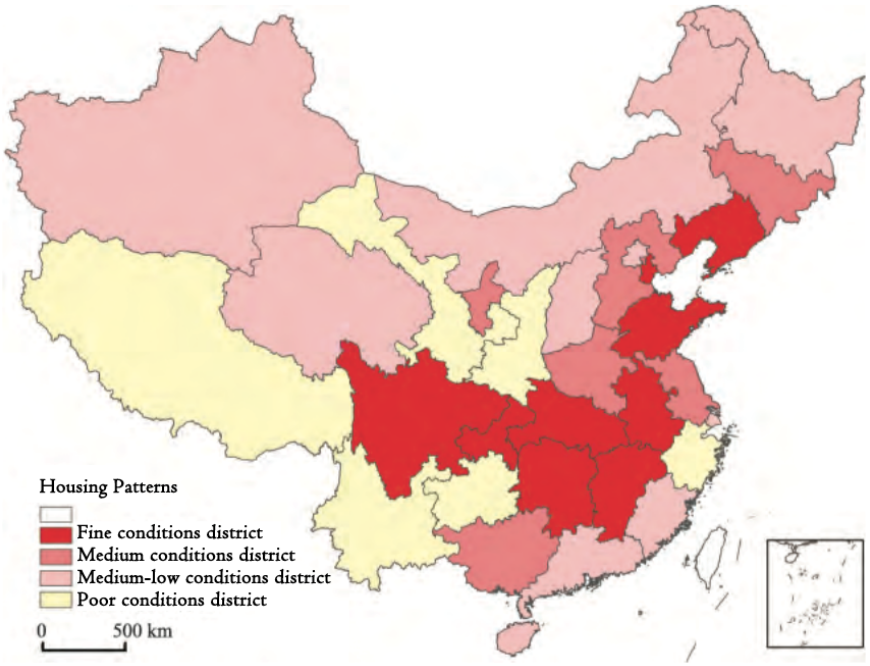


Fig. 3.18: Spatial distribution of housing conditions patterns of the floating population
Notes: Red color refers to areas with good living conditions and yellow areas means quite poor conditions.
Sources: Lin et al., (2014).

More scholars have pointed out that the current land finance system is the fundamental cause of high housing prices and the related series of housing problems. Unfortunately, land finance also has kept the economy growing at 10% for the past decade. The heavy dependence on real estate is expanding from megacities to cities at prefecture level; many cities have already been high-jacked by the housing market and have encountered a series of problems and potential risks, including high housing prices, financial risks, corruption of local governments, imbalances of resource allocation, and the suppression of other basic industries (Pan, 2015). The housing policy in China is now in a dilemma. When real estate is counting for more than 10% of Chinese GDP, any strong policy against it has to be carefully considered. Actually, the overheating market is already shrinking, beginning with the deaths of hundreds of small real estate companies and the apparent surplus architects, whose major changed from the easiest to one of the hardest ones with respect to finding a job. The top priority problem for the government now, is how to make the transformation smoothly from a real estate dependent economy to a healthier and more balanced one.

3.4.4 FOOD SECURITY

Chinese people have always been proud of their rich variety of food. But food security problems came into the public eye about ten years ago. The trigger point was the 2008 Sanlu polluted milk powder incident. It started from increasing reports that many babies whose only food source was milk powder produced by a big dairy company called "Sanlu" (which means *three deer* in Chinese) were found to have kidney stones. Later, a chemical industry material "Melamine" was found in the milk powder. It was used artificially to boost the protein level in the dairy products and was the culprit of the kidney stones. Over 12,000 babies were under treatment and 4 babies died. After the incident, a thorough national examination was made and melamine was also found in the products of another 22 out of the total 109 Chinese dairy product companies. The polluted milk products were investigated and destroyed, all related companies and persons were penalized, and a set of strict new standards were published focusing on the whole production process. However, 70% of citizens still cannot trust any Chinese dairy company according to a national investigation 3 years after the incident (people.cn, 2014).

This incident has been a critical point to evoke the public's attention on food security, which has been a growing worry since about 2003. Normal, innocent people were forced to learn a great deal of chemistry and lived in an atmosphere of fear and admonition. They suspected that industrial alcohol is illegally used to make fake wine, Sudan red (a chemical coloring agent) is found in some red yolk, gutter oil (waste cooking oil) is reused by small restaurants, and so on. A high proportion of such stories are actually erroneous reports but such rumors are hard to stop in a collective feeling of anxiousness on food security. In a recent investigation (Ipsos, 2015), food security has been paid growing attention to in the past three years. 90% of customers hold negative attitudes toward food additives; half of the interviewees will accept higher prices for fruits and vegetables with zero pesticide residue. In the meantime, the food security problem has brought changes in the habits of consumers, mainly in brand cognition, the preference of formal markets instead of casual and informal ones, and the attention on labels and bio/green food. The higher household income is, the more money and willingness to pay on food related issues.

The public's concerns and discussions are actually only part of the problem. The current main threats could be classified into four types. First, microbial contamination is currently the main cause of unqualified food, followed by the abuse of food additives and chemical pollution. Pathogenic organisms have been the main reason for food poisoning incidents. Second, the indiscriminate use of pesticides and veterinary medicine is the source of several food safety problems. Furthermore, heavy metal pollution and mycotoxin contamination is a long-term threat to food and environment. This problem has been underestimated but more dangerous. Reports show that in some of the provinces, the rate of heavy metal pollution, mainly caused by arsenic, cadmium and lead, is over 20%. Finally, the illegal additives and fake commodities still contribute to 25% of the incidents (Xu and Pang, 2015). Without complete laws and regulations, the drive of economic interests could be far more appealing than moral norms.

Food security is a comprehensive and transdisciplinary problem; safety risks may be caused in multiple aspects, including environmental, economic, social, and technological. The general food security problem shows a clearly changing pattern in the past 30 years. From the 1990s to early 2000s, the food safety problem had been greatly improved, reflected in the decline of food poisoning reports and the rise of annual average percentage of acceptability in food inspections from 82% in 1992 to 91% in 2002 (Liu 2010). This period corresponds with the founding of the first actual food supervision mechanism led by a national hygiene department. However, the control of food security has expanded to every process of the food industry since the end of 1990s, separated from administration by the central government to the Bureau of Quality Supervision, industrial and commercial bureaus, departments of agriculture and so on. The separation has led to multiple loopholes in the system, which is probably one important reason for the increase of food security incidents from 2002 to 2008.

Deeply shocked by the 2008 Sanlu milk powder incident, strong regulations and measurements have been taken since then, as well as administrative changes. A series of food security laws, regulations, and supervision systems are under construction, concerning the whole process "from farmlands to dining tables". The *Law of the PRC on Quality and Safety of Agricultural Products* and *The Food Safety Law of the PRC* will be merged into one and upgraded to basic law. Related regulations concerning the protection of soil and the use of pesticides and veterinary medicine will be added or updated. Furthermore, the *China Food and Drug Administration* was founded to reunite the separated administrative management. The actual food quality has become a lot better in the past three years. However, it will take longer to rebuild trust among the people.

3.4.5 TOO LATE THAN NEVER

It is apparent that China's 30 years of accelerated urbanization has chosen a short cut comparing with that in in developed countries which lasted of over a century. Massive progress has been made and changes happen every day. Fairly speaking, urban life of Chinese people in general has never been better, comparing with that in 30 years ago. Of course such magic changes have some costs. From almost every aspect, unfortunately, Chinese cities repeat the mistakes once made by developed countries, and sometimes make things worse due to the huge population and the vast lands. In the foreseeable decades, Chinese cities will continue to pay the debts accumulated from extensive development. However, one critical change is that problems are no longer ignored but paid attention to. Chinese citizens have been a great force to push forward reformation and innovation. It is expected to witness a great transition since these incidents have been the turning point in many fields of urban life and gradually a better future with fewer regrets would be made.

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4 GLOBALIZATION – RISING CHINA IN THE 21ST CENTURY

Chapter Contents:

- Changing Role in the Global Economy
- China's Foreign Policy under the "New Normal"
- Cultural Identity in the Context of Globalization

Since its accession to the WTO on December 11, 2001, China has taken impressive steps to integrate its economy into the world economy and has seen its global trade figures increase dramatically. In the international market, "made in China" products have shown a strong competitive edge, while "outflows from China" have been encouraged by the governmental "go global" policy launched at the beginning of the 21st century. Thanks to its sustained, rapid economic growth, China has been rapidly climbing the ranks of top economies, surpassing France, Britain, Germany, and Japan before becoming the world's second largest economy. In the new millennium, the Chinese economy has kept its growth momentum and become more integrated with the global economy. China's growth has been a stimulus to the world, providing a large and growing domestic market, as well as a source of foreign direct investment and low-cost exports. As a global trade power, while China poses significant opportunities and challenges for the world economy, the world has been also holding China fully accountable to international rules and its responsibility to maintain the stability of the world economy. While China has benefited from the international development system, it also continues to contribute to global development and pursue an opening up strategy of mutual benefit. When visiting Central Asia and Southeast Asia in September and October of 2013, in face of the weak recovery of the global economy and complex international and regional situations, Chinese President Xi Jinping raised the initiative of jointly building the Silk Road Economic Belt and the 21st-Century Maritime Silk Road, which have attracted close attention from all over the world. In October, 2015, the Asian Infrastructure Investment Bank (AIIB) was established as a new multilateral financial institution aimed at providing financial support for infrastructure development and regional connectivity in Asia. Global institutions, including the International Monetary Fund (IMF) and World Bank, have endorsed this new China-led international bank. China's ability and willingness to provide capital and make contributions to global society are obvious and China welcomes all countries to ride on its development.

However, China's increasing centrality to the world's economy and to the institutions and norms that govern global trade, commerce, and financial flows, brings not only opportunities but risks. Thirty odd years of growth does not mean unending high speed growth and China is entering a new stage in its development. Since 2012, China's economy has shown a marked slowdown, with growth rates declining from double digit levels to around 7% in 2014. In 2014, Chinese President Xi Jinping elaborated the "new normal" theory during the Asia-Pacific Economic Cooperation (APEC) meetings in Beijing. According to President Xi, China's economy has shifted gears from the previous high speed to medium-to-high speed growth, the economic structure is constantly improved and upgraded, and the economy is increasingly driven by innovation instead of input and investment. Strong Chinese growth has largely been good for the global economy, but slower growth and structural transformation could lead to social problems in China, and as the Chinese economy shifts, can the world adjust to China's "new normal"? Because the impact of Chinese policies is now felt globally, economic and financial decisions taken in China to address domestic problems could thus directly affect Chinese economic and strategic power abroad. Worries over the pace of growth and composition of China's economy and its policy-making skills could increase the risks that other countries experience a rise in resentment towards China. So, the Chinese government has to adjust its foreign policy and will actively explore major-country diplomacy with Chinese characteristics.

As it was said in the 1999 United Nations Human Development Report, "The debate on whether there is cultural homogenization remains open. There are no surveys showing that people are becoming alike." But on the surface, the people of the contemporary world may look, sound, and act even more homogeneous than they did in last century and America's imprint can be seen on globalization clearly. On the one hand, globalization has not only blurred ethnic or national boundaries, but also the boundaries between different cultures and it has presented unprecedented challenges to developing countries for their cultural development. Like most countries in the world, today's China is characterized by cultural and ideological pluralism. On the other hand, globalization has paved the way for a pluralistic cultural identity as well. China's cultural identity could be viewed as a new multiple-identity which has undergone many changes caused by western influence and modern reinterpretation. At present, Chinese people are striving to fulfill the Chinese dream of the rejuvenation of the Chinese nation. The Chinese dream reflects both the ideal of the Chinese people today and China's time-honored tradition to seek constant progress. It is the Chinese people's dream of happiness and is closely connected with the dreams of all peoples because the world is increasingly becoming a community with a common future in which all countries are interdependent. Enhancing China's cultural identity can consolidate Chinese strength, which is produced by all Chinese people coming together in unity to strengthen China's comprehensive national strength and international competitiveness, so it is of great significance for the realization of the Chinese dream.

4.1 CHANGING ROLE IN THE GLOBAL ECONOMY

"Let China sleep, for when she awakes she will shake the world," runs Napoleon's famous saying. He was ahead of his time; now China has certainly amazed the world and become a leading pillar of global society. Within about three decades, the country has transformed from a planned economy to a market economy and generated the Chinese economic miracle which is well-known because of the remarkable average growth rate of 9.6% between 1978 and 2008. Now China is the world's second largest economy and its growth has been a driving force for the recovery from the global crisis since 2009. China's role in the global arena is obviously evolving and can be beneficial for growth prospects for the global economy.

4.1.1 CHINA'S ACHIEVEMENTS SINCE 1978 AND CURRENT ROLE IN GLOBAL ECONOMY

i) ***China's achievements since the reform and opening of 1978***

In the 1960s and 1970s, while the "Four Asian Tigers" (South Korea, Singapore, Hong Kong and Taiwan) had attracted foreign investment to boost their economic development, China was mired in the Cultural Revolution (CR) from 1966 to 1976. China therefore lost numerous opportunities to develop and modernize and the technological and economic gap between China and western developed countries widened even more during that time. More than 20 years of a "planned economy" had put the country on the verge of collapse and prospects for China were extremely grim. In 1979, the world's most populous country only commanded 1.8% of global gross domestic product (GDP) (Justin, 2011). The CR left the Chinese Communist Party (CCP) leaders under Deng Xiaoping with the urgent task of changing development strategy. Deng Xiaoping is also called the chief architect of China's opening of its economy; he advocated that reforms to open the economy would help China attain international competitiveness, thereby supporting China's reconstruction and modernization.

The economic reforms in China are generally considered as having been launched at the December 1978 3rd Plenary Session of the 11th National Congress of the Chinese Communist Party (Liu, S.L. and Zhou, L., 2013). In a nutshell, China's economic reform has two aspects: namely, invigorating the domestic economy and opening to the outside world. As Table.4.1 shows, the process of economic reforms in China could be roughly divided into three phases so far and each has unique characteristics.

Phases	Features	Measures
1978–1992	Under Deng Xiaoping; Incremental reform focused on non-state economy; Opening coastal areas first	Household responsibility systems and township and village enterprises; State-owned enterprise reforms; Special economic zone and Deng's southern tour
1992–2001	Zhu Rongji presided over the reform; Consisted of various programs of recentralization and institutionalization; Explored integration with the global economy	Proposed building of a "socialist market economic system"; Exchange rate reform and tax allocation reform; "Go West" strategy and WTO accession
After 2001	Reform policy targeted the imbalanced structure of the Chinese economy and socioeconomic problems; Full opening after WTO accession; Economic reforms continue and deepen	Launched "Scientific Development Outlook" campaign and "Harmonious Society Project"; Foreign investment and "Go Global" strategy; Increased central government spending in social welfare, poverty alleviation, etc.

Tab. 4.1: Three phases of economic reforms in China

The economic reforms and opening-up are still ongoing in China now; China has also gained fruitful economic results. First of all, it is China's rapid economic growth. According to data National Bureau of Statistics of China, from 1978 to 2008, China maintained over 9% annual economic growth for 30 years. The size of the economy reached USD3.13 trillion in GDP in 2007, from a base of USD216.5 billion in 1978, an average annual increase of 9.8%. China successfully withstood from the shocks and maintained dynamic growth in both the 1998 and 2008 financial crises and the annual growth rate during the period 1990–2010 even reached 10.4%. This growth has been unprecedented on the global economic scene and has become a driving force for the global economy's recovery. China also has amassed one of the world's largest foreign exchange reserves, from USD167 billion in 1978 to USD 1.528 trillion in 2007. China's foreign exchange reserves exceeded Japan in February 2006 to become the world's largest; by the end of 2012, China became the second largest economy by GDP size (nominal and PPP terms) just after the United States.

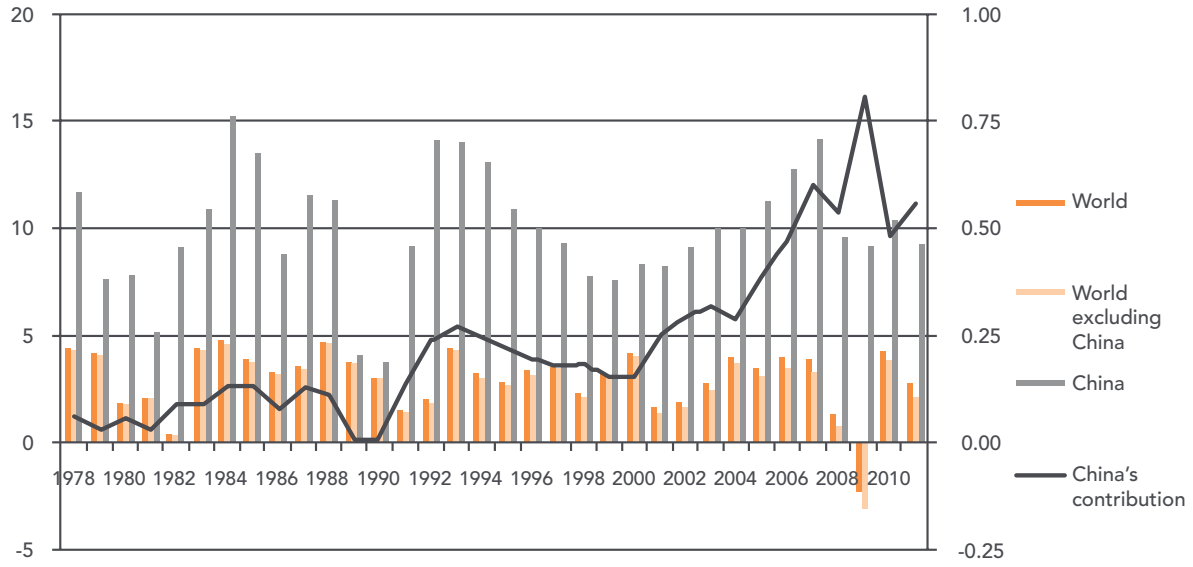

Fig 4.1. China's contribution to world GDP growth (%)
Data source: World Development Indicators, April 2013, World Bank.

As illustrated in Fig. 4.1, from 1978, China's GDP grew faster than that of the world total. It means that the contribution of China to the world GDP growth remains positive, and China tends to continue its rapid economic growth and maintain its important status in the global economy.

The other significant result is the success of attracting foreign direct investment (FDI). Between 1965 and 1980, China was without any foreign or domestic national debt, and received no foreign investment or foreign assistance. But in 2002, China became the world's largest recipient of FDI, receiving USD50 billion that year. FDI came to China because of China's cheap labor force, and China also seized the opportunity to gradually become the world's major manufacturing center, especially in certain labor-intensive industries. The fruitful use of FDI was a strong impetus to the process of reform and opening up, for example, as of the end of 2007, FDI had contributed 40% of China's GDP, and foreign-invested enterprises employed 30 million people, accounting for 10% of the urban employed population.

Besides, China's exports also grew rapidly during this time. In 1979, China's exports represented only 0.8% of global exports of goods and non-factor services. This number reached 8.4% in 2009 (Fig 4.2). China's Non-Public Sector of the Economy (NPSOE) has been developed rapidly and gradually become a major component of the socialist market economy since the reform and opening in 1978. Now the NPSOE is the main force of national economic development and an important source of revenue. Behind the economic growth, there has been a dramatic structural transformation, in particular, profound urbanization and industrialization.

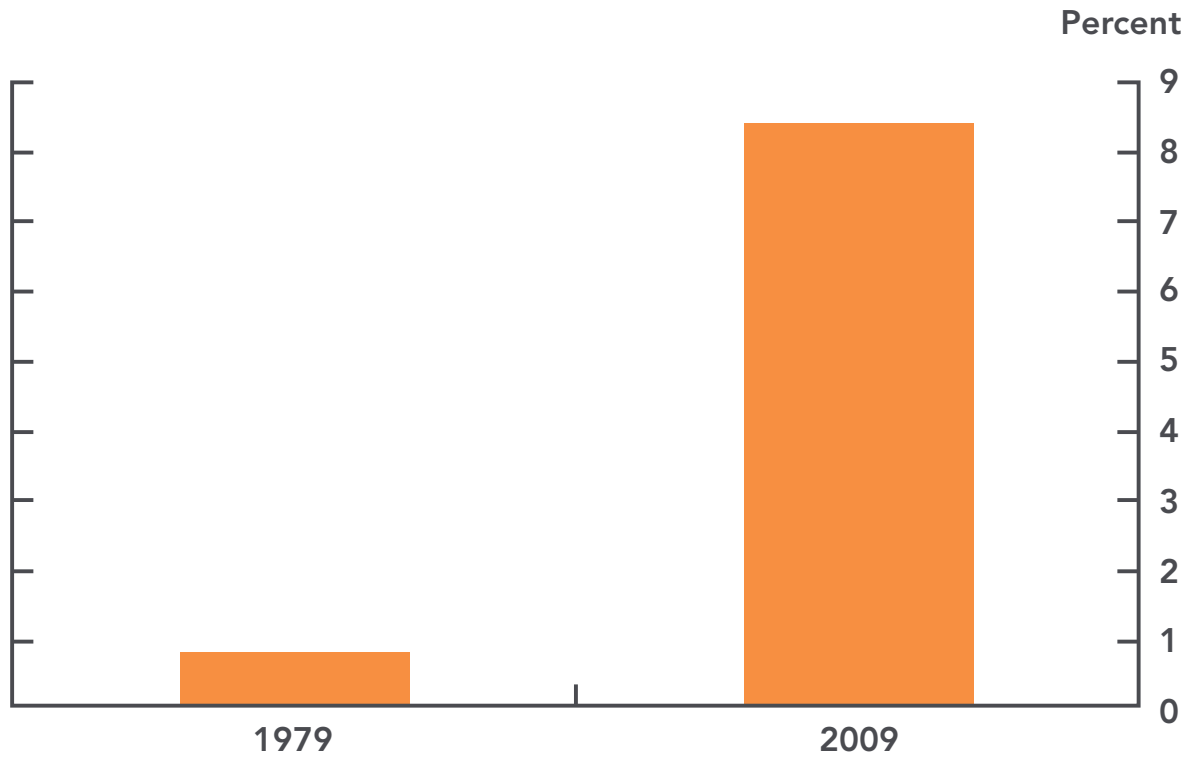

Fig 4.2. China's Share of World Exports of Goods and Nonfactor Services
Data sources: World Development Indicators.

China's reforms and opening have strengthened national power. The economic growth increased China's political clout and raised its international status. Meanwhile, economic reforms have brought about significant changes in the economy, society, and culture within China. Quality of life has improved greatly, with the general population now aspiring to build a moderately prosperous society (*xiaokangshehui*) instead of merely surviving.

ii) ***China's changing role in the global economy***

On October 30, 2015, the International Monetary Fund (IMF) announced that the Chinese currency Renminbi was eligible for joining its Special Drawing Rights (SDR) currency basket. The decision to include the RMB in the SDR basket is an important milestone in the integration of the Chinese economy into the global financial system. It is also recognition of the progress that the Chinese authorities have made in the past years in reforming China's monetary and financial systems.

It is easy to see that China's integration into the global economy has indeed changed China dramatically. By liberalizing its economy and opening up its borders to foreign trade and investment, China has liberated millions of people from poverty. Global engagement has generated new tax revenues, created new jobs, and generated huge foreign currency reserves. It has also brought to China new management skills, new technologies and new ways of thinking, and provided an impetus of domestic industrial change. Nowadays China is the world's second largest economy, the foremost manufacturing country, the largest trading nation and the most attractive investment host country. The economic reforms launched more than thirty years ago have transformed China and its place in the global economy. China's role in the global arena is obviously evolving; confronting a rising China is probably the most challenging task facing the world community in the 21st century.

The global economy used to be dominated by the G-7 economies throughout the latter half of the 20th century. Since the 21st century, a multipolar growth world has emerged and there is a shift from G-7 to a broader G-20 in this new global economic structure. China has had an important and expanding role in regional and international economies due to its rapid growth in the past decades. As shown in Figure 4.3, China became the top contributor to the growth of global GDP in the decade beginning in 2000.

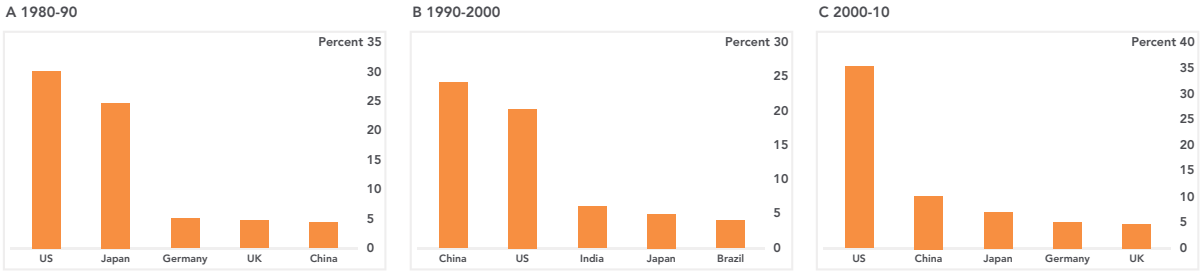

Fig 4.3. Top Five Contributors to Growth by Decade
Data sources: World Development Indicators.

With the change of China's status in the global economy, China's economic growth has become a global event and China's economic development has increasingly become one of the world's heated topics. Nowadays, a 0.1 percentage point decrease of China's economic growth can lead to global market tension, and a 0.1 percentage point rise can quickly cause a reaction in the market. Even the Fed (Federal Reserve System) should take into account the China factor when making monetary policy and this is unprecedented. China is making great efforts to develop and unleash the huge potential of its domestic demand. It is expected that in the next five years, China will import US$10 trillion worth of goods and make overseas investments totaling US$500 billion. Over 400 million Chinese people will make outbound trips. These are significant opportunities that China's development brings to the world. The world is desperately in need of engines of growth now and China can provide the impetus for economic growth with its continued and pragmatic economic development. If China can maintain a high growth rate in the coming years, it may contribute to the multipolar growth world in many other ways in addition to GDP growth and trade. For developed countries, China's growth will expand the markets for capital goods and intermediate goods exports; for most developing countries, China's consumption and production growth will continue to help them by supporting adequate prices for their agricultural and natural resource commodities.

However, China is still a developing country and its environmental and social problems are becoming huge and worrying. So, the Chinese government keeps promoting reforms. The country's leaders are aware that the export-led economic model which has powered China over the past several decades isn't sustainable. Chinese Premier Li Keqiang has promised to lead the transition towards a model of quality growth with an economy driven by internal consumption rather than exports. A higher level of home consumption in the future will allow China to become gradually an alternative to declining Western consumption, so as to be a 'stabilizer' of the global economy. Besides, China's former economic strategy was based on the undervaluation of the Renminbi (RMB) and boosting exports, which helped China to become an export superpower and to accumulate massive financial capital in its Sovereign Wealth Funds. Now the country's exporters are strong enough to withstand a higher RMB valuation. A higher RMB value will help re-balance China's economy, with consumption becoming a larger contributor to growth. The new strategy of economy policy based on a further liberalization, a revaluation of the RMB, and the increase of home consumption will be a big change for China and the global economy.

Even as China's economic growth dipped to 6.9% in 2015, the slowest in 25 years, it seems that China will still maintain in its leading position around the world in terms of growth. Moreover, the continued structural transformation of the Chinese economy will create more opportunities. As China undergoes industrial upgrades and enters more sophisticated product markets, it will leave market space for other developing countries to enter the more labor-intensive industries. Chinese enterprises are expected to relocate their existing production to other lower-wage countries as they upgrade to higher value-added industries. And because of the huge size of the Chinese economy, China may become a "leading dragon" for the global economy.

China represents a great shift in economic power that is changing the world. China's growing economic power has given the nation access to many activities, ranging from mineral mines in Africa, to currency markets in the West, to oilfields in the Middle East, to agribusiness in Latin America and to the factories of East Asia. China's rising economic stake in the global economy is enhancing its standing in the international community at the same time. Nowadays, it is very difficult to think of any global problem (e.g., global economic imbalances and trade, environmental challenges, etc.) that could be resolved satisfactorily without China's involvement. In the recent past, integration into the global economy has accelerated the development of China. Today, China's economic development has a profound impact on the global economy in turn. Now China has transformed from a free rider of globalization into a major contributor to the recovery of the global economy; from the world's factory, providing merely manufactures, into a more balanced relationship with the world's market because of its urbanization, expansion of service industries and huge consumption demand; from a positive recipient of globalization into an active builder who strives to maintain an open trade regime. Generally speaking, as a rising economic player, now China is not only a contributor to global economic growth, but also a participant in global economic governance and a builder of international economic order. In the long run, China's most appropriate role could be as a bridge between the developed and developing countries, given the dual role it plays as a big developing economy and an emerging global power.

4.1.2 CHINA'S NEW CONCEPTION OF GLOBAL GOVERNANCE (AIIB, B&R INITIATIVE)

Nowadays, complex and profound changes are taking place in the world. The underlying impact of the international financial crisis keeps emerging; the world economy is recovering slowly, and global development is uneven; the international trade and investment landscape and rules for multilateral trade and investment are undergoing major adjustments; and countries still face big challenges to their development. At the same time, the trend towards a multipolar global political and economic landscape is increasingly clear; the global governance structure is also undergoing major adjustments because of the change of relative strength of economic powers and global economic transition. Because of the economic stagnation occurring in Europe and America, the restoration and growth-stabilization of the global economy has relied heavily on stimulating the great potential of emerging markets, deepening economic cooperation among emerging market countries, and promoting cross-border investment and trade.

Compared to other regions in the world, Asia's vital, dynamic development has been integral to driving the global economy. However, although it has abundant natural and human resources, economic development in Asia is not very satisfying. Firstly, there are huge developmental divides among Asian countries. Economic powers like Japan, Singapore and such undeveloped countries as Myanmar and Cambodia are all in this area. Furthermore, the marked differences in politics, economy, history, and culture also affect the quality of inter-state cooperation and motivation for economic integration. Finally, infrastructure and fund shortages, as well as poor governance obstruct Asia's sustainable development.

In Asia and even the whole world, China has become the largest political and economic variable with its sustained and rapid development. China has taken an active and constructive part in contributing to and benefiting from the international development system. China will stay committed to the basic policy of opening-up, and will build a new pattern of all-around opening-up, and integrate itself deeper into the world economic system. During China's 12th five year plan (2010–2015), it achieved outstanding performance in global economic governance. China has continued to contribute to the construction of the global economic system by putting forward such initiatives as setting up the Asian Infrastructure Investment Bank (AIIB) and the Belt and Road Initiative (B&R). These initiatives will enable China to further expand and deepen its opening-up, and to strengthen mutually beneficial cooperation with countries in Asia, Europe, Africa and the rest of the world. China is committed to shouldering more responsibilities and obligations within its capabilities, and making greater contributions to the peace and development of mankind.

i) ***China-Led AIIB***

To set up a regional investment bank in Asia is an important way to realize regional and global economic integration and to eliminate the root causes of the global financial crisis. Because the demand for infrastructure development in Asia is enormous, the AIIB will be helpful to effectively organize large-scale infrastructure construction through a variety of direct investment and financing instruments. It can convert global hot money into social productive forces; it can also crowd out the global economic bubble and promote the global financial system. The purpose of initiating the establishment of the AIIB is to guide the reform of the international financial system and promote domestic and international economic growth by fully using Asian infrastructure as a platform. Moreover, the establishment of this new institution could bring new rules and a new world financial structure which takes direct investment and financing as its main concerns. China also aims to make contributions to human civilization and establish its position as a responsible great power.

In October 2013, China put forward the initiative to set up the Asian Infrastructure Investment Bank. This is a move that will enable China to undertake more international obligations, promote improvement of the current international economic system and provide more international public goods. China's initiative has largely been welcomed with open arms.

In October 2014, the first group of 22 Prospective Founding Members signed the Memorandum of Understanding on Establishing the AIIB.

In June 2015, representatives from 50 Prospective Founding Members signed the Articles of Agreement of the AIIB. By the end of the year, seven other Prospective Founding Members added their signatures to the Agreement.

On December 25, 2015, the Agreement met the legal threshold for enforcement and the AIIB was officially founded. This is the world's first multilateral financial institution initiated by China and built by 57 countries together. While developing countries make the mainstay of the AIIB's membership, the institution also attracted a large number of developed members. The developing countries value AIIB as a mutual aid platform for development, while developed countries find a win-win opportunity for cooperation. AIIB's unique strength makes it a bridge and a bond to facilitate both South-South cooperation and North-South cooperation.

On Jan 16, 2016, Chinese President Xi Jinping delivered an address at the inauguration ceremony of the AIIB. According to President Xi, the founding and opening of the AIIB will effectively boost investment to support infrastructure development in Asia. AIIB will serve to channel more resources, particularly private investment, into infrastructure projects to promote regional connectivity and economic integration. It will bring about a better investment environment and more job opportunities and trigger greater medium- to long-term development potential on the part of developing members in Asia. This, in turn, will give impetus to economic growth in Asia and the wider world. President Xi also promised that in addition to subscribing capital according to plan, China will contribute 50 million U.S. dollars to the project preparation special fund to be established soon, to support preparations for infrastructure development projects in less developed member states.

The AIIB will become a new multilateral institution for the 21st century that is professional, efficient, and operationally clean. China stands ready to work with other parties to make sure that the AIIB will start to operate and play its due role as soon as possible and contribute to economic growth and better livelihood in developing countries. It will be a new platform to help foster a community of a shared future for mankind, to make new contributions to prosperity in Asia and beyond, and to lend new strength to improvements of global economic governance. The founding and opening of the AIIB also means a great deal to the reform of the global economic governance system. The institutions and existing multilateral development banks may complement each other for mutual strength. It is consistent with the evolving trend of the global economic landscape and will help make the global economic governance system more just, equitable and effective.

ii) ***The Belt and Road Initiative***

The Asian Infrastructure Investment Bank (AIIB) will play an active role in future cooperation as an important economic pillar of the Belt and Road Initiative. "The Belt and Road Initiative" (B&R initiative) will lead to a new model of international relations and can promote the stability and prosperity of Asia. Policy coordination, facilities connectivity, unimpeded trade, financial integration, and people-to-people bonds are the B&R initiative's five major goals. The initiative's ultimate objective is to build a community of shared interests, destiny, and responsibility featuring mutual political trust, economic integration, and cultural inclusiveness.

China's "Belt and Road Initiative", as shown in Fig. 4.4, is the abbreviated form of "The Silk Road Economic Belt and the 21st Century Maritime Silk Road". The Belt and Road run through the continents of Asia, Europe and Africa, connecting the vibrant East Asia economic circle at one end and the developed European economic circle at the other, and encompasses countries with huge potential for economic development. The Silk Road Economic Belt focuses on bringing together China, Central Asia, Russia, and Europe (the Baltic); linking China with the Persian Gulf and the Mediterranean Sea through Central Asia and West Asia; and connecting China with Southeast Asia, South Asia and the Indian Ocean. The 21st-Century Maritime Silk Road is designed to go from China's coast to Europe through the South China Sea and the Indian Ocean in one route, and from China's coast through the South China Sea to the South Pacific in the other. The B&R initiative goes beyond the traditional scope of free trade zones and aims to promote the connectivity of the Asian, European, and African continents and their adjacent seas, establish and strengthen partnerships among the countries along the Belt and Road, set up all-dimensional, composite connectivity networks, and realize diversified, independent, balanced, and sustainable development in these countries.

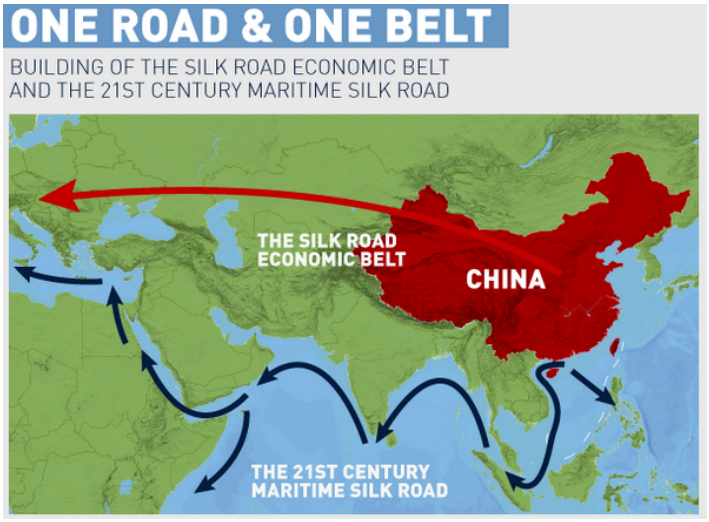

Fig. 4.4. The route map of the Belt and Road Initiative

The Silk Road used to be an ancient commercial trade route to connect Asia, Africa, and Europe. It started from ancient China and played the role of transporting China's products like silk and porcelain at the very beginning (see Fig. 4.5). The German geographer Ferdinand von Richthofen is the first person to call this road "the Silk Road". In 1877, in his book titled *China: The results of My Travels and the Studies Based Thereon*, he used the "Silk Road" to describe the trade route from western China to Europe and this name was soon accepted by the academic community and the general public. The ancient Silk Road linked the major civilizations of Asia, Europe, and Africa, promoted the progress of human civilization, and contributed greatly to the prosperity and development of the countries along the Silk Road. Symbolizing communication and cooperation between the East and the West, the Silk Road Spirit is a historic and cultural heritage shared by all countries around the world. China used to be the starting point of the ancient Silk Road and this is the historical logic for China to put forward the B&R initiative. In this 21st century, a new era marked by themes of peace, development, cooperation, and mutual benefit, it is all the more important to carry on the Silk Road Spirit in face of the weak recovery of the global economy, and complex international and regional situations.

Fig. 4.5 Ancient Silk Road

When Chinese President Xi Jinping visited Central Asia and Southeast Asia in September and October of 2013, he raised the initiative of jointly building the Silk Road Economic Belt and the 21st-Century Maritime Silk Road, which have attracted close attention from all over the world. In recent years, President Xi Jinping and Premier Li Keqiang have visited many countries, attended international conferences and meeting with leaders of relevant countries to discuss bilateral relations and regional development issues. They have used these opportunities to explain the rich content and positive implications of the B&R Initiative, and their efforts have helped bring about a broad consensus on the B&R Initiative. The Chinese government has been actively promoting the building of the Belt and Road, enhancing communication and consulting and advancing practical cooperation with countries along the Belt and Road, and introduced a series of policies and measures for early outcomes. The Chinese government will integrate its domestic resources to provide stronger policy support for the Initiative.

As for China, the B&R initiative contributes to industrial restructuring within China through the orderly transfer of overcapacity and uneconomic businesses to foreign developing countries and by changing this capacity into elements of economic development. China has huge foreign exchange reserves and abundant domestic savings, has established independent global payment systems, and the RMB is getting popular as a trade settlement. By way of the B&R initiative, China's foreign exchange reserves and domestic hot money could be a strong dynamic mechanism to promote the economic development of other countries.

Though proposed by China, the Belt and Road Initiative is a common aspiration of all countries along their routes. Countries along the Belt and Road have their own resource advantages and their economies are mutually complementary. Therefore, there is a great potential and space for cooperation. The B&R Initiative will help align and coordinate the development strategies of the countries along the Belt and Road, tap market potential in this region, promote investment and consumption, create demands and job opportunities, enhance people-to-people and cultural exchanges, as well as mutual learning among the peoples of the relevant countries, and enable them to understand, trust, and respect each other and live in harmony, peace, and prosperity. China is ready to conduct equal-footed consultation with all countries along the Belt and Road to seize the opportunity provided by the Initiative, promote opening-up, communication and integration among countries in a larger scope, with higher standards and at deeper levels, while giving consideration to the interests and aspirations of all parties. Moreover, the development of the Belt and Road is open and inclusive. The Initiative covers, but is not limited to, the area of the ancient Silk Road. It is open to all countries, and international and regional organizations for engagement, so that the results of the concerted efforts will benefit wider areas.

The B&R Initiative is harmonious and inclusive. It advocates tolerance among civilizations, respects the paths and modes of development chosen by different countries, and supports dialogues among different civilizations on the principles of seeking common ground while shelving differences and drawing on each other's strengths, so that all countries can coexist in peace for common prosperity. Table 2 is a comparison between the B&R initiative and two other trade agreements, the Trans-Pacific Partnership Agreement (TPP) and Regional Comprehensive Economic Partnership (RECP). Compared with other regional trade agreements, the important characteristics of the B&R initiative are its diversified cooperation mechanisms and openness to all relevant countries and regions.

Name	Major Characteristics	Countries Included
TPP	high-level trade and investment rules	12 countries, no China
RECP	Low-level trade and investment rules	16 countries, no U.S.
B & R	Diversified cooperation and openness	All relevant countries and regions are welcome.

TABLE 2. Comparison among TPP, RRCP and B&R

The economic belt and the 21st-Century Maritime Silk Road are projects designed to boost win-win cooperation between China on the one hand and Eurasian countries on the other in the spirit of mutual learning and harmonious coexistence reminiscent of the ancient Silk Road and serve as an overarching architecture for China's external cooperation endeavors in the new era. And the B&R initiative is not just an economic project, but also a global governance project. It is a systematic project, which should be jointly built through consultation to meet the interests of all, and efforts should be made to integrate the development strategies of the countries along the Belt and Road. Many transnational activities under this platform have regional or inter-regional public goods properties. In addition, the B&R initiative is an example of new diversified cooperation mechanisms in the interests of the world community. Reflecting the common ideals and pursuit of human societies, it is a positive endeavor to seek new models of international cooperation and global governance, and will inject new positive energy into efforts toward world peace and development.

iii) ***Distinctive conception of global governance***

China has played host to the Group of Twenty (G20) Summit in September 2016 in Hangzhou. This will be China's first time dominating the agenda-setting for this main platform of global economic governance. The theme of this year's G20 summit is "building an innovative, invigorated, interconnected and inclusive world economy". According to President Xi Jinping, China will focus on innovation in growth patterns, improving global economic and financial governance, boosting international trade and investment, and promoting inclusive and interconnected development. China aims to promote the transition of the G20 from crisis response mechanisms to long-term governance mechanisms.

With the rise of its international economic status, China has been transformed into an important force to affect international trade rules. The Chinese government advocates peace and cooperation, openness and inclusiveness, and mutual learning and mutual benefit. It promotes practical cooperation in all fields, and works to build a community of shared interests, destiny and responsibility featuring mutual political trust, economic integration and cultural inclusiveness. During the years of China's 12th five year plan, China vigorously promoted the reform of international economic governance systems, and contributed to the world a new conception of international relations focused on mutual respect and cooperation. While maintaining a multilateral trading system, China advocated an open global economy and free trade regime and was committed to build up a global free trade area (FTA) network which is based on its periphery and penetrated by the Belt and Road. In November 2015, China and the Association of Southeast Asian Nations (ASEAN) sealed a deal to upgrade their FTA. The move is also to help realize the target of scaling up two-way trade to 1 trillion U.S. dollars by 2020 and promote negotiations on the Regional Comprehensive Economic Partnership and the Free Trade Area of the Asia-Pacific. China actively participated in global climate change negotiations and implemented its emission reduction commitments. As a great developing country, China stepped up to aid developing countries. Just as Professor Jin Canrong said, China's conception of global governance has four major features: taking the UN as the core of collective security mechanisms; giving priority to sustainable development; promoting a global partnership network; and upholding principles of non-intervention.

The year 2016 is the first year of China's 13th five year plan. China will aspire to achieve innovative, coordinated, green, open and shared development. The focus of the agenda will be on promoting innovation-driven development to strengthen new drivers for economic development, on promoting supply-side structural reform to adapt to and lead the "new normal" of economic development, and on opening wider to the outside world with more emphasis given to advancing high-level and two-way opening up. China has the confidence and capability to ensure sustained and sound economic development and bring more opportunities and benefits to Asia and the whole world. The door of China's opening up will never shut and China welcomes all countries to ride on its development.

4.2 CHINA'S FOREIGN POLICY UNDER THE "NEW NORMAL"

The globalization of the world today has made countries intimately connected and interdependent. China's relations with the outside world are also changing as never before, as the two are increasingly interdependent and interact with each other on a larger scale. China needs the world more than ever before to develop itself and vice versa. As a big country with 1.3 billion people that enjoys sustained and fast growth, what kind of role will China play in the global arena? What foreign policy will China follow and what impacts will it have on the world? The world is interested in these questions and China is also thinking about and exploring these questions.

China's economy is currently undergoing a major structural transformation towards a new development model (China's "new normal") focused on structural changes that can achieve economic growth that is still strong but lower (around 7% p.a. over the next five years) and characterized by much better quality in terms of the social distribution and impacts on the natural environment. Slower growth and structural transformation could lead to social problems in China, and as the Chinese economy shifts, can the world adjust to China's "new normal"? Worries over the pace of growth and composition of China's economy and its policy-making skills could increase the risk that other countries experience a rise in resentment towards China.

So, the Chinese government has to adjust its foreign policy and will actively explore major-country diplomacy with Chinese characteristics. China is ready to respond to the international community's expectations by connecting China's domestic situation with the world's situation and identifying the shared interests between China and other parties.

4.2.1 EVOLUTION AND FEATURES OF THE PRC'S FOREIGN POLICY

i) ***Evolution of the PRC's foreign policy***

The foreign policy process is very complex and depends on such variables as domestic politics, economy, and international environment. Basically characterized by the maintenance of independence, the PRC's foreign policies have also undergone changes and adjustments with the changes in the international situation ever since the founding of the PRC.

A bipolar system dominated by the Union of Soviet Socialist Republics (USSR) and the United States (U.S.) formed in 1947. The rivalry between Washington and Moscow divided much of the world into two antagonistic spheres in what became known as the Cold War. The PRC was founded on October 1, 1949, and the new Chinese government took its stand in the socialist camps headed by the USSR against the backdrop of the Cold War confrontation between the East and the West.

In December 1953, Chinese Premier Zhou Enlai first proposed the famous Five Principles of Peaceful Co-existence when meeting with an Indian delegation. The principles are: mutual respect for territorial integrity, mutual non-aggression, non-interference in each other's internal affairs, equality and mutual benefit, and peaceful coexistence. Zhou Enlai participated in the Asian-African Conference held in Bandung, Indonesia, in April 1955 and reiterated the Five Principles of Peaceful Co-existence (Fig. 4.6). Thereafter, China settled the boundary issues that were left over from its history with Burma, Mongolia, Pakistan, and Afghanistan consecutively on the basis of the five principles. China expanded its diplomatic space, and gradually established friendly diplomatic relations with many neighboring countries and countries of Africa and Europe.

Fig. 4.6 Premier Zhou reiterates the Five Principles of Peaceful Co-existence at the Asian-African Conference held in Bandung, Indonesia in April 1955.

From the mid-1950s to the late 1960s, because of major changes in the international situation, China upheld independence in its relations with other socialist countries and opposed the two superpowers of the U.S. and USSR.

On October 29, 1971, the United Nations General Assembly (UNGA) passed Resolution 2758, which transferred representation of the seat granted to the "Republic of China" (ROC) under Article 23 of the UN Charters, to the PRC. The PRC restored its legitimate seat in United Nations (UN) and its conducive role in safeguarding China's national interests. As the USSR's threat toward China increased, China pursued a foreign policy strategy of opposing the two superpowers with a focus on opposing the USSR's hegemony in the 1970s. At this time, China had already changed the idea of dealing with international relations in accordance with the sole standard of a socialist ideology.

In 1978, China comprehensively started its opening up and reform. China emphasized that diplomacy was to create a long-lasting, peaceful international and peripheral environment for domestic economic constructions. China used economic diplomacy to maintain stable relations with big powers and strengthen solidarity and cooperation with a great number of Third World countries. And on January 1, 1979, China and the U.S. established formal diplomatic relations that brought the normalization process of Sino-U.S. relations to fruition. China achieved a relatively good diplomatic environment during the late 20th century.

Entering the 21st century, China successively put forward the concept of "peaceful development". In his speech to the UN in September 2005, Chinese president Hu Jintao elaborated on the idea of "building a harmonious world of sustained peace and common prosperity" (Fig. 4.7). It is a lofty goal of China on the road of peaceful development and is consistent with the spirit of the UN Charter and the domestic policies of China. Because of its growing economic strength, China has started to show confidence in diplomacy and China's foreign polices have become more stable.

Fig. 4.7 Chinese President Hu Jintao delivered his speech at the summit meeting marking the 60th anniversary of the founding of UN on September 15, 2005.

In this new era, China will stay committed to its independent foreign policy and firmly safeguard national independence, sovereignty, and territorial integrity in its diplomacy. China will develop friendly co-operation with mutual benefit with all countries according to the five principles of peaceful co-existence. China's economic diplomacy will further expand in its content and means, and will play an increasingly crucial role in the country's overall diplomacy structure amidst an ever-changing global situation. As China becomes a stronger nation with an upgraded status on the international stage, its foreign policy is facing greater missions, and the burden is heavy and the road is long. Now China's new central leadership with Mr. Xi Jinping as the General Secretary has taken new measures, put forward new ideas, and presented a new image on the diplomatic front. China's foreign policy has taken on a more global perspective with a more enterprising and innovative spirit. Today's China is actively exploring a path of major-country diplomacy with Chinese characteristics.

ii) ***Features of the PRC's foreign policy***

Each country's foreign policy tends to reflect its widely held, traditional values; the unique features of China's foreign policy originate from its rich and profound civilization. The traditional values developed in China's five thousand-year history provide an endless source of invaluable cultural assets for China's diplomacy. For example, the Chinese nation has developed the human-oriented concept of loving all creatures as if they are ones' own kind and all people as if they are ones' brothers, the political concept of governing with both virtue and rule of law, the peaceful approach of love, non-offense and good-neighborliness, the idea of peace being of paramount importance, of harmony without uniformity, as well as personal conduct guided by the "golden rule", that is, to treat others in a way that one would like to be treated and help others succeed if one wants to succeed oneself. And China's ancient approach in international relations can be viewed as an integrated approach of *xiushen (self-training), qijia (family-management), zhiguo (state-governance),* and *ping tianxia (global governance)* (修身、齐家、治国、平天下). According to this approach, self-cultivation leads to good governance in one's state, and when all states are well-governed, peace and harmony will prevail in the world. Despite China's immense pride in its culture, there is no history of trying to impose it on others, even when China dominated much of the world that it knew. The orientation is based in part on Confucianism's tenet of leading by example rather than by forceful conversion (John, 2007). The ancient Chinese thinker Confucius (see Fig. 4.8) once said, "All living creatures grow together without harming one another; ways run parallel without interfering with one another." So, China prefers to respect and maintain the diversity of the world's civilizations and hopes to advance dialogues between civilizations. China also respects different development paths and supports peoples of all countries in choosing social systems and development paths on their own and encourages different civilizations to accommodate and learn from each other.

Fig. 4.8 The sage master Confucius (551–479 B.C) who advocated benevolent governance, rule of virtue and filial piety.

The idea of "building a harmonious world" is a demonstration of these Chinese traditional thoughts about governing the country and managing its relations with other countries and is a distillation of these thoughts. It emphasizes coordination of interests of different parties and resolution of conflicts that may exist among them, seeking win-win results to further their utmost interests, and to attain goals through peaceful and cooperative means, given that diversity, conflicts of interest, and the co-existence of different civilizations are the reality of the world. China maintains that international and regional hotspot issues must be addressed through dialogue and negotiation and opposes means of force or seeking regime change. Instead of demanding uniformity and imposing its will on others, China promotes common development of all civilizations in the course of mutual tolerance and seeking agreement while shelving differences.

The features of China's foreign policy are also rooted in the socialist ideas that China follows. The path of socialism with Chinese characteristics has grown out of the land of China and remains consistent with its development trends. It is a path proven correct by practice. To follow this path and approach means that in conducting diplomacy, China must advocate equality between all countries regardless of their size and promote democracy in international relations. It means that China must reject any law of the jungle, oppose any form of hegemony, oppose the big, the strong, and the rich bullying the small, the weak, and the poor, and oppose interference in other countries' internal affairs. As China's foreign policy could soon play a more active role in the international context, China is willing to listen attentively to the world, and seeks to increase dialogue and communication with the rest of the world with an open mind.

4.2.2. CHINA'S FOREIGN POLICY UNDER THE "NEW NORMAL"

i) ***China's "New normal"***

The "New normal" is a term in business and economics that refers to financial conditions following the financial crisis of 2008 and the aftermath of the global recession of 2008–2012. The term has since been used in a variety of other contexts to imply that something which was previously abnormal has become commonplace.

When China's economy showed a marked slowdown starting in 2012, with growth rates declining to around 7% in 2014 (see Fig. 4.9), deep and wide-raging changes in economic structure and policy occurred and then comprehensively and profoundly added up to a new model of Chinese economic growth. This new model places a strong emphasis on several concepts: shifting the balance of growth away from heavy-industrial investment and toward domestic consumption, particularly of services; innovation, as a means of raising productivity and climbing up the global value chain; reducing inequalities, especially urban-rural and regional inequalities; and environmental sustainability, emphasizing reductions in air pollution and other forms of local environmental damage, as well as in greenhouse gas (GHG) emissions (Fergus and Nicholas, 2015).

Fig. 4.9 The growth rate of China's GDP during year 2011–2014.
Sources: from The World Bank Website.

In 2014, a statement by President Xi Jinping indicated that China was entering a "new normal" and then the term was subsequently popularized by the press. China's "new normal" is understood by China's leadership and policy-makers as having better quality growth at its core, with a particular emphasis on four sub-themes: services, innovation, reduced inequality, and environmental sustainability. On the home front, China will pursue a path of sustainable development, maintaining healthy and steady growth at a medium-high speed, upgrading the economic structure toward the medium-high end and bringing about sustained benefits to people. On the external front, China will deepen its opening strategy of mutual benefit, achieving the transformation from being the world's workshop of consumer items to being a key supply base of manufacturing equipment and realizing the common prosperity of China and the rest of the world.

ii) ***Objectives of foreign policy under the "New normal"***

China's economy has been a vital component of the world economy and China has become an important member of the international system now. China cannot realize its development while being isolated from the world and the world cannot have its prosperity and stability without China. As the Chinese economy shifts, can the world adjust to China's "new normal"? Can China maintain economic stability at home and effectively resist the downward pressure of the global economy? Because the impact of Chinese policies is now felt globally, China's foreign policy should advance with the times and adapt to its own "New normal".

Under the "New normal", China's current foreign policy has three main objectives. The first is to create a healthy external environment for domestic reform and development. This is because China must provide stronger safeguards for addressing problems in sustainable development in China and for the extension of China's legitimate rights and interests in the world. Though China is the second largest economy in aggregate terms, uneven growth is still the basic reality in China and a big developing country is still what China is. Given this basic reality, China's foreign policy must be brought to serve the country's domestic development by fostering a more stable and friendly external environment. So, China lays more emphasis on mutual benefit and boosting common development, scales up economic ties and policy coordination with countries around the world, expands complementary and win-win cooperation with relevant countries, and vigorously advances trade and investment liberalization and facilitation. China will strengthen friendly relations with all countries in the world, especially its neighbors; will continually pursue economic diplomacy and create more favorable conditions for the transformation and upgrading of China's economy; will firmly speak for developing countries and take concrete steps to uphold and expand the overall rights and interests of developing countries.

The second is to protect the lawful rights, interests, and safety of Chinese institutions and nationals abroad. In recent years, China's economic and political interests have been expanding across the globe, not to mention large numbers of its citizens traveling overseas. It is estimated that by 2020, the annual number of overseas visits by Chinese nationals will reach 150 million or more. When Chinese people travel abroad far away from home, they will inevitably encounter various kinds of difficulties or even risks. So it is natural that China should shield those who travel abroad with their dreams, and be a source of firm support they can count on. China must make every diplomatic effort to help Chinese tourists have safer journeys, to help Chinese students overseas get better education, create more favorable business environments for Chinese business people, bring warmth and regard to overseas Chinese, seek broader markets for Chinese goods, strive for better conditions for Chinese workers overseas, and provide stronger protection for China's ever-growing legitimate rights and interests. Anyway, as Wang Yi, the Chinese Minister of Foreign Affairs (see Fig. 4.10) said, China's resources and tools are still limited and its capacity not yet up to the task of consular protection, so China will focus more on preventative consular protection. Because only by merging with and benefiting the people can China win trust and support from the people.

Fig. 4.10 Wang Yi, the Chinese Minister of Foreign Affairs answered questions in the press conference on March 8, 2016.

The third is to establish the image of a responsible major country. China used to be a regional power in East Asia and desired to concentrate on domestic development; today's China has more confidence to take the responsibility of a big power in maintaining world security and promoting global development because of its growing strength and prosperity. And now China has a growing stake in global governance. As Thomas Christensen argues, "China has become far too big to stand on the sidelines – let alone to stand in the way – while others attempt to resolve issues." So, China will take an active part in international and regional affairs, put forward more Chinese proposals and play a bigger role in helping to resolve all kinds of global challenges and regional hotspot issues. This world is also going through a deep crisis of thinking and culture in modern civilization. In response, China hopes to promote, through its foreign policy, the Chinese culture, contribute Chinese wisdom to the handling of international relations, share China's governance experience, and provide Chinese solutions to improve global governance so as to provide more public goods for humanity to meet a variety of new challenges of the 21st century.

4.2.3 MAJOR-COUNTRY DIPLOMACY WITH CHINESE CHARACTERISTICS

The world today is undergoing changes as never seen before. Given the growing trend of economic globalization and the fast emergence of an information society, countries are forming a community of common destiny with more intertwined interests. At the same time, they also face more complex global challenges. How to uphold peace and advance development is the pressing task in front of the entire international community.

In recent years, the international community is generally interested in how a growing China will handle its relations with the outside world. Being committed to innovation in diplomatic theory and practice, the new Chinese leadership headed by President Xi Jinping has unveiled a series of major diplomatic ideas and steps on the basis of maintaining policy continuity and stability. For example, China has proposed a new model of major-country diplomacy. This is to break the historical pattern of conflict and confrontation between major countries and to find a new path in the modern era that seeks win-win cooperation to deliver benefits to all parties. It demonstrates both a new approach on the part of China to handle major country relations and China's sense of responsibility in the international community. China's major-country diplomacy has four key elements, which are: building stable relationships with other major counties, pursuing neighborhood diplomacy, establishing a global partnership network, and participating actively in global governance. This major-country diplomacy with Chinese characteristics has been reflected in a series of diplomatic events in recent years.

i) ***Xi-Obama summit***

China and the U.S. are both major countries. The Sino-U.S. relationship is absolutely vital – it may well be the most consequential bilateral relationship for nations in the world. On June 7–8, 2013, Chinese President Xi Jinping and U.S. President Barack Obama met at the Annenberg Estate in the United States and held strategic discussions (see Fig. 4.11). President Obama stated that the U.S. was willing to work with China as equal partners in dealing with many global challenges. President Xi hoped that China and the U.S. would work together and act as an anchor of stability and propeller of peace in the world. This meeting between the two heads of two major countries attracted worldwide attention and was called by Chinese people the Xi-Obama summit. Since 2013, the Xi-Obama summit has been held repeatedly. For example, in 2014, President Barack Obama paid a visit to China and the two presidents had in-depth evening discussions at Yingtai in the Zhongnanhai Compound, Beijing. The visit deepened mutual understanding and led to major progress in a wide range of areas, including climate response, reciprocal visa arrangements and confidence-building measures between the two country's militaries. The Xi-Obama summit is not only a symbol of the stable development of Sino-U.S. relations but also provides opportunities to enhance Sino-U.S. relations, becoming the "ballast" of those relations (Zhang, 2010). Even though the two countries have made progress on military and people-to-people exchanges in recent years, strategic competition between China and the U.S. is increasing; there is both cooperation and friction in the Sino-U.S. relationship. It is very important for both countries to stick to the principles of no conflicts, no confrontation, mutual respect and cooperation for win-win results.

Fig. 4.11 President Xi Jinping and President Obama held strategic discussions at the Annenberg Estate in the United States in June, 2013.

The Xi-Obama summit also reflects China's will to build a stable relationship with major powers like the United States, Russia, and the European Union, because world peace depends, to a large extent, on whether there is lasting peace between major countries. Yet historically, it seemed inevitable for major countries, especially emerging powers and established powers, to engage in competition and end up in confrontation or even conflict. In today's world, globalization has bound all countries closely together, greatly diminishing major countries' desires to opt for confrontation and offsetting the risks of conflicts and wars between those countries.

ii) ***South China Sea arbitration***

On July 12, 2016, the arbitral tribunal, appointed by the Permanent Court of Arbitration in The Hague, announced that China has no "historic title" over the South China Sea and no historic basis supporting its claims behind the "nine-dash line" in the waters. The disputed arbitration was unilaterally initiated by the administration of former Philippine president Benigno Aquino III in January 2013.

On the same day, the Foreign Affairs Committee of China's National People's Congress (NPC) issued a statement on the decision of the arbitral tribunal in the South China Sea arbitration. In this statement, the NPC said the Arbitral Tribunal disregarded the history of and basic facts about the South China Sea, misinterpreted and abused the power given by the United Nations Convention on the Law of the Sea (UNCLOS), and violated the general legal principles of international law. So the decision of the Arbitral Tribunal is thus invalid and China does not recognize it. The NPC also solemnly stated that China has sovereignty over the South China Sea Islands, consisting of the Dongsha Islands, the Xisha Islands, the Zhongsha Islands, and the Nansha Islands and no country, organization or institution is entitled to deny China's territorial sovereignty and maritime rights and interests in the South China Sea. The statement also criticized the Philippines' unilateral initiation of arbitration, saying that it breached the agreement between China and the Philippines to settle the relevant disputes through negotiation and violated the Declaration on the Conduct of Parties in the South China Sea.

On July 16, 2016, at Ulaanbaatar, Mongolia, Chinese Premier Li Keqiang promoted China's stance on the South China Sea issue during the 11th Asian-European Meeting (ASEM) Summit. Premier Li said that the South China Sea arbitration decision will have no impact on China's territorial sovereignty and maritime interests. He also said that China remains committed to settling the South China Sea disputes via dialogue and consultation with countries directly involved on the basis of historical facts and in accordance with international law, so as to safeguard peace and stability in the South China Sea.

China has attached a great deal of importance to neighboring countries and has proposed guidelines for its neighborhood diplomacy featuring amity, sincerity, mutual benefit, and inclusiveness. China wants to foster a more peaceful, stable and prosperous neighboring environment that sustains development; China wants help its neighboring countries and peoples benefit more from China's reform and opening. China is also willing to listen to voices from the neighboring countries and respond to their doubts about China's neighborhood policy. As for China's territorial and maritime disputes with neighboring countries, China maintains that proper solutions must be sought through dialogue and negotiation on the basis of fully respecting historical facts and international law. Pending the settlement of disputes over maritime rights and interests, parties may yet shelve differences and engage in joint development. But China's stance on issues of territory and sovereignty is firm and clear. China opposes actions that might expand and complicate the disputes. China prefers bilateral and regional maritime cooperation to turn the surrounding seas into seas of peace and friendship. China hopes the Asia-Pacific will be the testing ground of commitment to build a new model of major-country relations, rather than a competitive arena.

iii) ***Ebola outbreak in West Africa***

In February 2014, a deadly Ebola epidemic broke out in Guinea and later spread to Sierra Leone and Liberia, while other countries also reported cases of infection. The outbreak claimed thousands of lives in months and posed a great threat to those affected countries. Since the outbreak, China has provided several rounds of financial aid to Africa and sent hundreds of medical personnel and public health experts to the affected countries who trained local medical workers on the continent (Fig. 4.12). It is reported that China has sent emergency humanitarian aid worth a total of 700 million yuan (around 112.2 million U.S. dollars) to the epidemic-hit countries, becoming one of the biggest donors to the infected areas and playing an important role in coping with the epidemic. This is also the first time for China to offer help to foreign nationals undergoing a public health emergency.

Fig. 4.12 Chinese emergency humanitarian supplies arrive at Lungi International Airport in Freetown, Capital of Sierra Leone, August 11, 2014.

The close relations between China and Africa provide even more incentive for China to join global efforts to fight the Ebola outbreak. Chinese President Xi Jinping called China and Africa "good brothers, friends and partners" who will always help each other in times of need. The diplomatic vision of a "global partnership network" was expounded by President Xi Jinping firstly at the Central Conference on Work Relating to Foreign Affairs in 2014. Just as President Xi proposed, China would like to make more friends and build a global network of partnerships while abiding by the principle of non-alignment. The partnership China has initiated has three basic features: equality, peace, and inclusiveness. It seeks to go beyond differences in social systems and ideologies to maximize common interests and pursue a common goal. In today's world, the collective strength of developing countries is increasing steadily. China emphasizes both morality and interests in its exchanges with other developing countries and puts morality before interests. China will vigorously advance and protect the legitimate rights and interests of developing countries and establish a community of shared destinies with other developing countries.

iv) ***South Sudan attack***

An armored vehicle of the Chinese peacekeeping troops was hit by stray artillery fire in the camp of the headquarters of the United Nations mission in South Sudan at about 6:40 p.m. local time on July 10th. The attack killed two Chinese peacekeepers and wounded five others, and was the second deadly incident recently involving Chinese peacekeepers. On June 1st, a terror attack in Mali killed a Chinese peacekeeper and injured four others. As He Wenping, the researcher at the Institute of West-Asian and African Studies of the Chinese Academy of Social Sciences said, "the deeper China takes part in the UN peacekeeping, the larger security risks there will be for Chinese peacekeeping troops."

China began to pay its due to UN peacekeeping operations in 1982 and became a member of the UN Special Committee on Peacekeeping Operations in 1988. From declining to join peacekeeping operations in the 1980s to sending combat forces for the first time to war-torn Mali in 2014, China's contribution to international security missions has changed radically. Now China has become the largest contributor to UN peacekeeping operations of all the permanent members of the UN Security Council, sending not only engineers but also military and transportation experts, police and medical staff to operations. China's rise in peacekeeping operations is indicative of China's rise in global prominence, and commensurate with the international community's expectations of increased Chinese involvement in promoting peace and stability. By providing military support in war-torn regions, China indicates its rise on the global stage, as it no longer restricts its power to regional affairs. China can play a very valuable role by contributing well-trained, disciplined peacekeepers, and increasing the resources and expertise available for UN peacekeeping operations.

China's active participation in UN peacekeeping operations also reflects the concept of global governance advocated by Chinese leaders, and reflects Chinese traditional culture and the wish of Chinese people to build a peaceful world. In the current world, traditional and non-traditional security threats are entwined; financial risks, climate change, food security, cyber security and other global issues are becoming more acute. As a permanent member of the UN Security Council, China is conscious of its international responsibilities and obligations and stands ready to offer more public support and play its unique and positive role in addressing various issues and challenges in the world. Besides participation in the UN peacekeeping operations, China will continue to resolutely condemn terrorism and actively participate in international anti-terrorism cooperation; it will take an active part in the realization of the UN Millennium Development Goals and jointly address such global issues as climate change, cyber security, Polar Regions, and outer space. China will keep its foreign policy abreast of the times, contribute to the reform of the international system, and facilitate, in an enterprising and innovative spirit, the evolution of the international order toward a more just and equitable state.

Today, with China pursuing major-country diplomacy with Chinese characteristics, it is even more important to draw nourishment and strength from China's rich and profound cultural heritage and show to the world that the Chinese people are poised, confident, open, and enterprising. The goal of major-country diplomacy with Chinese characteristics is to help realize the Chinese dream of national rejuvenation and build a community of shared destiny for all mankind. The Chinese Dream belongs to the Chinese people, and it is closely connected to the dreams of other nations as the interests are all intertwined.

4.3 CULTURAL IDENTITY IN THE CONTEXT OF GLOBALIZATION

According to the Action Plan to Promote Cultural Development by Policies formulated by the United Nations Educational Scientific and Cultural Organization (UNESCO), a nation's development should be defined in terms of culture and cultural prosperity is the ultimate goal in the development of a nation (Ouyang, 2014). However, it seems that the current globalization process has been homogenizing the world's diverse cultures. Nowadays, consumers from Beijing to San Paulo to St. Petersburg download the same music, wear the same clothes, watch the same movies, and eat the same foods. At the same time, it is unlikely that language, religion, geography, and history will be easily transformed by Big Macs, music videos, and rampant patterns of consumption. But it is certain that the expansion of globalization is making the world smaller and all nationalities, countries, and regions will have their cultures communicated, clashed, and integrated. Because of this very reason, it is highly important to promote cultural identity and diversity in globalization.

Cultural identity refers to an individual in a certain culture who knows the identity of the culture, i.e., its history, evolution, features, and future. It can enhance self-awareness in the face of cultural change, to avoid cultural conflict and to build understanding and tolerance (Yu, 2007). China is a large country with a long history of culture. The Chinese civilization hold an unchallenged record of continuity, which has developed to date without any major interruption. And external cultural exchanges have been a long tradition in Chinese history. In this 21st century, while the reform and opening up since 1978 has led to rapid economic development and social transformation in China, it has also given rise to cultural pluralism. Hence the question of how to retain cultural identity while opening the economy is becoming important, because the issues of political and economic steadiness in globalization are closely intertwined with the maintenance of cultural identity. Meanwhile, as China's role expands in the international system, China is also hoping to create a more confident and pluralistic cultural identity.

4.3.1 REVIVAL OF TRADITIONAL CHINESE CULTURE

Because of its long history, the uniqueness of the Chinese language, the traditions of religion and philosophy, the inventions in areas such as medicine, shipbuilding, porcelain, etc, Chinese culture was very attractive and enjoyed a long-lasting predominance over the nations and tribes that surrounded it. However, China was defeated in the Opium Wars in the mid-1800s and forcefully brought into worldwide modernization by strong western firepower. This ushered in more than a century of humiliation, backwardness and bullying. During the Western-dominated modernization, the West challenged the essence of Chinese culture and caused the beginning of a perennial identity crisis. Modern China had a conflicted relationship with the modernization led by Western countries as well as with its own cultural tradition. On the one hand, the modernity represented by the West seems to be irresistible to any countries heading toward modernization; on the other hand, to maintain its traditional culture and identity, China must criticize the modernity that suggests Western centralism.

For most of the 20th century, traditional Chinese culture was repudiated by political forces and elites; cultural heritage was attacked constantly. Since the May Fourth movement in 1919, traditional culture has been held responsible for China's backwardness and inability to cope with the challenges coming from Western powers. After the establishment of the PRC in 1949, Marxism-Leninism, in combination with the thought of Mao Zedong, became the mainstream and official ideology. During the period between 1949 and 1978, traditional Chinese thought and other movements such as Western liberalism, positivism, pragmatism, idealism, and religion all declined. Traditional Chinese culture was regarded as "feudalistic" and "evil". The Chinese government tried to not only eradicate Western influence but also to root out the so-called Chinese "feudal" culture. Especially in the ten years of Cultural Revolution (1966–1976), traditional Chinese culture and anything associated with the past were destroyed.

Not until the Third Plenum of the Eleventh Central Committee of 1978, when Deng Xiaoping's reform policy was initiated, did traditional Chinese culture begin to revive. After the terrible destruction during the Cultural Revolution, there was almost no material sign left of the traditional Chinese culture. This consequently aroused a sense of void in the population and prompted soul-searching. The government gradually changed its approach to traditional culture in order to correct the excesses and errors of the Cultural Revolution. Since then, following the implementation of economic reforms, China has inevitably been exposed to western cultures and ideas. The influx of western people, capital, investments, information, and the market-related western cultures and values from the early 1980s onwards, aroused problems of cultural identity (Fig. 4.13). The Chinese people started to summarize and reflect on some issues, including the clashes between Chinese and western cultures and values. Regarding economic modernization as the top priority, the government also realized the significance of "building a socialist spiritual civilization". Due to China's unique history and splendid culture, which were different from the West, Deng Xiaoping put forward the key concept of "Chinese special characteristics" at the 12th CPC National Congress in 1982. Afterwards, the significance of reevaluating traditional culture was officially confirmed in the Resolution on "Guiding Principles for Building a Socialist Society with an Advanced Culture and Ideology", adopted at the Sixth Plenary Session of the 12th Central Committee of the CCP in 1986. Traditional Chinese culture was revalued and raised by the government in response to the challenge of Western culture and thoughts. And the culture was used to inspire national spirit, strengthen national dignity and confidence, display patriotic spirit, and withstand all external pressure.

Fig. 4.13 The T-shirt of the young man reads: "go with your feelings". As commerce flourished, China experienced a void of spiritual and cultural values.

At the beginning of the 21st century, a surge of Chinese classics fever appeared in China and even abroad. In 2002, the first Confucius institute was established at Renmin University of China and the institute has been promoting the in-depth study of Confucian thought since then. In 2005, the School of Chinese Classics was set up at Renmin University of China and this meant that teaching and research on Chinese classics was officially incorporated into the Chinese higher education system. Meanwhile, Confucianism, Taoism, legalism, military science, and traditional Chinese medicine again roused widespread interest in society. Traditional culture became newly in vogue. A TV program called "Lecture room" discussed traditional Chinese culture and became the most popular show in the country. (Fig. 4.14). This Chinese classics fever was introspection inspired by long-time criticism of traditional culture, was a positive response to the natural, social, and moral crises facing human society.

Fig. 4.14 Qian Wenzhong, a Chinese scholar who was invited to provide lectures on Chinese traditional culture in the popular television program called "Lecture room" hosted by CCTV.

The reasons why traditional Chinese culture became a hot topic could involve rethinking western modernity, opposing the U.S.'s unilateralism after the 9.11 terrorist attacks, or the discussion about the development model of East Asia, to name a few. Among them, the astonishing development of China was the primary reason. China's successful story in the era of the reform and opening-up has resulted in an increasing level of popular confidence in its culture and values. Securing Chinese culture in the context of globalization through consolidating the root of its traditional culture and developing this important resource was the deep-seated reason. Only those with national characteristics may become international. A cultural renaissance has increasingly appeared as a grand trend. The size of the Chinese economy and the efforts of the Chinese government in promoting Chinese culture are all effective driving factors for the preservation and promotion of traditional Chinese culture and the Chinese identity for the whole country.

How will civilizations co-exist against a backdrop of rapid globalization? Professor Fei Xiaotong, the famous Chinese sociologist, once proposed his concept of "cultural self-awareness," summarized in the axiom "each appreciates his own best, appreciates the best of others, and all appreciate the best together for the greater harmony of all." In his opinion, only by understanding clearly both China's own culture and others' cultures can Chinese people promote cultural identity and build a better future for mankind in a diversified world. Anyway, cultural identity is neither a matter of "returning to the old time" nor of total westernization and self-denial. It is to enhance self-awareness amidst cultural change, to be accommodated in a new environment, to choose one's own development in a new age, to avert cultural conflict, and to build understanding and tolerance.

China has achieved its goals of economic development in 30 years, which is something western countries took hundreds of years to do. During this time, it is certain that many social problems appeared. Chinese people should join together in an effort to solve these problems. Enhancing its cultural identity can improve national cohesiveness and China's cultural centripetal force. Nowadays, China has entered into a critical period of building a moderately prosperous society in an all-round way. Cultural development is facing enormous challenges because of multiple and varied ideas among people. Cultural identity is of great significance to achieve the great rejuvenation of the Chinese nation and enhance China's comprehensive national strength and international competitiveness. At this new historical stage, Chinese people should at first understand traditional Chinese culture, recognize its precious civilization's achievements and keep the essential part; they can then develop a new and suitable cultural system through cross-cultural communication and dialogue. The pendulum has swung. Western culture, which is the current mainstream culture of the world, will gradually give way to the oriental culture focused on Chinese culture (Ji, 2014). A 21st century civilization with Chinese characteristics will be the result of creative transformation from traditional to modern and a blend of Chinese and Western cultures.

4.3.2 CONTEMPORARY CHINESE CULTURAL EXPORT AND EXTERNAL EXCHANGES

From the beginning of the reform and opening-up to the end of the 20th century, economic development was given top priority and cultural development was given a secondary position in China. Entering into the new century, Chinese people realized that the soft power of culture is an important part of a country's competitiveness. At the same time, the improvement of people's living standards led to increasing demands on culture. So, China has included cultural development into the general structure of socialist undertakings with Chinese characteristics and has made great efforts in developing a national, scientific Chinese culture towards modernization, the world, and the future. Domestic cultural construction and revitalization pave the way for Chinese cultural exports and external exchanges. Meanwhile, against the backdrop of increasingly intensified cultural exchange and confrontation between China and the West, China needs to strengthen the international community's knowledge and understanding of Chinese culture in virtue of the "going global" strategy.

i) ***Chinese culture's "going global" strategy***

As early as 1997, the Central Committee of the CPC brought forward the "going global" strategy of Chinese culture. The promulgation of Opinions Concerning Further Strengthening and Improving Cultural Products and Services Exports in July 2005 and Some Policies on Encouraging and Supporting Cultural Products and Services Exports in 2006 marked the preliminary formation of the "going global" strategy of Chinese culture. In 2010, the Ministry of Culture developed the 2011–2015 Master Plan for Promoting Cultural Products and Services "going global" and accelerated the pace of Chinese culture's "going global". The two major purposes of the strategy are promoting external cultural exchanges to enhance mutual understanding between Chinese people and the peoples of the world and boosting export of Chinese cultural products and services.

Language is a big barrier for Chinese culture's "going global". Thus, China carried out the Confucius Institute development plan which focuses on language teaching and promotion. On November 21, 2004, China set up the world's first non-profit education organization – the Confucius Institute in Seoul, South Korea. According to the *2015 Annual Development Report of Confucius Institute*, by the end of 2015, the number of Confucius Institutes and Confucius Classrooms in 135 countries had reached 500 and 1,000 respectively with a total of 1,900,000 registered students. It is also an effective way to help the world understand China by delivering Chinese culture through the establishment of the Confucius institute. More and more people all over the world are getting the chance to learn the Chinese language and understand Chinese culture by attending Confucius Institutes and Confucius classrooms. When President Xi Jinping unveiled the plaque for the 1,000th Confucius Classroom in the UK on October 22, 2015 (Fig. 4.15), he delivered a speech in which he stated that Confucius Institutes serve as important platforms to help the world know China; Confucius Institutes and Confucius Classrooms have played an active role in fascinating people around the world to learn the Chinese language and understand Chinese culture; and they have also made great contributions to people-to-people exchanges between China and other countries as well as the development of a diverse and colorful world civilization.

Fig. 4.15 President Xi Jinping at the opening ceremony of the UK Confucius Institutes and Confucius Classrooms Annual Conference

Each year, about 10,000 Chinese teachers and volunteers are selected and sent to Confucius Institutes all over the world (Fig. 4.16). In addition to selecting teachers and volunteers from nationwide schools for teaching work, Confucius Institutes also nurture local faculty and train indigenous Chinese language teachers. Moreover, by the end of 2015, the Confucius Institute Headquarters has offered major Chinese teaching materials in the form of bi-lingual textbooks in 54 languages to students in universities and secondary and primary schools in more than 90 countries. Meanwhile, Confucius Institutes actively carry out cultural exchange activities, organize "Chinese Bridge" Chinese Proficiency Contests, hold Chinese examinations and offer scholarships, and invite foreign education officials, teachers, and students to visit China and experience Chinese culture. The Confucius Institute is an important institution for the international spread of Chinese, a bridge for the expansion of Chinese-foreign friendship, and a window for the world to know China.

Fig. 4.16 Teachers, volunteers and Cultural Experience Tourists at the Confucius Institute at Prince of Songkla University, Phuket, Thailand.

The Chinese government has also cooperated with many countries in holding Culture Weeks, Culture Years, Cultural Festivals, and Culture Tours to demonstrate the profound charm of Chinese culture. Additionally, the government has been keen on creating conditions to facilitate non-governmental cultural exchanges and encouraging cultural enterprises to go global through proper market operations in line with international practices. Chinese cultural enterprises have been encouraged to invest and operate abroad by establishing overseas wholly-owned enterprises, joint ventures, controlling enterprises, and sharing enterprises. On January 12, 2016, the Wanda Cultural Industry Group acquired Legendary Entertainment of the U.S. for $3.5 billion. This is by far the largest overseas acquisition of China's cultural industry, and it made Wanda Film Holdings the highest revenue-generating film company in the world (Fig. 4.17). By learning from the operational patterns of mature western markets, Chinese cultural enterprises could expand platforms and channels for cultural exports, as well as the market share of Chinese cultural products and services.

Fig. 4.17 Wanda Cultural Industry Group merged Legendary Entertainment on January 12, 2016.

Now Chinese culture is booming across the Chinese border, and flourishes over the whole globe in forms of Confucius Institutes, Chinese Cultural Festivals, Chinese arts, overseas performance, pop culture, etc. China, instead of being a unidirectional recipient as in the last century, is getting more and more involved in the development of the global entertainment industry and expanding its cultural exports gradually. The cultural identity of China, therefore, faces a new era of development with a prosperous outcome.

ii) ***Chinese culture's increasing global influence***

Language is the carrier of culture. Now Chinese has become one of the world's important languages with the advancement in China's status. Just as the popular song called *Chinese Language* is sung, "The whole world is speaking Chinese, and what we Chinese are saying now has to be heard by the rest of the world." For those who learn to speak Chinese as a foreign language, the learning process could be a process of cultural affiliation and a social and psychological integration with the native speaker's community. So, the spread of the Chinese language certainly helps in bringing Chinese culture and values to the whole world and globalization fosters their influence.

As one of the most easily-spread cultural goods, film's influence is usually bigger than books, music, and stage arts. The Chinese film industry is an important part of Chinese culture "going global." Film directors like Zhang Yimou have promoted the transitional development of Chinese films. *Hero,* directed by Director Zhang in 2002, topped the box office for two consecutive weeks in the U.S. in 2004 (Fig. 4.18). Since then, Chinese blockbusters have begun to enter into international markets. Led by kung fu films, the overseas box office receipts of Chinese films increased from RMB 500 million in 2002 to RMB 3.517 billion in 2010. American media reports in 2013 said that China had become an important competitor with Hollywood.

Fig. 4.18 *Hero*, directed by Zhang Yimou in 2002.

Traditional Chinese Medicine (TCM) is born of Chinese culture and there are a lot of enlightening views in Daoism, Confucianism, and Buddhism, the major schools of philosophy in Chinese civilization (He, 2015). The history of TCM can be traced back to antiquity. TCM is a dialectical and dynamic system which integrates theories such as the theories of *yin* and *yang* (the positive and negative forces; they not only depend on each other and oppose each other, but also tend to transform and alternate in waxing and waning), and *wuxing* (the five elements – water, fire, metal, wood, and earth; the relations between them are inter-promotion, interaction, over-action, and counter-action), and *jingluo* (Channels and Collaterals), of visceral manifestation, of treatment based on the differentiation of symptoms and signs, of pharmacology, of acupuncture and moxibustion, etc. Currently, TCM has been spread to many places all over the world and contributed much to the well-being of human beings. Tu Youyou, a Chinese pharmaceutical chemist, received the 2011 Lasker Award in clinical medicine and the 2015 Nobel Prize in Physiology or Medicine for her work in helping to create an anti-malaria medicine called Artemisinin. In her presentation at the Nobel Lectures in Physiology or Medicine in Stockholm (Fig 4.19), she said "Artemisinin is a gift from traditional Chinese medicine to the world and let's reach to a greater height to appreciate Chinese culture".

Fig. 4.19 China's Tu Youyou (2nd L), who won 2015 Nobel Prize in Physiology or Medicine, attends a lecture in Karolinska Institutet, Stockholm, capital of Sweden, Dec. 7, 2015.

Another Chinese citizen who has won the Nobel Prize is Chinese author Mo Yan. He was awarded the 2012 Nobel Prize for literature as a writer "who with hallucinatory realism merges folk tales, history and the contemporary" (Fig. 4.20). In his Nobel lecture, Mo Yan described himself as a storyteller and it was telling stories that earned him the prize.

Fig. 4.20 Chinese author Mo Yan received his Nobel Prize for Literature in the Swedish capital Stockholm on December 10, 2012.

Storyteller Mo Yan tells his stories well and has achieved great success. China, a nation of 1.3 billion people, has its own development patterns which are different from western countries; it has enough reasons to tell its own stories well and present renowned cultural brands to the world. The various cultural activities during the opening and closing ceremonies of the 2008 Olympic Games once again caught worldwide attention and displayed Chinese culture to the world. But Chinese cultural brands with core competence are still far from enough. Today's China needs to improve its soft cultural power, which refers to the cohesion, charisma, and influence of a country built through its core values and cultural production, trade, and services. In recent times, Chinese stories have been attracting attention. Animated cartoons such as Mulan and Kung Fu Panda have caught global eyeballs. In order to tell Chinese stories well, China should firstly explore globally acceptable topics with unique national cultural elements, and then seek common points while reserving differences and make a concerted effort and mutual cooperation with other countries to jointly promote the development and prosperity of world culture. After all, cultural diversity is a basic feature of today's world and an important driving force for the progress of human civilization.

4.3.3 "CHINESE DREAM" AND CULTURAL IDENTITY

A dream is an aspiration and an ambition. The Chinese people have been pursuing their ambition of realizing modernization for more than one century. Now China has become the world's second largest economy and an emerging global power. What will China do when it catches up with the western powers? In recent times, the phrase "Chinese Dream" has been widely circulated and cited by Chinese President Xi Jinping, officials at all levels, and different scholars as well as the mass media, both at home and abroad. In January 2014, a Chinese famous actor, Huang Bo, sang a new song called "My Needs Are Modest" at the Spring Festival gala (Fig. 4.21). In this song, the "Chinese dream" was plainly described in a popular way like this: "I can earn money, and still have time to go to Paris, New York and the Alps. I stroll through the shopping mall and go skiing in the mountains. Days like these are so carefree."

Fig. 4.21 Huang Bo sang the song about "Chinese Dream" on the Spring Festival gala 2014.

i) ***What is the "Chinese Dream"?***

On November 29, 2012, two weeks after he was elected as the General Secretary of the CCP, President Xi Jinping firstly put forward the idea of the "Chinese Dream" on a visit to the exhibition "The Road towards Renewal" at the National Museum of China (Fig. 4.22). President Xi described the "Chinese dream" as "national rejuvenation, improvement of people's livelihoods, prosperity, construction of a better society, and military strengthening." During the visit, President Xi claimed that the "Chinese dream is not only a national dream, but also the dream of every Chinese person. The realization of the dream must firmly rely on the people, and continuously benefit the people."

Fig. 4.22 President Xi Jinping viewing "The Road Toward Renewal" exhibition in Beijing along with other members of the Standing Committee of the CPC Central Committee Political Bureau.

In March 2013, at the closing meeting of the First Plenary Session of the 12th NPC, President Xi stressed again that the "Chinese Dream" is not a dream for the nation alone; it is the dream of people from all sections of society. He urged that "1.3 billion Chinese people should bear in mind the mission, unite as one, and gather into an invincible force with wisdom and power."

Actually, President Xi's proposal of the "Chinese Dream" is in line with China's preceding political causes and glorious missions like "Building a Well-off Society in an All-Round Way", as proposed by former President Hu Jintao. The "Chinese Dream" is defined by its ultimate goal to rejuvenate the Chinese nation and to enable a better life for 1.3 billion Chinese in a society where hard work is duly rewarded, the elderly cared for, the young educated, and the sick properly treated. The realization of family or personal dreams will help to make the state prosperous and vice versa. The CCP has set the "Two Centenary Goals" to realize the "Chinese Dream". According to the "Two Centenary Goals", China will become a moderately prosperous society in all respects by 2021, the 100th anniversary of the CCP, and an affluent, strong, civilized, and harmonious socialist modern country by 2049, the 100th anniversary of the PRC.

However, the "Chinese Dream" is a multifaceted, complex concept, which embraces the economic, political, cultural, social, and ecological aspects of China's modern civilization. It also embodies China's development goals, national consensus, future prospects and plans for the way ahead. The "Chinese Dream", a vivid and plain phrase, is significant both for enhancing the nation's cultural identity internally and shaping a positive image of China internationally.

ii) ***Why China needs a dream***

In May 2013, a film called *American Dreams in China* was released in mainland China and within just one month its box office returns reached RMB 500 million. Directed by Peter Chan, a famous Hong Kong director, this film took the New Oriental School as a prototype and depicted the 30 years since China's reform and opening up (Fig. 4.23). The story of this film takes place in mainland China in the 1980s and reflects common life-experiences in the past and today's Chinese society. Three average Chinese young men meet in Peking University and become close friends. Like many fellow students of that day, they also have the same "American Dream". After graduation, the three men separate and begin their different lives respectively. When they make a team again, they work jointly and manage to develop their training class into the "New Dream" Education Group. Finally, they realize their dreams and their company becomes the first listed education industry stock at the New York Stock Exchange. The name of this film precisely summarizes the theme of the film, that is, the "American Dream", which has been influencing Chinese people profoundly and widely, and is going to be replaced by "Chinese Dream" and the realization of the "Chinese Dream" is not only due to rapid economic development, but also the recovery of national self-confidence and an improving international image.

Fig. 4.23 A poster for the film *American Dreams in China*, directed by Peter Chan.

China's last thirty-forty years has witnessed great changes. China has shifted from an agricultural society to an industrial one, from a regional power to a global power based on different kinds of political and economic orders and roads. With China's growing comprehensive national strength, nowadays many Chinese firmly believe that they are in the process of moving from the edges of the world towards the center of a globalized world. China has already surpassed the point of "catching up with western modernization". At this moment, what Chinese people need to think about may be something quite different from before, such as: where is the country going and what future setbacks will it encounter? Have we learned adequately how to play the role of a great power? What are the core values and spiritual guidance of our current society? And for the whole country, in the absence of a cultural identity which can arouse national resonance, it would be very hard for China to become a real world power even as China has acquired strong hard power. Against the background of economic globalization and multicultural context, China needs to enhance its cultural identity to effectively construct a common cultural ideology.

China is a country with a long cultural history; China's soft power is rooted in the country's profound culture and history, and now is nourished by a prospering society. On the one hand, the proposal of the "Chinese Dream" brings to Chinese people strong cultural self-confidence and can enhance China's cultural identity. On the other hand, because international cultural exchanges become more frequent now, cultural clashes between different countries have been more and more common and obvious; the realization of the "Chinese Dream" needs the support from a strong cultural identity.

iii) ***Is it a global dream?***

In today's inevitably and necessarily interdependent world, a nation's dream will not work well if it does not take global conditions into account. Unfortunately, the world is now on its way to disorder. The financial crisis, the spread of terrorism and regional conflicts, and the dangers of climate change and pollution make no country secure. The world needs a global dream and to expect innovations in values, systems, and technologies that can benefit all peoples. China was historically a benign country and not a revisionist state. As China is playing an important role in the global arena now, China also hopes to contribute Chinese wisdom toward the improvement of global governance.

In the process of opening up, China has been open-minded in order to absorb all the finest achievements of other cultures through drawing on others' strengths and virtues. China also strives to learn from other nations for common prosperity, all of which is deeply rooted in such elements of Chinese traditional culture as harmony, which is the most precious; the gentlemen aims at harmony, but not at uniformity, while the mean man seeks uniformity rather than harmony. China upholds coexistence among various civilizations instead of conflict, dialogue instead of confrontation, interaction instead of isolation, and inclusion instead of exclusion.

On June 6, 2013, when meeting with U.S. President Obama at Indian Wells, California, President Xi Jinping said that "the Chinese Dream is about cooperation, development, peace and win-win, and it is connected to the American Dream and the beautiful dreams people in other countries may have". It is hard to foresee if the "Chinese Dream" will be a global dream, but a national dream must be related to a global dream, and a world of compatibility should replace the world of competition. China is committed to shouldering more responsibilities and obligations within its capabilities, and to making greater contributions to the peace and development of mankind.

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ABOUT THE AUTHORS

Dr. Jinliao He is an Associate Research Fellow at the Research Center of Human Geography, Nanjing University. He is also the Chief Secretary of Sino-German Association for Green City (AAGC). He obtained his PhD degree in human geography at Heidelberg University in 2013. After that, he continued two years' postdoc research at the same institute of Heidelberg University. His research interest lies in regional and urban policies for economic and sustainable development, creative industries and innovation networks.

As a junior researcher in human geography, he has over 20 publications in both international and national journals. He is the author for 3 books, including the monograph *Creative Industry District: An Analysis of Dynamics, Networks and Implications of Creative Industrial Clusters in Shanghai* published by Springer. He is also the review expert for several international journals, including European Planning Studies, Environmental and Planning B, Sociology Studies.

Ke He is a Chinese lecturer at Faculty of International Studies, Prince of Songkla University, Phuket Campus, Thailand. He obtained his Master degree in History of International Relations at Shanghai University in 2009. In 2008, he joined the Volunteer Chinese Teacher Program conducted by Hanban and worked for Confucius Institue at Phuket for three years. After that, he stayed at Phuket and became a university teacher. His research interest lies in traditional Chinese medicine and Philosophy, overseas Chinese and "the Belt and Road Initiatives". He has 8 publications in both international and national journals. He is also a reviewer for Journal of Faculty of International Studies, Prince of Songkla University.

Linlin Wei is an urban planner and is now a PhD candidate at Technical University Darmstadt, Germany. Her research interest lies in urban green and open space planning, especially on the planning and design of urban green infrastructure and the efficiency of urban ecosystem services provision.

ENDNOTES

1. "Shanzhai" means counterfeit products created by imitation and copying. Therefore, "Shanzhai" mobile phones refer to products made by informal manufacturers, which not only copy the appearances and functions of mainstream brands at a very low cost, but sometimes possess innovation to surpass the products they copied.
2. The Hoffman coefficient is also known as the Hoffman ratio, which refers to the net worth ratio of consumer goods sector to capital goods sector during a country's industrialization process. Based on different Hoffman coefficient, the industrialization process can be divided into 4 stages, the Hoffman coefficients of which are respectively 5 (±1), 2.5 (±1), 1(±0.5), and below 1. That is, with in-depth industrialization development of a country, the Hoffman coefficient will gradually decrease.
3. The Lewis turning point is the turning point from labor surplus to labor insufficiency. During the industrialization process, with the transfer of surplus rural labor to non-agricultural industries, there will be less surplus rural labor force and eventually a bottleneck state will be reached.