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Development and Planning in Seven Major Coastal Cities in Southern and Eastern China

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Preface

China's economic and social development is growing by leaps and bounds since the introduction of reform and open door policy in the late 1970s. Cities, coastal cities in particular, play very important roles not only in the process of industrialization and wealth accumulation, but also in the unprecedented pace of urbanization and regionalization. Numerous studies have focused on various dimensions of the development in the coastal cities, especially Shanghai and Shenzhen. The first 30 years of opening and reform was a period of capital, knowledge, and skill accumulation for the Chinese cities to catch up their counterparts in the developed economies and go back to the global economic platform. Fruitful achievements were found but problems and challenges emerged at the same time. Unsustainable way of development, the need of economic restructuring at both local and national levels, and the better way to intervene the further growth of cities *per se* are the examples. Thus there is no wonder that, in the next 30 years of opening and reform, sustainability, competitiveness, transformation, and so on should be the goals and focuses of development. From a British colony to a special administrative region of China, Hong Kong has been playing a crucial role in China's rise. With rapid development in mainland cities, Hong Kong is facing both challenges and opportunities. Chinese cities are now in a brand new spatio-temporal context, as well as new domestic and global circumstances. Therefore, the new directions and goals of development need special attention.

While numerous research efforts on individual Chinese cities can be found, there are not many special research projects dedicated to Chinese cities in general in recent years. For this reason, the authors are interested to examine the latest development of the selected seven leading coastal cities from three regions in Southern and Eastern China. They are Guangzhou, Shenzhen, and Hong Kong from Greater Pearl River Delta region, Fuzhou from the Taiwan Strait West region, and Shanghai, Hangzhou and Nanjing from the Yangtze River Delta region. The authors will empirically investigate the direction of socio-economic and urban development of the coastal cities in question, and will also theoretically analyze the approaches, courses, and models of urban and regional development. While major socio-economic plans and urban plans of the six mainland cities are studied,

Hong Kong is examined by a case study of the challenges and responses of its logistics industry in the context of rising mainland cities. Thanks are due to Prof. Xiaolong Luo at the Department of Urban Planning and Design, Nanjing University for his help in the preparation of Chap. 7 on Nanjing. Ms. Ting Jin provided needed research assistance in the research of the logistics industry in Hong Kong for the Hong Kong chapter (Chap. 8). Dr. Lei Wang has helped to read the draft of the whole book. The project is supported by the Research Centre for Urban and Regional Development of Hong Kong Institute of Asia-Pacific Studies (HKIAPS), the Chinese University of Hong Kong.

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Abbreviations and Acronyms

1PL	First-party logistics
2PL	Second-party logistics
3PL	Third-party logistics
4PL	Fourth-party logistics
ASEAN	Association of Southeast Asian Nations
BVI	British Virgin Islands
C&E	Convention and exhibition
CASS	The Chinese Academy of Social Sciences
CBD	Central business district
CEPA	Closer Economic Partnership Arrangement
CMG	China Merchants Group
CPC	Communist Party of China
CTSHK	China Travel Service (Hong Kong) Limited
CUE Forum	Forum for the Coordination of the Urban Economy of the Yangtze River Delta Region
ECFA	Economic Cooperation Framework Agreement
EDI	Electronic data interchange
EIA	Environmental impact assessment
ETDZ	Economic and technological development zone
FDI	Foreign direct investment
FTZ	Free trade zone
FYP	Five-year plan
GDP	Gross domestic product
GOVI	Gross output value of industry
GPRD	Greater Pearl River Delta
GVC	Global value chain
HIT	Hongkong International Terminals
HSR	High-speed railway
HZMB	Hong Kong–Zhuhai–Macao Bridge
ICT	Information and communications technology

ISO	International Organization for Standardization
IT	Information technology
KMT	Kuomintang (Chinese Nationalist Party)
LSP	Logistics service provider
MTL	Modern Terminals Ltd
MTR	Mass Transit Railway
NDRC	National Development and Reform Commission
NIEs	Newly industrializing economies
OCC	Open coastal city
OEM	Original equipment manufacturer
PPRD	Pan-Pearl River Delta
PRD	Pearl River Delta
PUA	Peri-Urban area
PVG	Shanghai Pudong International Airport
R&D	Research and development
RFID	Radio frequency identification
RHQ	Regional headquarters
SAR	Special administrative region
SCM	Supply chain management
SEZ	Special Economic Zone
SME	Small- and medium-scale enterprise
TEU	Twenty foot equivalent
TNC	Transnational Corporation
TSE	Time-space envelope
UMP	Urban mega project
VAL	Value-added logistics
WCN	World city networks
YRD	Yangtze River Delta

Pinyin Terms and Chinese Characters

(in order of *pinyin terms*, traditional Chinese, simplified Chinese, and explanation)

bao zengzhang, kuo neixu, tiao jiegou
保增長,擴內需,調結構/保增长,扩内需,调结构
ensure the growth, expand the domestic demand, and transform the economic structure

boai zhidu
博愛之都/博爱之都
a title for Naning city, means a universal care city

chengshi dongkuo, lvyou xijin, yanjing kaifa, kuaijing fazhan
城市東擴,旅遊西進,沿江開發,跨江發展/城市东扩,旅游西进,沿江开发,跨江发展
a policy of Hangzhou, to expand the urban area eastward, develop tourism industry westward, and develop along the two sides of Qiantang River

danwei 單位/单位 work unit

hukou 戶口/户口 household registration

jiadian xiaxiang 家電下鄉/家电下乡
the measures of home appliances sales with government subsidy in rural areas

jihua danlie shi 計劃單列市/计划单列市
a city listed separately in the national socio-economic plan

renminbi 人民幣/人民币 the currency of mainland China

sanlai yibu 三來一補/三来一补
a model of investment found in the early period of opening

sannong 三農/三农 agriculture, villages, and farmers

sanshi erli 三十而立/三十而立
the age of 30 years alludes to the time when one becomes firmly established

sanzi 三資/三资 a collection of three types of foreign invested enterprises

shisan hang 十三行/十三行

the "thirteen factories" established in the eighteenth century on the bank of Pearl River, Guangzhou

shisan yiguan 十三夷館/十三夷馆 another term of *shisan hang*

shuang zhuanyi 雙轉移/双转移

the strategies of industrial transfer and labour force transfer between PRD and other parts of Guangdong province, to transfer labour intensive industries from PRD to eastern, western, and northern Guangdong, to transfer labour force to secondary and tertiary industries in eastern, western, and northern Guangdong, and to transfer advanced labour force from eastern, western, and northern Guangdong to PRD

Sunan 蘇南/苏南 Southern Jiangsu

Sunan model 蘇南模式/苏南模式

a famous industrialization model in Southern Jiangsu in the early economic reform period

tenglong huanniao 騰籠換鳥/腾笼换鸟

an industrial strategic policy to give up low-end, highly polluting and labour intensive manufacturing industries and attract high-end, high-technology ,and environmental-friendly industries

Wenzhou model 溫州模式/温州模式

a famous industrialization model in Wenzhou, Southern Zhejiang in the early economic reform period

Xihu 西湖/西湖 West Lake, Hangzhou

Yinxiangxihu 印象西湖/印象西湖 the name of a show in *Xihu* (West Lake), Hangzhou

Zhujiang 珠江/珠江 Pearl River, Guangzhou

Chapter 1
Introduction

1.1 The Rise of Cities and the Roles of Cities in China

What is a *city*? Why this volume pays special attention to the rise of cities? Speak as a layman, cities are the places where over half of the global population live and work now. Cities are constructed settlements with good provision of facilities that can meet people's basic needs and additional desires; but cities also often have problems such as pollution and traffic congestion. If people, such as many mainland Chinese who are bounded by the existing household registration system, were able to choose freely without any cost and restriction, they would probably choose to live in a city with comfortable and clean environment, a harmonious but competitive society that is attractive to the world and full of economic and investment opportunities, so that they could enjoy their lives and develop their careers. This is probably a utopian environment that is hard to achieve, but it is true that more and more cities are pursuing higher social and economic competitiveness. Therefore, cities compete against each other both regionally and globally (Shen 2004a). These pictures shape our understanding of the nature, function and positioning of cities, as well as the importance of cities to regional and global economies, and their changes in recent decades. We will further elaborate and define the *city* concept in the next section. This study will investigate the recent development of cities and the ways these cities sustain their development in a multi-disciplinary perspective, with special attention paid to seven major cities in coastal China, which is the most developed region of the country.

Our interest to cities and the discussion start from the geo-political economic perspective. Some scholars and studies have recognized the importance of city economies to nation states and the world:

> The city not only is the place wherein growth occurs…but also is the engine of growth itself (depending on how cities interact, growth may or may not take place) (Duranton 2000, pp. 291–292).

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> We live in an urban world. Half of the world's population already lives in cities, generating more than 80 percent of global GDP today…By 2025, we expect 136 new cities to enter the top 600, all of them from the developing world and overwhelmingly (100 new cities) from China. These include cities such as Haerbin (Harbin), Shantou, and Guiyang (McKinsey Global Institute 2011, p. 1).

The concept that city is the engine of economic growth (Yeung 2000a), as mentioned by Polèse (2005, p. 1429), has gained ground in the scholarly literature, although the argument of its causal relationship with the national economic growth is controversial. Cities and national economy, undoubtedly, are closely linked and interdependent. Primate or large cities (and often the city-regions), such as New York, Shanghai, Bangkok and Jakarta, usually account for a disproportionately large share of national economies and population with their relatively small size of land area. Compared with cities in Western Europe and North America, the socio-economic and urban development of their counterparts in East and Southeast Asia were once "backward", at least lagged behind in most of the twentieth century, with Japanese cities as the exceptional cases. As a study on the worldwide largest city economies shown, in 2008, there were only eight Asian (Pacific) cities among the top 30 urban agglomerations, including Tokyo, Osaka/Kobe, Hong Kong, Singapore, Sydney, Seoul, Shanghai, and Mumbai; while the remaining 22 cities were in Europe and America, including four Central and South American cities (PricewaterhouseCoopers 2009).

The impetus of latest economic globalization, the application of information technology (IT) (including the development of communication infrastructure) and technology advancement, the prevalence of post-Fordist production mode, and the soaring foreign investment activities since the 1970s have significantly led to the rising importance of urban economy. Countries, cities, and people are getting closer through increasing flows of factors of production (Yeung 2000a). Some scholars have predicted the emergence of "borderless (broader) economy" in a "borderless world" (Ohmae 1990, 1995a, b; Horsman and Marshall 1994), and there have been increasing free flows of capital worldwide. But the counter argument for the irreplaceable role of the (capitalist) state in globalization has also been raised (Yeung 1998). Brenner (1998, p. 8) argues that the current round of globalization is creating a new global city-centric capitalism. Particularly in those countries with centralized administrative systems, the decentralization of authority from the central government has further consolidated the role and functions of cities and city-regions (the local decision-making process) in socio-economic development (Scott 2001), which is a kind of rescaling the scalar relationship of governance (Shen 2005). It is indeed close to the standpoints of scholars favouring weak globalization that "nation-states remain key sources of legitimacy and delegators of authority" (Sum 2002). As the concept of global city or world city has come into stage (Friedmann 1986; Friedmann and Wolff 1982; Hall 1984; Sassen 2001), cities such as New York, London, Tokyo, and Hong Kong have been classified as leading cities in the global city hierarchy of advanced service economy (Derudder et al. 2010; Taylor et al. 2011). There is not only a trend towards territorial centralization of controlling functions of advanced economic services in these global cities (Shen 2004a), but

also a rising trend of the role of these local states in urban governance (Dunning 1995; Macleod and Goodwin 1999).

It is well known that the United States and Western Europe, particularly the former, led the recovery and further boosted the global economy after the Second World War in the capacity as developed economies. Japan stood out solely in Asia. After the 1970s, benefited from a new round of industrial shift—known as the flying-geese model (Bernard and Ravenhill 1995) and the new international division of labour under the economic globalization, the newly industrializing economies (NIEs) in Asia—Hong Kong, Taiwan, Singapore, and the Republic of Korea rose dramatically. Later Hong Kong and Taiwan became two key capital contributors in the subsequent rise of mainland China in the 1980s. Although the flying-geese model somewhat understated the significance of China (Drover et al. 2001), the rising importance of Asia in the global economy was led by the resurgence of China since the 1980s and the rise of Southeast Asian countries in the 1990s and 2000s, despite the impact of the Asian financial crisis in 1997 and 1998, as well as the economic recession (the burst of bubble) in Japan for about two decades. There were significant changes and improvement among East and Southeast Asian economies, for example the increase of GDP and trade volume, the boost of urbanization level, and the increasing number of cities. All these constitute important background for the change of cities, including those in Asia (McGee 2004). Particularly, China has been playing a heavier role in the stages of regional and global economy and politics. In recent years, there is even an allegation that the economic centre of gravity is shifting from Europe to Asia; China and India will become the new centres and Asian cities are gaining ground in the global economy (Ekman 2011; Grether and Mathys 2010; McKinsey Global Institute 2011, 2012, pp. 16–17; Quah 2010).

Throughout this astonishing period of development in East and Southeast Asia, cities have been playing an irreplaceable role. There are a few characteristics. First, the largest cities are also the primate cities of some developing countries, such as Kuala Lumpur, Jakarta, Bangkok, and Manila (Ginsburg 1955; Lin 1994; McGee 1967, 2002), while Tokyo, Seoul, and some other cities are also the key cities in their own countries (Lo and Yeung 1996, 1998). They have the overwhelming strength in the economic, social, cultural, and political realms, and have strong agglomeration and influences in the country,[1] if not also represent their respective countries in the world.

Second, there are different kinds of urban forms of city expansion demonstrating the changing relationship between cities and their surrounding region, particularly in the time of economic globalization. Besides the basic one of a central city with a hinterland, the more common form is conurbation (Scott 2001, p. 4), such as desakota, urban corridor, megalopolis, extended metropolitan regions, metropolitan interlocking regions, city-regions, and mega-city-regions, with connection and

[1]For example, in 2000, Seoul, Bangkok, and Tokyo accounted for 23, 43, and 18 % of their national GDP respectively (Yeung 2000a).

variation among them, basing on different degrees, scales, and areas of cooperation and integration (Choe 1998; Gottman 1976; Hall 1999, 2004; Hall and Pain 2006; McGee 1991; Scott 2001; Sit 2005; Yeung and Lo 1996; Zhou 1991).

Third, some cities have gained the world city/global city status recognizing their successful development in the global economic platform with rules set by their western counterparts. Hong Kong, Tokyo, and Singapore are the three major representatives in Asia. These three cities have strong urban competitiveness and have been recognized as the global financial centres or worldwide commercial centres (*for example, see* Derudder et al. 2010; Economist Intelligence Unit 2012; MasterCard Worldwide 2008; Taylor et al. 2011; Z/Yen Group 2015). Seoul, Taipei, and Manila are also world cities in Asia (Lo and Yeung 1996), while Beijing, Shanghai, Shenzhen, and some other Chinese and Indian cities are the emerging world cities with recognized potential. For example, the aforementioned study by PricewaterhouseCoopers projects that, by 2025, one-third of the top 30 urban agglomerations will be in Asia. Beijing, Delhi, and Guangzhou are among the new contenders (PricewaterhouseCoopers 2009). Another similar study even projects that by 2025, among the top 25, there will be seven Chinese cities in the top GDP list and 16 Chinese cities in the top GDP growth list (McKinsey Global Institute 2011),[2] echoing the statement of the shift of the world's economic centre of gravity. The rise of Asian and Chinese cities should not be a big surprise as a study by the United Nations (1991) in the early 1990s revealed already the momentum of urbanization and emergence of megacities in Asia.

Since the economic reform in the late 1970s, China experienced a three-decade period of rapid economic development, represented by the skyrocketed GDP volume and foreign currency reserves. China's economic connection to the world has intensified after joining the World Trade Organization in 2001 and it is now the second largest economy in the world after the United States.

In terms of urban development, China reached a crucial milestone in 2011. Its urban population reached 690.79 million, accounted for 51.27 % of the total population of the most populous country in the world (National Bureau of Statistics of China 2012). It is the first time in the Chinese history that the proportion of urban population reached the 50 % benchmark. In 2013, China has 659 cities, including county-level cities, prefecture-level cities, and municipalities under the direct administration of the central government. Among 290 prefecture-level cities and above, 47 were mega cities and 86 were ultra-large cities. In terms of spatial distribution, it is well known that Eastern China—the most developed coastal region—accommodates the most cities (Table 1.1) (Organization of Urban Socio-Economic Survey 2011).

As predicted by another McKinsey Global Institute study, the share of urban population would probably reach over 70 % and the urban economy would generate over 90 % of China's GDP by 2025 (McKinsey Global Institute 2009). Therefore, the picture ahead is crystal clear that there will be more urban population

[2]Among these Chinese cities, Hong Kong and Taipei are included.

Table 1.1 Number and the spatial distribution of cities in mainland China, 1999 and 2013 (Reproduced from Organization of Urban Socio-Economic Survey 2001, 2014 and compiled by authors)

Administrative level	Year 1999 figure/Year 2013 figure			
	Eastern[b]	Central[b]	Western[b]	Total
Prefecture-level cities and above				
-mega[a]	11/29	5/10	4/8	20/47
-ultra-large[a]	27/32	20/27	18/27	65/86
-large[a]	33/32	36/45	17/27	86/104
-medium-sized[a]	26/8	22/18	13/25	61/51
-small[a]	0/1	2/0	2/1	4/1
-sub-total	97/102	85/100	54/88	236[c]/290
County-level cities	183/157	140/128	104/84	427/369
Total	280/259	225/228	158/172	667/659[d]

Notes [a]The classification of prefecture-level and above cities is according to the number of urban population in all districts of a city, excluding the population of county-level cities under the administration of a prefecture-level city. According to the definition of the City Planning Law of the People's Republic of China, a small city means one which has a non-agricultural hukou population of less than 0.2 million in its urban and inner suburban districts, a medium-sized city 0.2–0.5 million, and a large city 0.5–1 million. The country statistically considers 1–2 million an ultra-large city and over 2 million a mega city. This law was annulled on 1 January 2008 and replaced by the Law of the People's Republic of China on Urban and Rural Planning. As the latter does not provide any relevant definition, this monograph keeps using the above definition. The State Council issued a new standard finally in November 2014 with the following classification which is based on usual residents instead of non-agricultural hukou population in a city: Small city type II: <0.2 million; small city type I: 0.2–0.5 million; medium-sized city: 0.5–1 million; large city type II: 1–3 million; large city type I: 3–5 million; ultra large city: 5–10 million; and mega city: >10 million. For reference, please see "State Council on the Adjustment of the Standard of City Size Classification", http://www.gov.cn/zhengce/content/2014-11/20/content_9225.htm

[b]Eastern China includes provinces and municipalities of Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan. Central China includes provinces of Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, and Hunan. Western China includes provinces, municipality, and autonomous regions of Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, and Xinjiang. Hong Kong, Macao, and Taiwan are outside of mainland China and not classified

[c]The total of prefecture-level cities and above in 1999 should be 240. However, four cities were failed to be categorized, one from Eastern (Fujian), two from Central (Shanxi and Heilongjiang), and one from Western (Tibet)

[d]The total number of cities here (659) is slightly different from the official figure (658) due to the counting of county-level cities. While two county-level cities of Xinjiang newly established in 2012 were not in the official statistical table, one county-level city from Zhejiang was cancelled and changed to urban district in 2013 but it was still counted in the statistical table. One county-level city from Jiangxi was cancelled and changed to urban district in early 2014. Hong Kong, Macao, and cities in Taiwan are not included

living in more cities in the coming decade in China. This process is not reversible. Cities, those coastal cities in particular, are going to play a key role in national socio-economic development in the coming future. They need to echo the call of the country to encourage domestic consumption and to reduce the heavy reliance on

export and incoming investment for the development of the Chinese economy. Cities have already played their parts in the industrialization of the country in the past three decades. Their roles in the other two legs of the development of the country—urbanization and domestic consumption market—will not be less. Then, the sustainable development of cities, if not only coastal cities, becomes an important issue, which is driving the continuity of economic growth of the country. The making of goals, directions, approaches, and so on of urban and regional development are essential matters.

This volume focuses on the development of seven selected coastal cities in the People's Republic of China, namely Guangzhou, Shenzhen and Hong Kong in the Greater Pearl River Delta (GPRD) region, Fuzhou in the Taiwan Strait West Coast region, and Shanghai, Hangzhou, and Nanjing in the Yangtze River Delta

Fig. 1.1 The locations of the seven coastal cities studied (Reproduced from Google Maps base map)

(YRD) region (Fig. 1.1). These seven cities are the central cities in the three major economic regions in China, Southern and Eastern China to be specific. They also have high administrative division status and high administration ranking. See Appendix for further introduction. Hong Kong—a former British colony—is a Special Administrative Region (SAR) under the direct administration of the central government with high degree of autonomy in such as social, economic and urban development; Shanghai is a municipality under the direct administration of the central government. Hong Kong and Shanghai have the highest administrative division status among all these seven cities. Guangzhou, Hangzhou, and Nanjing are provincial capitals; they are prefecture-level cities and have the vice-provincial level authority in economic and law administration. Fuzhou is a prefecture-level city and provincial capital. Shenzhen is a prefecture-level city, a vice-provincial level city and a Special Economic Zone. Before giving a brief introduction of each of the seven chapters, the following sections are going to outline first the key theoretical discussion and study approaches to cities and urban and regional development.

1.2 The Rise of Chinese Cities

The launch of the economic reform in China in 1978 was, intentionally or adventitiously, riding on a series of worldwide economic and political changes since the 1970s, which has been identified as the economic globalization and the neo-liberal turn (Harvey 2005). Specifically, these changes took place due to the transformation of modes of manufacturing and the international division of labour, by shifting the labour-intensive manufacturing activities from the advanced economies such as the United States and Japan to those low cost developing economies. This shift facilitated and was facilitated at the same time by the development of transnational corporations (TNCs). By the early 1980s, Taiwan and Hong Kong became the NIEs in East Asia and their economies were relatively more developed than the one in mainland China. The opening of China provided a familiar and yet unfamiliar destination[3] for the capitalist entrepreneurs in Hong Kong and Taiwan to carry out industrial investment and transformation, although the advantageous of China's low land and labour cost were very attractive. Based on a strong political consideration, the Beijing government not only designated Guangdong and Fujian as the windows to the world, but also decentralized the authority to local governments to carry out marketization and other social and economic development trails. Scholars identified that globalization, decentralization, and marketization were the three key processes driving the regional development in China (Shen 2007; Wei 2001).

[3]Although the then mainland China was the hometown of many overseas Chinese entrepreneurs and investment could be made via their family ties and social networks, they were unfamiliar with their hometowns and the business environment and had no confident in the new/evolving market systems and the communist political regime.

Being the pioneers of the economic revolution, Guangdong and Fujian provinces experienced rapid social and economic development in the 1980s, which led to the rise of famous cities of Shenzhen, Zhuhai, Guangzhou (Fig. 1.2), Xiamen, and Fuzhou. The PRD region even became the top economic engine of China and the "world factory". The development of Shenzhen from a tiny town to a mega city with over 10 million residents within 30 years has been identified as a miracle in the history of China and city development (Yeung et al. 2009). The success of the PRD cities was followed by the subsequent rise of the YRD cities in the 1990s, led by Shanghai, Hangzhou, and Nanjing; and the rise of Bohai Bay cities in the 2000s, led by Beijing and Tianjin. This regionally inclined strategy has not only allowed these coastal cities to link with the global economy, a trio pattern (PRD, YRD, and Bohai Bay) of regional economy in Chinese economic development has also been established. A decade into the twenty-first century, cities, urban clusters, and regions in other parts of the country are now emerging as the new economic engines of China. Regional development, with major cities as the core, is now a de facto national strategy of China (Fang et al. 2011; Yao et al. 2006; Yeh and Xu 2008).

There are different factors leading to the rise of cities in China. Some cities developed into transportation hubs based on their strategic location, such as Wuhan in central China. For most coastal cities, if not all, the most critical factor leading to their latest rise should be export-oriented manufacturing, commerce, and trade, i.e. industrialization and globalization. The export-oriented manufacturing dominated the economic revolution in the early stage. The "front-shop, back-factory"

Fig. 1.2 High-rise buildings on the two sides of the Pearl River, Guangzhou; similar landscape in other Chinese cities (taken by the authors in July 2013)

(or *Zhujiang Delta*) model in the PRD region, the *Wenzhou* model in Zhejiang, and the *Sunan* model in southern Jiangsu are the three most distinctive models in China's industrialization (Fei 2004; Liao and Chan 2011; Sit and Yang 1997). These models involved different investors (such as foreign investment, domestic collective and private capital, and local governments) and different types of investment (such as *sanlai yibu* and *sanzi*,[4] township and village enterprises, state-owned enterprises, joint venture, and sole investment). Although cities have been developing in different models, they converge to the same outcome of urbanization and rapid economic development.

By the early 1980s, urban population only accounted for less than 20 % of the total population in China. These emerging industrial activities led to massive movement of population from rural areas to urban areas, and from inland regions to different coastal regions hunting for jobs, which provided the coastal cities ample cheap labour force. Besides the expansion of cities, there are many urban settlements developed from small towns and villages to cities at different scales, both in terms of larger physical size and higher order in administrative division hierarchy. These two mechanisms were identified as state-sponsored and spontaneous urbanization, which are two major tracks of urbanization in China (Shen et al. 2006). There has been massive investment in urban infrastructure and transportation systems connecting various cities that encourage the flows of people and other factors of production. However, the floating population of some cities, such as Shenzhen and Dongguan, are overwhelmingly more than the registered (*hukou*) population. They have created various social welfare provision challenges and public security problems to these cities, especially in the 1980s and 1990s. In addition, to accommodate the increasing population and to grasp more investment opportunities, these coastal cities have experienced rapid but at the same time chaotic physical construction and urban development, including poorly planned urban renewal and urban sprawl in some cases.

To reverse such conditions and for the long-term development needs, urban sustainability and competitiveness are emphasized. Both scholars and governments have proposed new goals and paths of urban development, which is also a key task of the new leadership of the central government and the Communist Party of China.[5] Next section offers theoretical discussion on some key features and issues related to the characteristics and challenges of the development of Chinese cities.

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[4] *Sanlai yibu* refers to the commissioned intermediate processing with the supply of raw materials, components, or samples by Hong Kong manufacturers and the compensation trade (Maruya 1998, p. 79). *Sanzi* refers to three types of foreign invested enterprises and they are joint venture, sole ownership, and technical cooperation.

[5] As an important issue directing the future development of the country, both the central government and the CPC under the leadership of Xi Jinping pay special attention to urbanization. For example, it was a key topic in the Third Plenary Session of the 18th Central Committee of the Communist Party of China (http://news.xinhuanet.com/politics/2013-11/12/c_118113455.htm). The CPC also held a special work meeting for urbanization in December 2013 (http://www.gov.cn/ldhd/2013-12/14/content_2547880.htm).

1.3 Characteristics and Challenges of Coastal Cities' Development

Undoubtedly, cities have played the principal role in the latest socio-economic development in China with their brilliant achievements such as economic agglomeration and capacity, urban construction, quality of life, and social provision. The rise of coastal cities, since the establishment of 4 special economic zones in 1980 and 14 open coastal cities in 1984, has constituted unique spatial–temporal structures in China. Server problems, however, have also been brought up and are worsening in the cities, threatening their sustainable development.

According to Ye (2007), cities should be the centres or bases of (1) social and economic development of a region, (2) non-agricultural industries with higher production efficiency, and (3) modern (material and spiritual) civilization. Pierre (2011), in studying urban governance, also saw cities as the carrier of urban governance as civilization, economic, social, and political creatures accommodating recurrent meeting of groups of people and of political, social, cultural, and economic exchange. For most coastal cities in China, especially the seven cities under investigation, they should have fulfilled these criteria properly, especially the first and second criteria proposed by Ye (2007). Hong Kong is the most urbanized city and performs modern civilization outstandingly (*see* Fig. 7.5). Moreover, based on current circumstances in China, these coastal cities bear also the duty of serving as the bases of innovative trials for sustainable development. On the other hand, the most basic definition of urbanization is the process of transformation of a country/region from a traditional agrarian society to an industrial society, i.e. the process of becoming urban, with such criteria as, from the geographical perspective, the increasing proportion of people living in urban areas; from the sociological perspective, the transformation of the way of life (urbanism); and from the economic perspective, the change of industrial structure and the higher consumption level (Johnston et al. 2000; Sit 1985; Ye 2007). We now review these criteria for the coastal cities in this section.

Tables 1.1 and 1.2 present the significant changes of the number of cities and the proportion of people living in cities in mainland China from 1999 to 2013. While the total number of cities and the number of county-level cities dropped over a decade, the number of prefecture-level cities increased. Although the number of prefecture-level cities and above in Eastern China increased by only five (from 97 to 102)—the least among Eastern, Central, and Western China, the coastal region has the most prefecture-level cities and above (102) (especially mega and ultra-large cities), county-level cities (157) and the total (259) in 2013.

Furthermore, Table 1.2 presents the change of the proportion of people living in prefecture-level cities and above. Prefecture-level cities in Eastern China not only had the most people (195.61 million in 2013),[6] the absolute number of increase was

[6]This is the number of population in urban districts only.

Table 1.2 Population of prefecture-level cities and above, 2013 (Reproduced from Organization of Urban Socio-Economic Survey 2001, 2014 and compiled by authors)

Region	1999 (million)			2013 (million)		
	Whole city (a)	Districts only (b)	b/a (%)	Whole city (a)	Districts only (b)	b/a (%)
China	974.27	260.18	26.71	1277.86	414.25	32.42
Eastern	432.23	120.98	27.99	500.61	195.61	39.07
Central	334.13	79.80	23.88	445.56	112.13	25.17
Western	205.21	59.41	28.95	331.68	106.51	32.11

Note Only population of mainland Chinese cities counted here; population of Hong Kong, Macao, and Taiwan cities are excluded

also the largest (over 74 million in 14 years). The relevant figures of Central and Western Chinese cities were about 32 million and 47 million respectively.

These two sets of data reveal the features that (1) the concentration tendency of cities and population in the coastal and central parts of the country, particularly the coastal region; and (2) the implementation of the Western Development policy since 2000 did speed up the urban development and agglomeration of people in the western part of China (Fig. 1.3). (3) Based on the economic strength and stages of development, coastal region found mainly mega, ultra-large, and large cities; Central China found mainly mega and large cities; and Western China found mainly ultra-large, large, and medium-sized cities. This also led to (4) the condition that, due to the smallest land area of the coastal region, the coastal region had the highest population density.[7] The fact that the coastal cities experienced the largest growth rate of population should be partly due to the global financial tsunami in 2007 and 2008 that sped up again the previously slowing down urbanization process in China (Ni et al. 2011). The phenomenon of migration from small cities to medium-sized cities and from medium-sized cities to large cities persists (Ni et al. 2011).

Besides the agglomeration of population and productivity, coastal cities are also the bases of advanced technologies and the pools of skilled labour. The number of patents received is an example. Six provincial level entities (Beijing, Guangdong, Jiangsu, Zhejiang, Shanghai, and Shandong) and seven prefecture-level cities (Shenzhen, Hangzhou, Nanjing, Suzhou, Guangzhou, Qingdao, and Ningbo) in the coastal region were in the top list in terms of the patent number granted in 2014 (State Intellectual Property Office 2015a, b). Similar conditions of dominance can also be found on tertiary education, in terms of the number of institutions and students. About the service development, coastal cities accounted for an overwhelming share of the total retail sales of consumer goods (Table 1.3). Residents in these coastal cities are also the first group of mainland Chinese to expose

[7]The area size of all cities (urban districts only in brackets) in Eastern, Central, and Western China are 1045 thousand sq km (201 thousand sq km), 1510 thousand sq km (199 thousand sq km), and 2225 thousand sq km (273 thousand sq km) respectively. The respective population density are 479 persons/sq km (973), 295 (563), and 149 (389).

Fig. 1.3 The transforming urban skyline in Urumqi, the capital of Xinjiang in western China—construction projects were everywhere a few years after the implementation of western development strategy in 1999 (taken by the authors in July 2004)

Table 1.3 Total retail sales of consumer goods, 2013 (Reproduced from Organization of Urban Socio-Economic Survey 2014 and compiled by authors)

Region	Value (RMB billion)			Share by regions (%)	
	Whole city (a)	Districts only (b)	b/a (%)	Whole city (%)	Districts only (%)
Eastern	13,483.27	9092.27	67.43	58.60	61.21
Central	5699.65	3163.20	55.50	24.77	21.29
Western	3826.77	2599.05	67.92	16.63	16.46
All cities	23,009.69	14,854.52	64.56	100.00	100.00

Note Only the retail sales of mainland Chinese cities counted here; those of Hong Kong, Macao, and Taiwan cities are excluded

themselves to the modern urban lifestyle. For example, PRD residents have been watching Hong Kong's TV programmes and have been influenced by the Hong Kong culture since the 1980s (Lin 1997). However, the relevant studies are yet to specifically interpret such phenomena from the perspective of urbanism (Ma 2002).

All the above reflect clearly the scale of development of the coastal region and its cities, and its importance in the rising Chinese economy. In fact, Gottman (1976)

contended long ago that the region centering on Shanghai was the sixth megalopolitan system in the world.[8] The YRD region is not simply an overcrowded region but now a well-known megalopolis in the world. It leads not only in economic strength but also plays as an incubator of innovation and technological advancement in the country (Fang et al. 2010; Zhang 2006). At regional scale, an urban corridor linking Beijing, Seoul, and Tokyo and the cities along—the prosperous regions in East Asia—has been proposed and known as the BESETO ecumenopolis in an inverted-S form (Choe 1998; Yeung 2000b). Yeung (2007) further contended that an emerging extended urban corridor went along the coastal regions of China and Vietnam and down to the Malay Peninsula (Thailand, Malaysia, and Singapore) and the Indonesian archipelago, with the highest density of cities along the coastal region of China. From the economic geography perspective, the centrality and competitiveness of coastal cities such as Shanghai, Beijing, Guangzhou, and Shenzhen, based on the massive manufacturing and service activities, are consolidating in the early twenty-first century in China and East Asia. Although Thomas Friedman (2005) claimed that "the world is flat", and advanced technology and improved infrastructure (with the subsequent free flows) did provide more opportunities to every region and city, the local attributes of some cities and the choice of actors (such as TNCs) did contribute to the concentration of factors of production in certain cities, like the coastal cities in China. Thus "the world is flat and inclined" (Ni et al. 2011). For example, a study identified the emergence of producer service city networks in coastal cities. While Beijing, Shanghai, and Shenzhen are the core cities of the networks of accounting, legal, and advertising services for ICT enterprises, Hangzhou, Nanjing, and Guangzhou are the secondary cities of these networks in China (Wang et al. 2014). The rapid rise of coastal cities and regions in the 1990s and 2000s also partly reflects the changing geo-political condition in the region (East Asia). The relaxation of the emphasis on security and the rising concern on mutual economic benefits have changed the geo-political and geo-economic time-space envelopes (TSEs) in East Asia. Indeed, by adopting the TSE model—a middle-range concept (Sum 2001a) in Southern and Eastern China, the transformation of regional economic and political development, and the role of coastal cities in such transformation have been revealed (Shen 2004b; Sum 2001b).

The prevalence of neoliberalism and the entrepreneurial approach of running cities have made many aspects of city commoditized and quantified. Competitions among cities for footloose capital and talents are now popular practices. The studies on the competitiveness of cities become popular. Many scholars and institutes have compiled league-table of city competitiveness at global and regional levels. In China, Ni and his team at the Center for City and Competitiveness, The Chinese Academy of Social Sciences released the thirteenth urban competitiveness report of 294 Chinese cities, including Hong Kong, Macao, and cities in Taiwan, in 2015, revealing two different competitiveness indexes of these cities in 2014 (Table 1.4).

[8]A key criterion proposed is the minimum size of each megalopolitan system, which the author set at 25 million inhabitants.

Table 1.4 Urban competitiveness of selected Chinese cities 2002 and 2014 (Reproduced from Ni et al. 2003, 2015)

City	Ranking of 2002 comprehensive competitiveness	Ranking of 2014 comprehensive competitiveness	Ranking of 2014 sustainable competitiveness
Hong Kong	1	2	1
Shanghai	2	3	2
Shenzhen	3	1	5
Beijing	4	8	3
Macao	5	9	4
Guangzhou	6	5	6
Dongguan	7	14	13
Suzhou	8	7	8
Tianjin	9	6	14
Ningbo	10	21	12
Hangzhou	11	22	7
Nanjing	12	13	9
Fuzhou	30	39	23
Taipei	–	4	–
Wuxi	13	10	17

Note The seven cities in question are in italics

All top ten cities of both the comprehensive economic competitiveness index and the sustainable competitiveness index were in the coastal region (Ni et al. 2015). There has been no change since the first edition in 2003.

At the beginning of this chapter, a few ranking reports of international urban agglomerations and urban competitiveness indexes have been mentioned. These studies revealed the rise of Chinese (coastal) cities and their increasing competitiveness in the global platform. In the PricewaterhouseCoopers study, Shanghai was only the 25th largest urban agglomeration in the world in 2008, while Hong Kong was ranked 16th. PricewaterhouseCoopers's optimistic estimation towards the development of the Chinese economy allowed an obvious change of the estimated top 30 by 2025. While Shanghai and Hong Kong would be the 9th and 14th largest urban agglomerations respectively, Beijing and Guangzhou would be the 17th and 21st urban agglomerations. Shanghai would move up 14 places, Hong Kong two, Beijing 21 and Guangzhou 23. Another study by McKinsey Global Institute (2011) showed a similar increase in the number of Chinese (coastal) cities and the rise of ranking.[9]

[9]Among the top 25 cities in terms of GDP, Shanghai was ranked 3rd, Beijing 5th, Shenzhen 10th, Tianjin 11th, Chongqing 17th, Guangzhou 19th, and Hong Kong 25th. All are coastal cities except Chongqing. The list of top cities in terms of GDP growth included 16 Chinese cities, including Taipei. Only Chongqing, Chengdu, Wuhan, and Xi'an are not coastal cities.

The above two studies may not fully show the importance of Chinese coastal cities in the world, particularly their present statuses of global connectivity in the global network. The development level of advanced producer services activities has often been used to measure the urban competitiveness. Taylor and his team compiled the lists of global network connectivity, with one overall network connectivity and five individual sectors' connectivity. In terms of overall network connectivity, there were only three Chinese cities among top 50. They were Hong Kong (third), Shanghai (ninth), and Beijing (tenth), and all were coastal cities (Taylor et al. 2011). The report pinpointed the rise of Shanghai and Beijing as new workshops of the world through developing the advanced producer services rapidly to complement their huge production capacity (Taylor et al. 2011). In terms of financial, law, advertising, accountancy, and management network connectivity, Hong Kong, Shanghai, and Beijing were all ranked among the top 25. Guangzhou was ranked 41st in terms of the financial network connectivity.

The indicator based on advanced services activities cannot provide a full picture of the competitiveness of a city, as Economist Intelligence Unit (EIU) study (2012) emphasized:

> competitiveness, however, is a holistic concept. While economic size and growth are important and necessary, several other factors determine a city's overall competitiveness, including its business and regulatory environment, the quality of human capital and indeed the quality of life. These factors not only help a city sustain a high economic growth rate, but also create a stable and harmonious business and social environment.

With multiple factors considered, Chinese (coastal) cities did not score high generally in the EIU study at present, with Hong Kong shared the fourth place with Paris, Beijing 39th, Shanghai 43th (tied with Miami), and Shenzhen 52th. However, for one sub-index (category)—economic strength that emphasizes a city's overall GDP, growth rate, and relative income, Chinese cities dominated, with Tianjin (first), Shenzhen (second), Dalian (third), Guangzhou (sixth), Shanghai (seventh), Chongqing (ninth), and Beijing (tenth) in the top list. Chongqing was the only inland city (Economist Intelligence Unit 2012). Similar results can be found in another two studies—the Global Financial Centres Index and the Worldwide Centers of Commerce.[10]

The unprecedented development of the coastal region, nevertheless, has led to various problems and challenges. The attention to, if not obsession with, urban competitiveness and central city status leads to concerns about the selection of development approach and the necessity of regional coordination as well. First of all, urban competitiveness has become an important indicator in the development of Chinese cities, and it is a common goal among all cities to achieve a higher ranking in the list. Cities applied similar measures in economic and urban development in

[10]In the 17th report of the Global Financial Centres Index in 2015, Hong Kong was ranked third, Shanghai 16th, Shenzhen 22nd, and Beijing 29th (Z/Yen Group 2015). In the study of Worldwide Centers of Commerce, Hong Kong was ranked 6th, Shanghai 24th, Beijing 57th, and Shenzhen 60th, with Chengdu 72nd and Chongqing 73rd in 2008 (MasterCard Worldwide 2008).

Fig. 1.4 A suburban area in Pudong, Shanghai—more and more farmland in the rapidly developing Pudong has been lost and replaced by built up zones (taken by the authors in December 2006)

order to attract more worldwide attention, talents, and footloose investment capital. They, however, usually suffer from similar consequences such as identical positioning, urban sprawl (Fig. 1.4), excessive loss of farmland, pollution (Fig. 1.5),[11] and urban morbidity (Fig. 1.6).[12] For example, desolate new CBD or new zones are not uncommon in Chinese cities. These will be discussed in detail in subsequent chapters. It is not the intention of this study to challenge the application of urban competitiveness in urban development, and we believe that such indicator is useful to measure the development of these seven coastal cities. We do challenge, however, that the selection and over-emphasis of indicators in economic area—reflect the possibility of over-emphasis or concentration of development in economic-related areas. It should be better to apply a balance approach instead, i.e. a comprehensive consideration of economic, social, and environmental aspects, and

[11]Environmental problems are well-studied (Fu et al. 2008; Wan et al. 2011; Wang et al. 2003; Zhao et al. 2009), air pollution (that led to acidic rain), water pollution (that led to the dead of rivers), and solid waste are winding around each city.

[12]Such as traffic congestion, *hukou* hindrance, land acquisition and land use conflicts, and the immature housing system. They are not the problems limited to coastal cities and can also be found in inland cities.

Fig. 1.5 The town centre of Dongguan—the once pollution-ridden "world factory" PRD city is launching industrial upgrading and improving amenities, so as other coastal cities (taken by the authors in August 2013)

other possible aspects if applicable. Furthermore, we wonder if the concept of competition is applicable to all cities, such as those small cities in Central and Western China. We argue briefly in Chap. 9 that they should pursue a sustainable way of development based on their own circumstances instead of wooing high urban competitiveness blindly. However, this is not the focus of this volume.

Second, as a possible outcome of the first issue, urban competition makes a city to focus on strengthening itself at the cost of regional relationship. The case of Guangzhou (Chap. 2) shows this problem. From the cases of New York, London, and Tokyo, we can see clearly that they are the top global cities with (the support of) a large hinterland. Indeed, they are the key cities of the respective megalopolitan regions. YRD is the six megalopolitan in the world and PRD is also a powerful city-region famous in the world. Their respective regional relationship is developing along with vicious inter-city competition. To what extent the hinterland is necessary for these seven coastal cities? Are they playing similar roles in the region like above examples of world cities?

Third, innovation is a common approach used to achieve higher urban competitiveness and to realize proper urban and regional strategic development in the current Chinese context. Indeed, "groping for stones to cross the river" is a realization of innovation. "Chinese characteristics" is another well-known term in

Fig. 1.6 A traffic jam occasion in Shanghai—traffic jam is common in Chinese cities (taken by the authors in December 2006)

development, which emphasizes that the Chinese path of development is different from the ones of Western Europe or American, as well as the ones of former Soviet Union countries. It is interesting to find out how innovative measures in Chinese cities' development make them different from their worldwide counterparts, and to what extent these innovative measures, such as city positioning and city branding are useful to raise the competitiveness. The subsequent chapters will discuss all these issues and the last chapter will answer these questions.

More fundamentally, in term of political administration, the entrepreneurial-like nature of cities nowadays posts challenges to the existing urban regime and government structure. The major function of cities and their governments before the opening was to execute central government policies and manage (if not control) the residents. It was a kind of managerial regime. However, their low capacity, inflexibility, inefficiency, insufficient, and so on were revealed clearly in the process of economic reform and globalization. Such process involves active participation of non-governmental stakeholders of private sectors and civil society that interact with the government on the one hand, and needs the government to preform differently and run the cities in a totally different manner on the other hand. Although a series of administrative reforms and many "outside-in" or "outsourced" institutional changes can be found, such as the new and improving institutional systems of infrastructure provision and foreign direct investment, for the application of public–private

partnership and modern urban planning involving civil society in Shenzhen (*see* Chap. 3), there is still room for improvement to raise the capacity and flexibility of cities to make them more competitive in the global economic platform. Moreover, since each city has its own unique history, culture, strength of private sectors and other circumstances, the theoretical understanding of the types of urban regime in these Chinese cities is also of scholars' great interest. Is one of the four models suggested by Pierre (1999)—managerial, corporatist, welfare, and pro-growth models applicable? Are the pluralist, federalist, and entrepreneurial urban regimes proposed by Elkin (1987) useful in China? For example, Zhu (1999) suggested the existence of growth coalitions in China and Zhang (2002) found socialist pro-growth coalition in Shanghai. Definitely, innovation is a way to help the entrepreneurial or other similar regimes among Chinese cities to succeed in the competition in the future (Shen 2004a, quoting Schumpeter).

Moreover, Chinese cities are facing the issues of sustainability and understanding to cities *per se*. The existing unsustainable ways of development in Chinese cities are serious problems, including problems in environment like different kinds of pollution, in society such as unfair resource allocation and weak social security, and in economy like fragile industrial structure. Cities are losing their appeal and charm. It is not the problem to coastal cities only but all Chinese cities. It is also the reason why the central government has launched a series of reforms, structural, and institutional changes to promote sustainable development. It is also a key research topic now, such as Etingoff (2016) on sustainability, resources shortage, emission, and pollution in areas of consumption, transportation, and housing of urban development for the twenty-first century.

In addition, the development of cities depends upon our understanding of cities. Many examples showed that numerous Chinese cities developed without proper and thorough understanding of their own attributes in the past, like the branding matter (*see* Chap. 7). In general, Chinese cities are expanding and growing, both spatially and economically. They need us to better understand them. Are they simply some places hosting some economic activities that can contribute to the GDP growth? Or are they some increasingly complex systems that are comprised of more than one sub-system? Based on the seven cities in question, they are obviously some big systems that are comprised of many sub-systems. They are also the systems that accommodate heavy flows of factors of production. It is therefore important to know these systems well, know how they interact, and have appropriate interventions and plans to support the development of these systems.

In short, the ever-changing and new spatial, economic, and institutional environments are influencing Chinese cities. They are facing different problems and challenges, as well as opportunities. Cities and every old and new stakeholder with different attributes are changing their positions and roles based on such external environment, internal conditions, and our understanding of cities. They need the capacity and flexibility in solving problems and catching opportunities and therefore innovative measures are needed, in order to achieve sustainable development. Among all, this study argues that planning and governance are the major tools in making such changes and realizing the goals. As a (new kind of) economic carrier,

their targets are to enhance flows and agglomeration, and work with the regional counterparts in a network, which can be realized in the areas of economic, social, environmental, institutional, and infrastructure development.

1.4 The Seven Selected Coastal Cities: A Brief Introduction

After the theoretical discussion and introduction of the general development of Chinese coastal cities, this section is going to present the research framework of this study and briefly introduce each of the seven selected coastal cities.

We contend that industrialization, globalization, regionalization, decentralization, and marketization are the major forces driving the social and economic development of China in the past three decades, especially in the coastal region of China. In addition, from a micro perspective, we argue that the unique characteristics and functions of each city have directed the development of a city on its own path. Along with the return of the Chinese economy to the global platform, the active involvement of Chinese cities in the global market, and the emergence of domestic demands, these coastal cities need transformations in order to adapt to the new environment and meet the rising demands. In this new environment, raising urban competitiveness, enhancing regional relationship, and making innovation are key issues of development.

Since sustainable development is the common goal for all these coastal cities, we apply the idea of sustainability that was well discussed in the book *Our Common Future* (World Commission on Environment and Development 1987). Its meaning suggests that we should achieve economic growth and industrialization without damaging the environmental and depleting the resources for the sake of next generations. The concept has been further developed and a three-dimensional understanding of the environmental, social, and economic sustainability has become popular (Adams 2006). The balance among dimensions leads to sustainable development. But for stronger competitiveness, Yeh and his colleagues suggested looking also at institutional and legal development, as well as infrastructure and transport development (Yeh et al. 2006). Among these five dimensions, this book focuses mainly on the economic dimension, supplemented by brief discussion on other four dimensions. By summarizing the cases of six selected mainland coastal cities and Hong Kong, we should be able to provide lessons and recommendations for relevant issues for the development of Chinese coastal cities. Figure 1.7 shows the research framework.

From Chap. 2 onwards, we will review the development of each of the seven selected coastal cities. Achievements, problems, and challenges of development, as well as advantages, strengths, and opportunities for development will be discussed. Hong Kong is examined by a case study of the challenges and responses of its logistics industry in the context of rising mainland cities. With the selected topic(s),

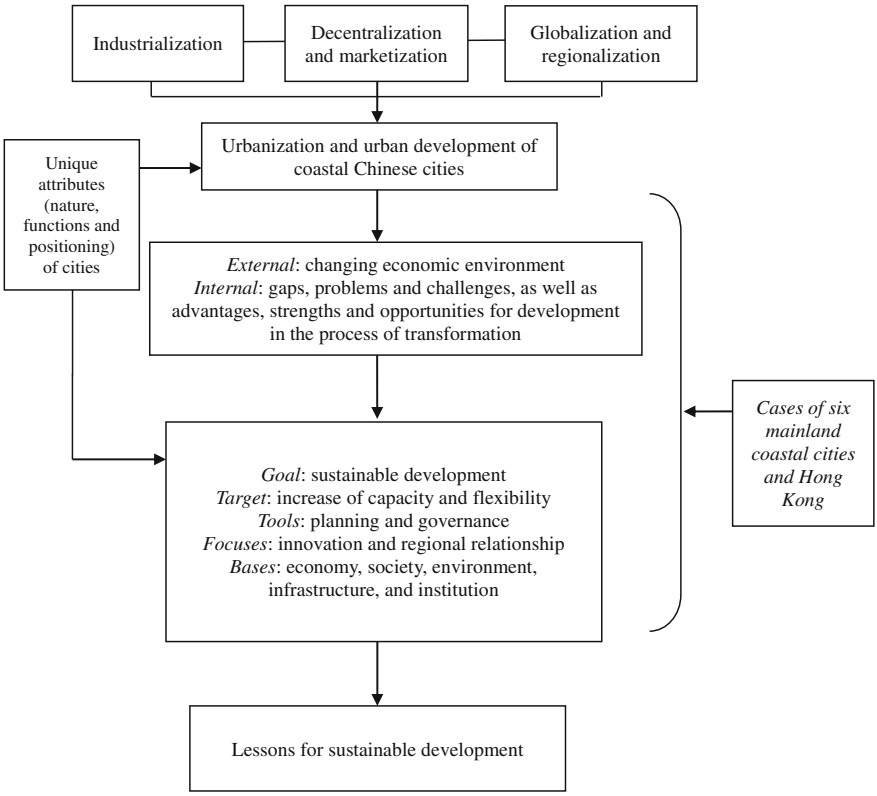

Fig. 1.7 Research framework

we will scrutinize the plans of development of each coastal city, analyze the strategies applied, and identify and/or suggest the directions of and the efforts needed for future development in order to raise the urban competitiveness in the country and in the global economic platform, promote regional cooperation, and pave for path of sustainable development. It is necessary to note that the selected topic for each city is not an exclusive issue or advantage for that specific city. In fact, similar examples can also be found in other cities of this volume. The intention is to understand and analyze how the discussed tools, targets, and goals can work properly in these cities which can be a reference to other Chinese cities.

As an ancient city with over 2100 years of history, Guangzhou (Chap. 2) was historically an economic centre in South China with its famous mercantile city status. Guangzhou is now one of the most important cities in the PRD region and in China, thanks for the economic reform and the designation of such special status as open coastal city in the early 1980s. Under the challenges of, as well as opportunities obtained from various internal (domestic) and external (regional and global) factors, Guangzhou strives hard to retain its competitiveness as far as possible, and

is on the way to reposition itself as a national central city, through the means of aggressive economic and industrial strategies, bold urban and regional planning and development, city re-imaging and branding, and much more. Fruitful achievements have been obtained over the years but there are hurdles to overcome as well. For example, effort is needed on its *density*, *distance*, and *division* of economic development—a "3-D" spatial dimensions proposed by the World Bank (2009). Among all problems, regional competition within the GPRD region is the most critical one challenging Guangzhou's central city status. Skills, wisdom, and appropriate measures are needed to work with Hong Kong and Shenzhen, which is the strongest entity in the GPRD region in terms of economy, R&D, and so on.

Shenzhen (Chap. 3) is the first special economic zone in China and it is a vice-provincial level city. The 35-year development of the city has been a miracle. On economic strength, Shenzhen has advantages over Guangzhou in such aspects as the overwhelming export volume and the financial sector. The key of success includes the strong steering roles of the governments although foreign investment has been considered an important factor generally. The Shenzhen authorities play as reformers and promoters. They have adopted new philosophy and approaches of running a city, and carried out trial and innovation on the market and institutional systems, economic structure, and urban planning and development with great courage. All these factors have developed up Shenzhen successfully from a small town to one of the largest cities in China. Keeping changing is the only way for Shenzhen, and it is the time to examine the wisdom and determination of the current Shenzhen authority in carrying out changes for the good sake of Shenzhen's sustainable future and competitiveness.

The development of Chinese cities has been deeply affected by factors of political economy. Changing political and economic environment forces cities to change their urban functions and scale of development, and Fuzhou is the case (Chap. 4). Fuzhou was once one end of a growth triangle in South China in the 1980s and 1990s involving the participation of Taiwan and Hong Kong, which can be explained with the concept of time-space envelope (Luo and Shen 2012; Shen 2004b; Sum 2001a). This growth triangle, however, lost the momentum of development in the 2000s due to the changing political and economic conditions of all involved parties, including Fuzhou, resulting in a period of stagnated development. Another round of change of the time-space envelope in the region around 2010 allows Fuzhou to regain the impetus for a new round of urban and regional economic development. Among all, the improving Mainland–Taiwan relationship allows Fuzhou to implement the Taiwan Strait West Coast development strategy. Fuzhou will change its positioning from simply a regional manufacturing base to a regional metropolis, involving a larger hinterland and expanding the growth triangle with upgraded urban functions, although there are political uncertainties ahead.

We argue that this expanded growth triangle will involve the participation of Shanghai and the YRD region. Actually, the YRD region, centering on Shanghai, has experienced an unprecedented growth in the past two decades and now is the strongest powerhouse of the Chinese economy. Similar to the goal of Guangzhou, Shanghai is on the way to regain the status of the largest and most prosperous city

in China, and become a high-ranking world city. Like Shenzhen, the Shanghai authority is playing a crucial role in the development and is applying the means of mega projects for its urban development and regional integration (Chap. 5). We argue that the development of Pudong since the 1990s is a successful start-up mega project that has provided the city a solid foundation, lifted the city up to a higher stage of development, and promoted the city in the global platform. Yangshan deep-water port, Hongqiao comprehensive transportation hub, the 2010 World Expo, Chongming development, and so on are some latest mega projects that are going to contribute to the success of Shanghai in the future. Moreover, these mega projects not only link up other YRD cities physically, but also provide new channels and means of regional cooperation. Good progress of YRD regional integration has been made. While other YRD cities benefit from the connection with Shanghai, Shanghai enjoys the consolidated dragonhead status.

In the *Yangtze River Delta Regional Planning* (National Development and Reform Commission 2010), Hangzhou and Nanjing have been designated as the leaders of the two wings of the YRD region, along with the dragonhead role of Shanghai in the YRD region. Two cities, however, need to fix their internal problems before they can take up that new role properly, gain from the new role, and strengthen the leadership and competitiveness in their respective provinces and regions. For Hangzhou, various socio-economic and spatial problems have been hindering the development of the city although there are advantages as well (Chap. 6). We argue that, under new circumstances, Hangzhou should play new socio-economic and spatial roles in order to raise its competitiveness, if not just to maintain. Through introducing new industrial, urban, and regional development policies, Hangzhou can play as a commander of the networked economy and a key player in regional integration. Like Hangzhou, Nanjing is also an ancient city with rich assets of history and culture. The city, however, has failed to make good use of those assets for development because the city has been encumbered with the shilly–shally positioning (Chap. 7). The real strengths of Nanjing are culture and wisdom, and we propose that the city should adopt the unique positioning of "the hub of culture and wisdom". It is a positioning with high individuality that can show the indigenous value of Nanjing that can hardly be replaced. Industrial strategies, mega events, and regional development policies should centre on this positioning.

Hong Kong (Chap. 8) is the most developed city in China. The city has not only been playing a crucial role in mainland China's economic opening and modernization, but also has experienced economic growth and industrial restructuring throughout the process. The port and logistics industry is one of the beneficiaries, by playing as the gateway and middlemen of the emerging Chinese market. However, the traditional roles of Hong Kong and the industry can no longer make significant contribution to the local economy and the stakeholders. The transforming external environment and local challenges have forced the industry to change or wane. We argue in the chapter that under the improving framework of new institutional settings at local, regional, and national levels, the industry can manage to change the roles and offer new functions. This is also exactly what the

whole Hong Kong economy can do to pursue better economic integration at regional and national levels to achieve a path of sustainable development.

Although urban competitiveness is a useful indicator to measure the level of economic development of cities, we argue in Chap. 9 the applicability of this concept, or simply the necessity of the application of this measurement to almost 300 Chinese cities with different scales and stages of development and scattering over the 9.6 million sq km land mass. We believe that not all cities should play this game of ranking. Instead, the ultimate goal of development should be sustainability and each city should find its own way to make it. Probably a comprehensive approach—with different weighting in economic, social, environment areas—is needed to measure performance and assess the way to achieve sustainable development for both coastal and inland cities.

On the other hand, regional development is gaining ground in China and we are able to see both the top-down support and bottom-up effort of regional development in GPRD, YRD and Taiwan Strait West regions. Core cities like Guangzhou and Shanghai are playing heavier roles in respective regions. This circumstance in China shows the importance of both city-centric and state-centric approaches in development and the strong tie between city-centric regional economies and national economy. It is necessary to explore the appropriate roles of these core cities in the region and any innovative institutional arrangement of regional integration. Last but not least, different cities have taken different paths in the course of development, but the common key is innovation, particularly the change of institutional environment and the creation of innovative institutional arrangement. Complementary to the induced innovation, stakeholders have long been carrying out the initiative to create favourable environment for themselves through various measures, and again coastal cities are playing a major role in this aspect.

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Chapter 2
Guangzhou: The Road to Regaining Its Central City Status

2.1 Studies on Central Cities

To those major coastal cities in China, including Guangzhou, playing as a leading central city in their respective regions, in terms of economic development or other perspectives, is an important task and probably a key goal of urban development. Since the Industrial Revolution in the eighteenth century, the importance of cities in generation and accumulation of wealth in modern economies is affirmative. Different geographical models and theories, such as the Von Thünen model and the Central Place Theory that explains the spatial characteristics (such as number, size, and distribution) and economic activities of settlements in an urban system (Carter 1995; Location theory 2010), reflect indirectly the importance of a central area and the relationship between the central area and settlements at different levels in an urban hierarchy. In the second half of the twentieth century, scholars have even studied cities at the global level and introduced the concepts of world/global cities and their multiple roles (Friedmann 1986; Friedmann and Wolff 1982; Hall 1984, 1998; Sassen 2001; Scott 2001).

From the economic perspective, one general understanding of (central) cities is to investigate the extent of a city (or a group of cities) being an engine of the growth of an economy (Duranton 2000; Jacobs 1969, 1984) such as Enright et al. (2005) on the Greater Pearl River Delta (GPRD) region as the powerhouse of Chinese economy; Solé-Ollé and Viladecans-Marsal (2004) on central cities as engines of economic growth in their respective metropolitan areas. But there are alternative views against this hypothesis such as Polèse (2005) on the arguments of the relationship between agglomeration and economic growth, and *cause* or *outcome*. However, the popularity of central cities seems overshadowed by the blooming of the studies of world/global cities. The concept of world city has been widely used with theoretical explanations from various perspectives such as a global political economy and new urban development and planning (Friedmann 1986; Friedmann and Wolff 1982; Lo and Yeung 1998; Sassen 2001; Taylor 2004; Xu and Yeh

J. Shen and G. Kee, *Development and Planning in Seven Major Coastal Cities in Southern and Eastern China*, GeoJournal Library 120,
DOI 10.1007/978-3-319-46421-3_2

2010b). New York, London, and Hong Kong are usually considered the top three in the hierarchy of world cities, while Paris, Tokyo, Singapore, Shanghai, and others are in the second tier (Taylor et al. 2010). The hierarchy of world cities reflects the different degrees to which these cities are important, powerful, and dominant in various advanced economic sectors in global networks (Friedmann 1986; Huang et al. 2007; Sassen 2001; Scott 2001; Wang and Zuo 2005). Along with these economic activities, they play commanding roles in the political and international affairs by housing various headquarters of national and international organizations.

Similar to many urban and regional studies, it is yet to reach a consensus on the definitions and understanding of central city. Generally, it has been considered that national central cities exert powerful forces of agglomeration and diffusion, and play a dominant role in various aspects such as the politics, economy, population, culture, and society of a country. Central cities also represent the country in international markets and other platforms (Chen and Zheng 2009; Yao 2009; Zhu 2009). National capitals such as Manila, Kuala Lumpur, and Jakarta in Southeast Asia are playing such roles for their respective countries (Brennan and Richardson 1989; Ginsburg 1955).

There are increasing number of studies on world cities and central cities in China (Chan 2009; Chen 2009; Chiu and Lui 2009; Ni 2009; Xu 2010; Xue et al. 2010; Yao 2009; Zhang and Liu 2009). For example, studies find that Shanghai is on its way to developing into a world city (Yusuf and Wu 2002; *see also* Chap. 5); Guangzhou is also striving hard to be a central city in the Pan-Pearl River Delta (PPRD) region (Li and Hu 2004). Lin and Liu (2000) have reviewed relevant studies conducted in the 1980s and 1990s. Although the design settings of each study, discussions, and arguments vary, Beijing, Shanghai, Guangzhou, and Tianjin are generally identified as the top four national central cities with outstanding strengths.

Guangzhou's rising status, however, is under the challenges of Hong Kong and Shenzhen. After the reunification in 1997, Hong Kong is now a major city of the country and is playing its irreplaceable part in the development of the GPRD region; but the latest political difficulties, social unrest, and dilemmas on closer regional integration should not be ignored (*see* Chap. 8). The rapid rise of Shenzhen in the past two decades makes it the most competitive city in China (*see* Chap. 3) and the city is particularly strong in finance and R&D. The ways to work with Hong Kong and Shenzhen will be important for Guangzhou to consolidate the status of central city and create synergy for regional development.

2.2 A Brief History of Guangzhou

Guangzhou is a famous ancient city, with a history over 2100 years (Xu and Yeh 2003) (Fig. 2.1). Dating back to the Tang Dynasty (618–907 AD), it was already an important centre of foreign trade and a renowned port city; its trading networks reached as far as Southeast Asia, the Middle East, and East Africa by using the

Fig. 2.1 Ancient street in Guangzhou (taken by the authors in July 2013)

route known as the maritime Silk Road (Hsü 2000; Xu 1985; Zuo 2009). Guangzhou, therefore, established a unique and influential mercantile city status in an agriculture-based society. Guangzhou's urban landscape was full of the nature of commerce and the "thirteen factories" (*shisan hang* or *shisan yiguan*) established in the eighteenth century on the bank of Pearl River was the best known example (Hsü 2000; Liang 1999). Nothing lasts forever, however, the signing of the Treaty of Nanking after China's defeat in the Opium War in 1842 led to the opening of five coastal cities, namely Fuzhou, Xiamen, Ningbo, Shanghai, and Guangzhou. Hong Kong Island was also ceded to the United Kingdom and was designated as a free port by the British government. Strong competition among the cities led to the loss of Guangzhou's uniqueness and advantages, and trade gradually shifted from Guangzhou to Shanghai and Hong Kong. Nevertheless, Guangzhou's long-standing establishment as a mercantile city helped it to remain the most important commercial and industrial city in south China (Li et al. 2002).

The time between the fall of the Qing Dynasty in 1911 and the establishment of the People's Republic of China in 1949 was a period of struggle and unease for the people of Guangzhou, as well as for those in many other parts of China, due to the outbreak of the two devastating World Wars and countless civil wars. For a short period, Guangzhou showed signs of development, but Shanghai soon took over the role of national central city and caught the international attention in the late 1920s.

The period between 1949 (the new China) and 1978 (the year of the opening of China's economy) can be considered another period of ups and downs for Guangzhou. Although Guangzhou had been holding the China Import and Export Fair, or the Canton Fair, since 1957,[1] its traditional commercial and trading advantages were still suppressed, as trade was considered an "unproductive" activity in the mindset of the Communist Party of China (CPC) leadership. Guangzhou, including both the urban landscape and the economic activities taking place in the city, was transformed from a "city of consumption" to a "city of production" (Lin 2004; Xu and Yeh 2003). Guangzhou's trading network waned and was no longer as strong and dense as before, and the dominant role in trade and logistics in the PRD region was taken over by Hong Kong.

The opening of China in the late 1970s brought a golden opportunity for Guangzhou's revival because the province of Guangdong was selected to play a pioneer role in the trial of new economic policies. As the capital of Guangdong province, Guangzhou would naturally be very much a part of that process. In 1984, Guangzhou was designated as one of the 14 open coastal cities (OCCs) in China, giving it a chance to rebuild its commercial centre and trading port status (Lo 1994, p. 130). Guangzhou is now an integral member of the PRD Economic Zone. However, fierce economic competition from cities such as Hong Kong, Shenzhen, and Shanghai and, internally, the "downtown crisis" of urban development (Li et al. 2002, p. 11) are obstacles to the city's efforts to regain the status of a central city. Moreover, the establishment of the ASEAN-China Free Trade Area, the reconciliation of authorities on both sides of the Taiwan Strait, and other regional developments in the Pacific Asia region have posed challenges to Guangzhou as well.

Guangzhou has responded to these challenges by using different development strategies and plans. After the introduction and a brief historical review, the remaining of this chapter begins by examining the socio-economic and urban development of Guangzhou, both achievements and problems, over the past three decades. Section 2.4 reviews Guangzhou's interactive regional relationships at different scales—from the metropolitan level to the GPRD regional level to the East Asian level, reflecting the establishment of networks and the strong role of central city of Guangzhou. Development strategies and plans that are found in Guangzhou in recent years are reviewed in Sect. 2.5, from the perspectives of economic and industrial development, urban development, and regional development. Section 2.6 discusses the achievement of regaining the status of central city and what Guangzhou should pay attention to throughout the process of development, with a "3-D" model suggested. Section 2.7 is the conclusion.

[1]For details of the Canton Fair, please refer to http://www.cantonfair.org.cn/en/about/detail.aspx?oid=130.

2.3 Characteristics and Dynamics of Guangzhou's Development

While the economic reform and decentralization of the Chinese economy, the status of OCC, and its proximity to Hong Kong are the major favourable background factors shoring the dynamic socio-economic and urban development of Guangzhou up in the past 30 years, the introduction of diversified and modern economic activities is the key factor contributing to the transformation of Guangzhou's economic structure and urban landscape. With the relaxation of governmental control, rather than strictly following the production plans designated by the central and provincial governments, Guangzhou's manufacturing and services activities gradually operate according to the market rules. At the same time, governments, in the form of state-owned enterprises, have been retreating from the market for the private sector and foreign investors. Figure 2.2 shows the changing trajectory of the shares of three industrial sectors in Guangzhou's GDP since 1978. Guangzhou is on the path back to a mercantile city. In the process, the share of secondary industry keeps decreasing, but the industrial structure has been transformed from the one dominated by labour intensive light industry to another one characterized by the emergence of capital intensive heavy industry. From 1978 to 2013, Guangzhou's gross output value of industry (GOVI) grew from RMB 7.54 billion to RMB 1822.43 billion (Table 2.1), the contribution of heavy industry increased from 36.76 % in 1978 to 63.38 % in 2013 (Guangzhou Municipal Statistics Bureau 2014). The tertiary industry, on the contrary, has developed rapidly and has unquestionably come to dominate Guangzhou's economy in the mid-1990s. It contributed the ever highest 64.62 % of Guangzhou's GDP in 2013 (Fig. 2.2; Table 2.1).

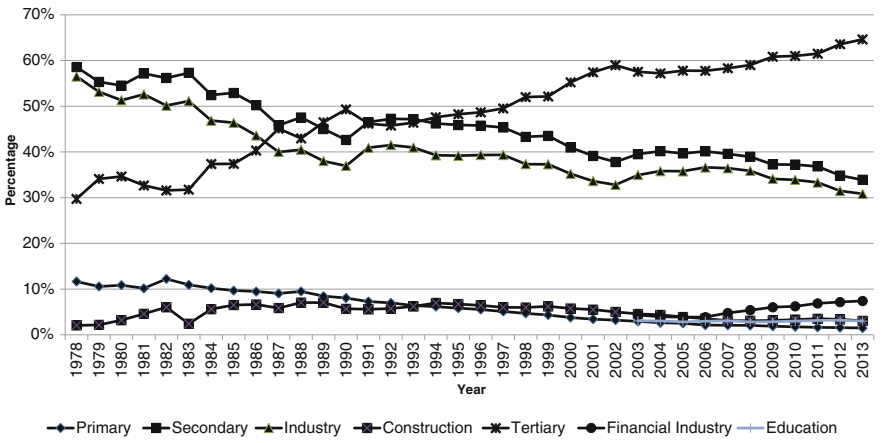

Fig. 2.2 Changing trajectory of the shares of three industrial sectors in the GDP of Guangzhou, 1978–2013 (Reproduced from Guangzhou Municipal Statistics Bureau 2005–2014)

Table 2.1 Major social and economic indicators of Guangzhou, 1978–2013 (Reproduced from Guangzhou Municipal Statistics Bureau 2014)

Indicator	1978	1990	2000	2013
Year-end registered *hukou* residents (million)	4.83	5.94	7.01	8.32
Year-end permanent residents (including population without *hukou*, million)	4.83	n.a.	9.95	12.93
GDP (RMB billion, current prices)	4.31	31.96	249.27	1542.01
Per capita GDP (RMB, current prices)[a]	907	5418	25,626	119,695
Economic structure (%; Primary:Secondary:Tertiary)	11.67:58.59:29.74	8.05:42.65:49.30	3.79:40.98:55.23	1.48:33.90:64.62
Per capita annual disposable income of urban households (RMB)	606.12[c]	2748.95	13,966.53	42,049.14
Per capita net income of rural households (RMB)	249.80	1538.93	6085.97	18,887.04[d]
Total investment in fixed assets (RMB million)	726.41	9059.37	92,366.76	445,455.08
Local government revenue (RMB billion)	1.40	3.78	21.99	208.81
Local government expenditure (RMB billion)	0.44	2.51	25.86	228.35
Gross output value of agriculture, forestry, animal husbandry and fishery (RMB million)	799.40	4393.22	16,304.68	38,997.63
Gross output value of industry (RMB billion)[b]	7.54	44.24	310.00	1822.43
Retail sales of consumer goods (RMB billion)	1.76	14.78	112.11	688.28
Total value of exports (US$ billion)	n.a.	2.36	11.79	62.81
Utilized foreign direct investment (US$ million)	n.a.	186.13	2989.23	4803.85

Notes [a]Per capita GDP was calculated using permanent population since 1991
[b]A new stipulation was used in 1995; therefore, figures before and after 1995 cannot be directly compared
[c]1980 figure
[d]A new stipulation was used in 2002; therefore, figures before and after 2002 cannot be directly compared

The Guangzhou authorities have endeavoured to nurture the logistics (Fig. 2.3), finance, tourism, convention and exhibition (C&E), and other service industries (Guangzhou Municipal Development and Reform Commission 2004, 2006). Among 14 identified sectors of the tertiary industry, "wholesale and retail trade", "real estate", and "leasing and business services" have contributed most to the increase in GDP (Fig. 2.4). They are, however, traditional services. Advanced sector like "financial intermediation" is rising; "information transmission, computer services, and software" makes up only a minor share of the city's GDP (Guangzhou Municipal Statistics Bureau 2010). As a mercantile city, Guangzhou is also strong in export and foreign investment activities. Guangzhou's total exports value was US$ 62.81 billion in 2013 and was the third largest after Shenzhen and Dongguan in Guangdong province—the largest exporter in China. Guangzhou received US$ 4.80 billion of utilized foreign direct investment in 2013, accounted for 19.25 % of Guangdong's utilized FDI and second to Shenzhen's at US$ 5.47 billion (Statistics Bureau of Guangdong Province 2014; Statistics Bureau of Shenzhen Municipality 2014).

In general, Guangzhou achieved a rapid increase in its general economic strength and competitiveness. In 2013, Guangzhou had a GDP value of RMB 1542.01 billion (Table 2.1) and was the largest prefecture-level city in China in terms of economic size; or third among all cities behind Shanghai and Beijing

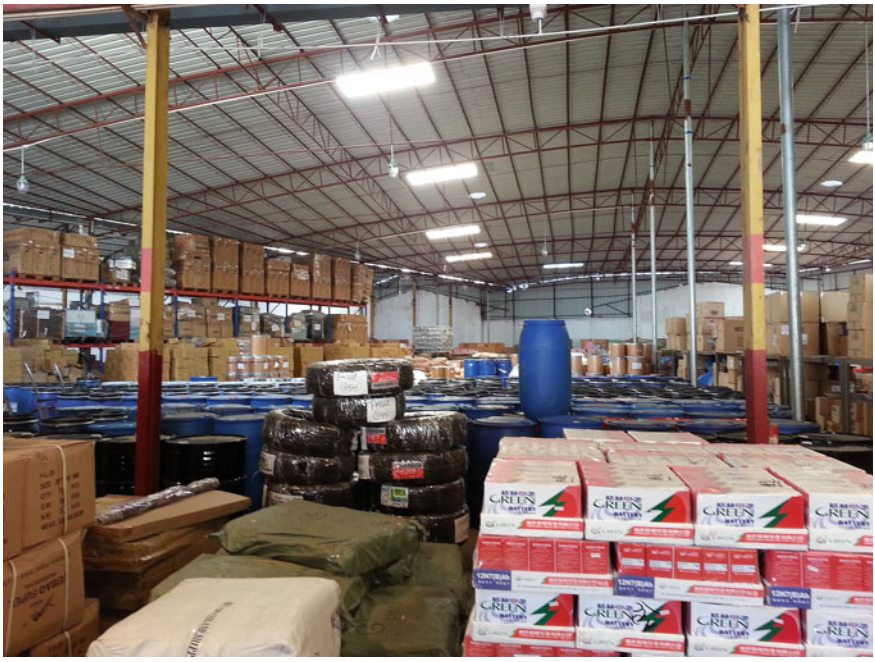

Fig. 2.3 A warehouse of a Hong Kong-invested logistics enterprise in suburb Guangzhou (taken by the authors in July 2013)

Fig. 2.4 Shopping area in Guangzhou (taken by the authors in January 2013)

(National Bureau of Statistics of China 2014). Its per capita GDP reached RMB 119,695 in 2013, or US$ 19,264, a figure close to US$ 20,000 after passing the US$ 10,000 milestone in 2008 (Guangzhou Municipal Statistics Bureau 2014). This figure is higher than the per capita GDP of all cities in this volume except Shenzhen and Hong Kong (*see* Fig. 7.5). It is also higher than the per capita GDP/GNI of many upper middle income and high income economies such as Estonia and Slovak Republic, according to the definition of the World Bank (World Bank n.d.). According to the 13th edition of the study of urban competitiveness of Chinese cities by Ni and his colleagues, Guangzhou was in the fifth place among 294 Chinese cities. But it is worth noting that Shenzhen and Hong Kong have had higher rank than Guangzhou since the first edition (Ni et al. 2015).

However, Guangzhou is not free from challenges and problems. Although Guangzhou is among the top cities in China in urban competitiveness, the city is still significantly behind other central cities and world cities, such as New York, London, Tokyo, Hong Kong, and Singapore, in economic strength, industrial structure, research and development (R&D), and urban management (Zhang and Liu 2009). With regard to the economy, Guangzhou is still under the process of economic restructuring after years of development to turn those low tech, low efficiency, labour intensive, highly polluting, high energy consuming, and low value-added industrial activities into advanced, high-tech, high value-added, capital intensive, and green one. The old industrial activities contributed much to

Guangzhou's economy in the early years of economic reform, but are currently dogged by such problems as land and resource constraints.

Guangzhou's urban landscape and spatial structure have been experiencing drastic changes following the marketization of land and housing, as well as the rapid development of various manufacturing and services activities (Wu and Yeh 1999). The construction of central business district (CBD), the rise of skyscrapers and land value, the change of spatial structure from a compact city to a dispersed metropolis are some examples (Wu and Yeh 1999). Nevertheless, pinpointing the planning and order of urban development, the city was once eyed as the biggest village in China (Xiao 2008). It was argued that the non-scientific urban development that took place in the 1990s resulted in chaotic development in the downtown area (Li et al. 2002, p. 11). For example, the old city proper could not be properly revitalized. The result was a further worsening of the environment and of problems relating to traffic, land use, and heritage conservation. The government failed to do an effective job of controlling the supply of land. Improper land use allocations led to the chaotic spatial distribution of different economic activities, which resulted in low efficiency and low productivity in land use (Li et al. 2002; Ren and Zhang 2007). Dual-track urbanization led to land use and urban planning conflicts in peripheral areas of the city (Fan and Lei 2010). Urban encroachment on agricultural land, inappropriate and disproportionate land use allocation, and low land use productivity (Ren and Zhang 2007; Wu and Yeh 1999) as well as environmental problems are challenging the sustainable development of the city.

In addition, both geographically and politically, Guangzhou can be defined in broad and narrow senses. In a narrow sense, Guangzhou refers to the old eight districts (old city proper). In a broad sense, Guangzhou was a prefecture-level city with four county-level cities under its administration before 2000. The old eight districts, however, were considered too small in size, which seriously limited any possible further expansion of the city for the rapid development of Guangzhou's manufacturing and service industries, and the rise of population. The existence of administrative boundaries also hindered necessary cross-boundary coordination. On the other hand, although the four county-level cities were under the administration of Guangzhou on behalf of the provincial government, they retained partial autonomy and authority, which created an unfavourable condition for spatial coordination between the old city proper and these cities. All of these problems are holding Guangzhou back from being a real national central city.

2.4 Regional Development, Networks, and the Central City Status of Guangzhou

To overcome the limitation of space and administrative boundary, and strengthen the capacity and influences of Guangzhou at different scales, the following steps have been taken by Guangzhou government to adjust the administrative boundaries.

Merger is a common means applied by local entities in China to respond to the changes in socialist city administration and population growth (Lo 1994). In 2000 with the approval of central government, two county-level cities under Guangzhou's administration, i.e. Panyu and Huadu, were annexed and became two new districts directly under the control of Guangzhou. This move gave Guangzhou (city proper area) direct access to the sea in the south immediately (Fig. 2.5; Yeung and Shen 2009). In addition, many new mega projects that cannot be built within

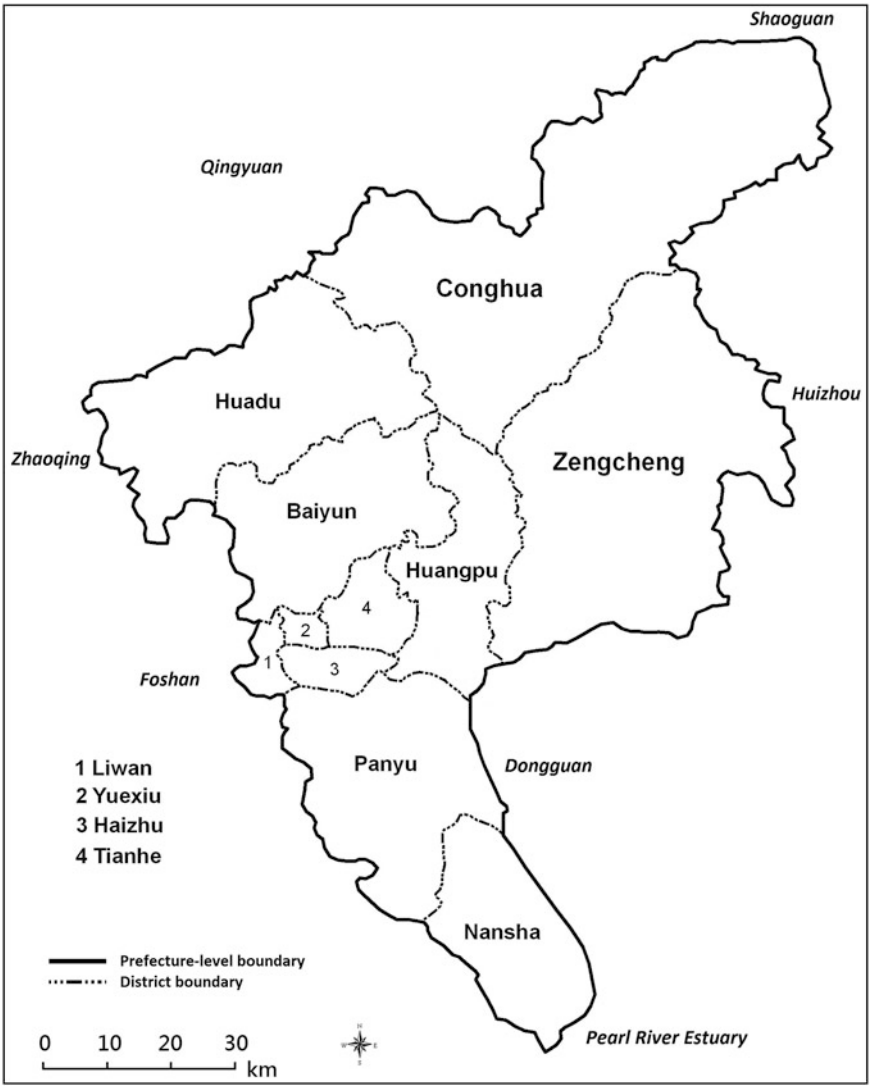

Fig. 2.5 Administrative division of Guangzhou, *circa* 2014

the small old city proper before, including the new Guangzhou Baiyun International Airport, Guangzhou University Town, Guangzhou International Convention and Exhibition Centre and some 2010 Asian Games venues, can now be found in Huadu and Panyu districts (Xu and Yeh 2003). A subsequent move was done in 2005 to merge four old districts into two (Dongshan merged with Yuexiu and Fangcun merged with Liwan) and to create two new districts (Luogang and Nansha). Luogang District is the former Guangzhou Economic and Technological Development Zone that was established in 1984.[2] Nansha District is the former Guangzhou Nansha Economic and Technological Development Zone that was established in 1993[3] and was separated from Panyu District in 2005, representing the spatial and strategic importance of the region in Guangzhou's future development.

These decisive steps of spatial expansion and administrative restructuring allow Guangzhou to strengthen its capacity and realize the goal of becoming a central city. Nine years after the previous adjustment in 2005, the Guangzhou government completed probably the last puzzle of restructuring in February 2014. The short-lived Luogang District merged into Huangpu District and the city turned the remaining two county-level cities—Conghua and Zengcheng—to two new districts. Conghua and Zengcheng occupy an area of about 3600 km^2, almost half of Guangzhou municipality's total area. But they account for a very small share of Guangzhou's population and economy. Although these two districts are now under the direct administration of Guangzhou, it is a challenging task for the authorities to make good use of such a large area to further optimize the spatial structure of economic activities and make plans for better integration. Moreover, cost and benefit between the municipality and the "annexed" units can lead to conflicts and contradictions in industrial development, land use, urban planning and spatial management, which can last for years (Fan and Lei 2010).

There are steps for Guangzhou to expand its regional influences and strengthen its leadership in the PRD region. Table 2.2 shows major statistics on the developments in Guangzhou and eight other PRD cities in 2013. The figures clearly show that Guangzhou plays a dominant role in the PRD region in some aspects such as the GDP and total investment in fixed assets.[4] The economic integration and emergence of twin city of Guangzhou and Foshan in recent years is certainly mutually beneficial that can further strengthen the competitiveness of both cities.

A study on PRD's socio-economic development revealed that Guangzhou had a strong capacity in the dispersion of economic activities to other PRD cities and the

[2]For details, please refer to http://www.getdd.gov.cn/web/html/area/kfqz/article/1227583916734.html. The dismissed Luogang District includes the main northern part and small southern tip of the current Huangpu District.

[3]For details, please refer to http://www.chinadaily.com.cn/bizchina/2006-04/19/content_571704.htm.

[4]Table 2.2 is arranged in three spatial groupings. It is crystal clear that the central PRD (led by Guangzhou) dominates in GDP, population, and total investment in fixed assets, while the east PRD (led by Shenzhen) leads in GOVI, exports and utilized FDI.

Table 2.2 Major indicators of Guangzhou and PRD cities, 2013 (Reproduced from Statistics Bureau of Guangdong Province 2014)

City	GDP (RMB billion)	Per capita GDP (RMB)	Year-end permanent population (million)	Total investment in fixed assets (RMB billion)	GOVI (RMB billion)	Total value of exports (US$ billion)	Utilized FDI (US$ million)
Guangzhou	1542.01	119,695	12.84	444.73	1719.29	62.81	4803.83
Foshan	701.02	96,310	7.26	237.56	1712.19	42.52	2520.90
Zhaoqing	166.01	41,479	4.02	100.78	341.03	4.83	1241.04
Subtotal of central PRD	*2409.04*	*n.a.*	*24.12*	*783.07*	*3772.51*	*110.16*	*8565.77*
Shenzhen	1450.02	136,948	10.55	249.02	2309.52	305.70	5467.84
Huizhou	549.00	66,109	8.29	138.39	1102.35	90.86	3937.75
Dongguan	267.84	57,144	4.67	140.13	660.53	33.32	1834.13
Subtotal of east PRD	*2266.86*	*n.a.*	*23.51*	*527.54*	*4072.40*	*429.88*	*11,239.72*
Zhuhai	166.24	104,786	1.58	96.09	346.09	26.58	1687.28
Zhongshan	263.89	83,393	3.16	96.29	567.38	26.48	646.37
Jiangmen	200.02	44,546	4.48	100.08	310.79	14.00	923.01
Subtotal of west PRD	*630.15*	*n.a.*	*9.22*	*292.46*	*1224.26*	*67.06*	*3256.66*
PRD	5306.05	93,114	56.85	1603.08	9069.15	607.09	23,062.15

Note The PRD figures are simply the sum of all nine PRD cities; they do not represent the exact territory of the PRD Economic Zone. Guangzhou figures in this table are from Guangdong Statistical Yearbook, which may be slightly different from the figures provided by the Guangzhou Statistical Yearbook

city dominated in the flows of goods and passengers in terms of both quantity and intercity movements. Without surprise, Foshan had the strongest economic ties with Guangzhou in early 2000 (Study Group on the Coordinated Development of the Pearl River Delta Townships 2003, pp. 82–89). However, it was another scenario 20–30 years ago. A study argued that PRD cities did not have a strong regional identity in the early 1980s, to say nothing of intercity networks. The creation of the PRD region as an economic concept was mainly intended as a tool to attract overseas capital (Xu and Yeh 2010a, p. 219). Indeed, the PRD cities have been criticized for vicious competitions. High similarity of industrial structure and duplication of infrastructure are two among many battlefields. Competition between Guangzhou and Shenzhen is the most severe, particularly in finance and other advanced service sectors, if not also the role of dragonhead. Nevertheless, we cannot deny their recent effort to foster coordinated regional development and cooperation in various fields. Yet, time is needed to realize any positive outcome of regional cooperation and prove the leadership of Guangzhou.

Compared with its explicit leading role in PRD, Guangzhou's relationship with Hong Kong is characterized by a mixture of interdependence and competition. As with Shenzhen and Dongguan, Guangzhou has benefited much from Hong Kong, especially in the early years of development. Hong Kong capital is the largest source of utilized foreign direct investment in Guangzhou. Hong Kong is also Guangzhou's largest trading partner and export destination. In the late 1990s, Guangdong and Guangzhou authorities saw Hong Kong's return to China a good occasion to pursue its aspirations to "go global". They showed enthusiasm for achieving in-depth cooperation and integration with Hong Kong, but Hong Kong was indifferent to the suggestion. The opposite result of competition has been magnified in the bilateral relationship since the 2000s. The "competitive" relationship between the Guangzhou Baiyun International Airport and the Hong Kong International Airport is an example. While Guangzhou is one of three designated air-hubs in mainland China, Hong Kong is also a major air-hub in Asia. The two airports are close in terms of physical capacities. Guangzhou is trying to operate more international flights, while Hong Kong is making more connections to Mainland cities. Nevertheless, the two airports, along with the three others in the region, are trying to seek cooperation in such unavoidable issues as flight diversions, emergency and safety support, and air space coordination through the PRD Airports Cooperation Forum.[5] Such a relationship of "co-opetition" (cooperation and competition) can also be found in other industrial sectors. One fundamental change in Guangzhou from 2010 is that, rather than using the extreme approaches of relying on *others* or on *itself*, Guangzhou's increasing economic strength[6] and the swiftly changing environment around it are allowing the city to seek and implement new ways of cooperating with Hong Kong, such as through strategic partnerships, with greater economic cooperation and a better division of labour. But there are institutional hurdles to overcome.

Guangzhou is also facing challenges from the remaining parts of the country. Regional economic development is now sweeping throughout the country. The Yangtze River Delta region has replaced PRD as the most influential region in the country and the powerhouse of the Chinese economy, and the Beijing-centred Bohai Bay region is a new challenger (Yeung and Shen 2009). There are also many emerging regions in northeast, western, and central China, such as the Chengdu-

[5]For details, please refer to the homepage of Hong Kong International Airport, http://www.hongkongairport.com/eng/business/about-the-airport/a5forum.html.

[6]For example, Guangzhou's GDP was RMB 249.27 billion and RMB 1542.01 billion in 2000 and 2013, while the corresponding GDP of Hong Kong was HK$ 1317.65 billion and HK$ 2138.66 billion, i.e., about RMB 1399.08 billion and RMB 1707.51 billion (CSD 2015; Guangzhou Municipal Statistics Bureau 2014). The gap in GDP between the two cities shrank from RMB 1149.81 billion to RMB 165.50 billion. This gap is further down to RMB 116.18 billion in 2014 and some people believe that Guangzhou's GDP will surpass Hong Kong's GDP in a few years' time.

Chongqing region. It is argued that Guangzhou's influence over the regions along the three tributaries (East, North, and West) of the Pearl River was not as strong as Shanghai's over its hinterland Yangtze River Basin (Zuo 2009), because Guangzhou long ignored the importance of regional development due to a strong ideology of protectionism.

Guangzhou's status as a central city is not as apparent as that of Shanghai or Beijing. However, this was precisely one reason why Guangdong felt compelled to encourage the bottom–up PPRD cooperation in 2004. By expanding Guangdong's hinterland to neighbouring provinces such as Guangxi, Jiangxi, and Hunan, Guangzhou and the GPRD region are able to create new opportunities for themselves and build a new economic structure to sustain economic development (Yeung et al. 2010). Good progress of regional integration is found and fruitful achievements in such as transportation infrastructure, customs service, commerce and trade can be seen. The PPRD framework is also useful for Guangzhou to grasp the opportunities in Southeast Asia by working with the Association of Southeast Asian Nations (ASEAN) countries. The ASEAN-China Free Trade Area established in 2010 is a catalyst. Although Guangdong does not share a border with any ASEAN countries, its family ties with overseas Chinese in those countries and its economic strength make it the biggest trading partner in China-ASEAN bilateral trade among all of the provinces of China (Yeung et al. 2010), accounted for 23 % of the total imports and exports value between China and ASEAN in 2013 (National Bureau of Statistics of China 2014; Statistics Bureau of Guangdong Province 2014). Guangzhou is one of the key contributors to this trade, along with Shenzhen. Strengthening Guangdong's relationship with ASEAN will certainly pave the path for Guangzhou to establish a closer economic relationship with ASEAN countries.

2.5 Development Strategies and Plans

2.5.1 Problems

As discussed in above sections, Guangzhou has an entrenched national central city status in south China. Politically, it is the provincial capital of Guangdong with vice-provincial level administrative power; economically, it is the richest city of the richest province. Such prestige political-cum-economic status, however, can never cover up the problems and challenges that are hindering the achievement of central city goal. In terms of development approach, strongly influenced by the ideology of "development is of overriding importance" dominated in the 1990s, the economic and urban development of Guangdong has long been affected by improvisational ideas and the willingness of senior leadership (resulted in those vanity projects). In addition, poor continuity and execution of plans has led to the problems of poor coordination, such as land use conflicts and uncoordinated urban development and

expansion. Low sustainability is another problem. The city is suffering from such as urban decay and pollution on the one hand (Fan and Lei 2010; Li et al. 2002), and inappropriate institutional environment for future development on the other hand. Efforts of further removing institutional barriers to trade and building a healthy and more open market economy are needed (Guangzhou Municipal Development and Reform Commission 2004, 2006).

Regionally, increasing competition and greater external challenges are undoubtedly the factors challenging Guangzhou's central city status. This forces the Guangzhou authorities to seek closer cooperation and coordinated development with such as other PRD cities, Hong Kong, and Macao. Intentionally or unintentionally, however, previous regional plans were found inclination to the benefits of Guangzhou at the expense of other PRD cities that these cities refused to cooperate (Xu and Yeh 2010a). Again, current administration structure and institutional system limit any closer regional cooperation and integration, in both the PRD and GPRD cases, although there are attempts of breakthrough.

2.5.2 Goals

The key task is to reverse Guangzhou's non-scientific urban development and the resulting chaotic landscape (Li et al. 2002). Regarding the urban landscape, former secretary of the CPC in Guangdong, Li Changchun, proposed a plan of "a small change in a year, a medium change in 3 years, and a big change in 10 years" in 1998. The hosting of the 2010 Asian Games even set a deadline for massive infrastructure development. Regarding the approach, the Guangzhou authorities applied the perspective of scientific development, which is an approach proposed by the former President Hu Jintao. Socio-economic and urban development plans should be people-oriented, and pursue sustainable development, in an attempt to reverse the poor development that has taken place thus far and to guide future development efforts.

The initial socio-economic goal of the Guangzhou authorities was to achieve a basic level of modernization and turn Guangzhou into a modernized central city (Guangzhou Municipal Development and Reform Commission 2004). A more aggressive goal has been proposed later to make Guangzhou an economic centre of the province with influence over south China and Southeast Asia, which highly depends upon both the construction of infrastructure linkages and the cultivation of Guangzhou's soft power. For the latter, image and brand building is necessary. By reviving elements of Guangzhou's deep cultural background and urban ecology, the authority endeavours to make Guangzhou a metropolis favourable for starting businesses and living (Bureau of Urban Planning of Guangzhou Municipality 2007; Guangzhou Municipal Development and Reform Commission 2004, 2006).

2.5.3 Strategies

Economic and Industrial Development. Industrial advancement is the key to make Guangzhou more attractive to the preferred global investors. The city puts the focus on the development of pillar industries like automobile manufacturing, petrochemicals, and electronic appliance manufacturing, with an emphasis on the application of high technology and IT. IT is an individual sector that is highly valued for its potential to facilitate the development of industries and the expansion of Guangzhou's influence to the PPRD region and Southeast Asia through service export. Tertiary industries such as financial and professional services, logistics, C&E, tourism and culture are undoubtedly the key sectors to be further nurtured (Guangzhou Municipal Development and Reform Commission 2004, 2006). Land use planning is done as a complement to the above strategy. For example, science, technology and information land use, a new central business district, and logistics centres are designated and distributed based on the designated functions of different clusters, environmental characteristics, and the principle of "agglomeration of industries and concentration of land use" (Guangzhou Municipal Development and Reform Commission 2004, 2006).

The most famous, yet controversial, policy is the strategy of "emptying the cage for new birds" (*tenglong huanniao*) and two-way transfer (*shuang zhuanyi*). The first part of the strategy is to relocate low-end, highly polluting and labour intensive manufacturing industries out of the PRD region to other parts of Guangdong; and the second part is to attract talents to Guangzhou to serve as a high-end labour force for the new incoming advanced industries (Yeung et al. 2010). What would also be transferred out are Guangzhou's experiences in planning, developing, and managing industrial zones, as well as Guangzhou's brand name and networks that can act as facilitators and complements (Sun 2006). This policy can, ideally, not only consolidate the capacities of Guangzhou in high technology development and talent pool, but also build up and strengthen the network economic relationship with different parts of Guangdong and peripheral provinces.

Urban Development. New constructions and new plans have been made over the years. For the former, under the guidance of Li's bold goal of "a big change in 10 years", the external force of the 2010 Asian Games, and the expansion of city proper, huge investments in mammoth constructions have been carried out to revitalize and modernize the urban landscape of Guangzhou. Projects like the new Guangzhou Baiyun International Airport (Fig. 2.6), Guangzhou University Town, Nansha Port, the Guangzhou International Convention and Exhibition Centre, and the Guangzhou South Railway Station that stated in the 10th and 11th FYPs have been completed accordingly (Guangzhou Municipal Development and Reform Commission 2006). There have been efforts on the improvement of transportation infrastructure and public utilities, and optimization of the urban renewal process and urban management.

Fig. 2.6 Guangzhou Baiyun International Airport (taken by the authors in May 2006)

On the other hand, proper urban planning and design is a critical factor for the city to achieve sustainability and central city status. Its importance is reflected by the fact that such subject took up an entire chapter in the 11th FYP document. First, it is a tool for systematic development. Based on urban conditions, functional districts and planning districts have been created. For example, in the *Guangzhou Urban Master Plan (2001–2010)*, Guangzhou is divided into the Metro District, Nansha District, Huadu District, Conghua District, and Zengcheng District. Viewing corridors have also been constructed, such as the new and old city axes and the corridor along the Pearl River (Bureau of Urban Planning of Guangzhou Municipality 2007).

Second, the authorities have devised a spatial plan for expansion to overcome the limitation of the small and overcrowding city proper. The city is going to "advance eastwards, expand southwards, connect westwards, optimize northwards, and adjust the centre". The eastward and southward developments have priority, and the city has realized the goal of westward connection by the implementation of the *Guangzhou-Foshan Urban Integration Development Plan (2009–2020)* released in 2009. The spatial pattern from north to south remains that of "mountain,

water, city, field, and ocean", conforming to the natural landscape of the city (Guangzhou Municipal Development and Reform Commission 2006; Bureau of Urban Planning of Guangzhou Municipality 2007). All major urban districts, sub-districts, regions, and the Pearl River are organized into clusters and networks in order to achieve a designated structure.

Third, the 11th FYP proposes to build a system of spatial regulation by identifying four categories of zones, implying different degrees of development and control, in order to reverse the situation of disorderly development. These categories are optimized development zone, prioritized development zone, constrained development zone and forbidden development zone. The plan also identifies major areas of development, namely Pearl River New Town, Guangzhou New Town, Baiyun New Town, Guangzhou Science Park, Nansha District, University Town, Baiyun International Airport, the New Railway Station, Luogang District, and Pazhou District. The concept of a clear urban structure of core (Guangzhou old city proper) and periphery (satellite towns) has also been proposed.

Regional Development. Regional development is also used to consolidate the status of the central city. Guangzhou's goals in regional development are to expand the hinterland and spread the city's influence regionally, nationally, and internationally, to Southeast Asia for example. The first and most critical step is to enhance cooperation with the PRD cities. Here, the emphasis is on the operative and effective integration of factors of production and resources, and a better regional division of labour. In order to lead the urbanization and integration of the PRD region, Guangzhou determines to serve as a regional economic service centre through building the city as the logistics, talents, and information hubs. In addition, it is going to strengthen cooperation among cities within the province, i.e. by extending PRD networks with the eastern, western, and mountainous areas of Guangdong. Guangzhou targets to do the same with other provinces, including coastal, central, and western provinces, through the policy of Western Development, for example.

Another emphasis of regional economy is on better regional economic cooperation with Hong Kong and Macao. Promoting GPRD regional cooperation was never easy but a milestone was achieved in 2009. In January 2009, the central government announced *The Outline of the Plan for the Reform and Development of the Pearl River Delta 2008–2020* (the *Outline Plan*). In October 2009, Guangdong, Hong Kong, and Macao released the joint report of the *Planning Study on the Coordinated Development of the Greater Pearl River Delta Townships* (the *Townships Planning Study*). Both documents identified the importance and necessity of regional interaction among Guangdong, Hong Kong, and Macao.

Guangzhou's major roles and functions in the development of regional economic system, metropolitan, and transportation network have been stated clearly (Construction Department of Guangdong Province, Development Bureau of Hong Kong Special Administrative Region, and Secretariat for Transport and Public Works of Macao Special Administrative Region 2009; National Development and

Reform Commission 2008). According to the plans, Guangzhou will be developed as a national central city in the GPRD region with a dominating role in advanced service sectors such as financial services, exhibitions, and logistics. Spatially, the city will consolidate its function as the regional transport hub. Guangzhou will also be one end of the regional innovation corridor between Guangzhou, Shenzhen, and Hong Kong. The city has identified Nansha District as the site for regional R&D projects of the relevant industries. Along with the development of the Guangzhou-Foshan twin city region, the Guangzhou–Foshan–Zhaoqing region will be promoted to create balanced, specialized, and smart growth for the development of three subregions in the poly-centric GPRD region (Construction Department of Guangdong Province et al. 2009; National Development and Reform Commission 2008). On the other hand, the implementation of Closer Economic Partnership Arrangement (CEPA) since 2004 and the establishment of the China (Guangdong) Pilot Free Trade Zone in April 2015 with the main task of facilitation of trade and service can help regional economic integration in the GPRD region and among cities of Guangzhou, Shenzhen and Hong Kong.

2.6 Discussion

In this section, we are going to provide a general examination of the realization of the aforementioned plans and the accomplishment of the central city status from three perspectives, namely administration and planning, urban landscape and function, and economic development. Then, we will discuss matters of concern in Guangzhou's future development.

From the perspective of administration and planning, Guangzhou is able to consolidate its central city role and its leadership in regional development. As argued, institutional backwardness is the crucial factor of the failure of stopping the severe competitions in development among PRD cities, although a few regional plans have been produced for the region to initiate regional coordination since the late 1980s (*for details, see* Xu and Yeh 2010a).

Coming into the twenty-first century, both central and local efforts on building the leadership of Guangzhou are stated in the recent regional plans and studies. First, the *Outline Plan* was blessed by the National Development and Reform Commission (NDRC) and approved by the State Council, although Xu and Yeh (2010a) considered that "(it) is a broad-brush guidance and does not offer concrete measures for spatial coordination". Second, the *Townships Planning Study* was undertaken with the agreement of the Hong Kong and Macao Affairs Office of the State Council and the three local governments in question. We should note that the NDRC is the most important unit of the State Council and, for historical reasons, its rank is half-level higher than other ministries (Xu and Yeh 2010a). The support of the State Council and the NDRC represented the recognition of the highest authorities of the central government.

Indeed, the increasingly tough endogenous and exogenous socio-economic circumstances have led to an understanding of the pressing need for, as well as the advantages of, strategic regional development among PRD cities. PRD cities have already incorporated these regional plans into their local plans. On the issue of spatial coordination, the five PRD Integration Plans on urban–rural development, infrastructure, industrial sectors, basic public services, and environmental protection that were announced in August 2010 can be considered concrete steps in moving towards a macro integration framework.

From the perspective of urban landscape and function, tremendous improvements have taken place in the last decade and are continuing. First, there have been significant improvements in local environment and living standard. The authorities have invested about RMB 230 billion to redevelop many substandard urban villages, tackle air, water, and industrial pollution, beautify the appearance of residential buildings, optimize road and subway networks, open new transport hubs, enhance the greening of the city, and so forth. The aim is to recreate a clean and orderly city of water in Lingnan style and a garden city (Chinese Government's Official Web Portal 2010; "Guangzhou shinian 'dabian' qizhi bianliang" 2010; "Shinian tou 2 qianyi, Guangzhou huali zhuanshen" 2010).

Second, the corresponding urban landscape for Guangzhou to better function as a central city is ready. The city invested RMB 529.49 billion in urban constructions (innovation excluded) from 2004 to 2009 before the Asian Games. This sum was more than the total amount invested in urban constructions from 1978 to 2003 at RMB 328.72 billion (Guangzhou Municipal Statistics Bureau 2010). A brand-new central business district is now built in Tianhe District and massive urban development can be found in Panyu. New landmark projects in Tianhe such as the Pearl River New Town (Fig. 2.7) and the Canton (Guangzhou TV) Tower (Fig. 2.8) created a new city axis that extends from north to south of the district (Fig. 2.9). Such development will lead to the further agglomeration of high-end and tertiary economic activities in Tianhe. In Panyu, as the major location of the Asian Games facilities, an Asian Games Town (Guangzhou New Town) was built from greenfield land. Panyu also houses the terminus of a high-speed railway that can reach Beijing, Wuhan, Hong Kong, and other places. With other kinds of complementary infrastructure such as a highway network, Panyu has changed its landscape from a village to that of a modern built-up area, supporting the old city proper to further expand its functions and to any shift of function to Panyu.

The redevelopment, new basic provision and mega constructions, the construction of Guangzhou University Town and projects in Nansha District, and the operation of Guangzhou-Foshan mass transit line are gradually realizing the spatial strategy of central adjustment, southward expansion, and westward connection ("Guangzhou: Qiannian gucheng shoudu poju, qianyi yongyu chengshi jijian" 2010; "Panyu: 'tenglong huanniao' GDP sinian fanfan" 2010; "Panyu weilai wunian 'sanzhangpai' liangjian" 2010).

From the perspective of economic development, further effort on better strategic of labour in the region and definite strategies are needed to complete the goals. In terms of GOVI, Shenzhen is the largest contributor in the province and Guangzhou

Fig. 2.7 Construction in new CBD in Guangzhou (taken by the authors in January 2013)

Fig. 2.8 The Canton (Guangzhou TV) Tower (taken by the authors in January 2013)

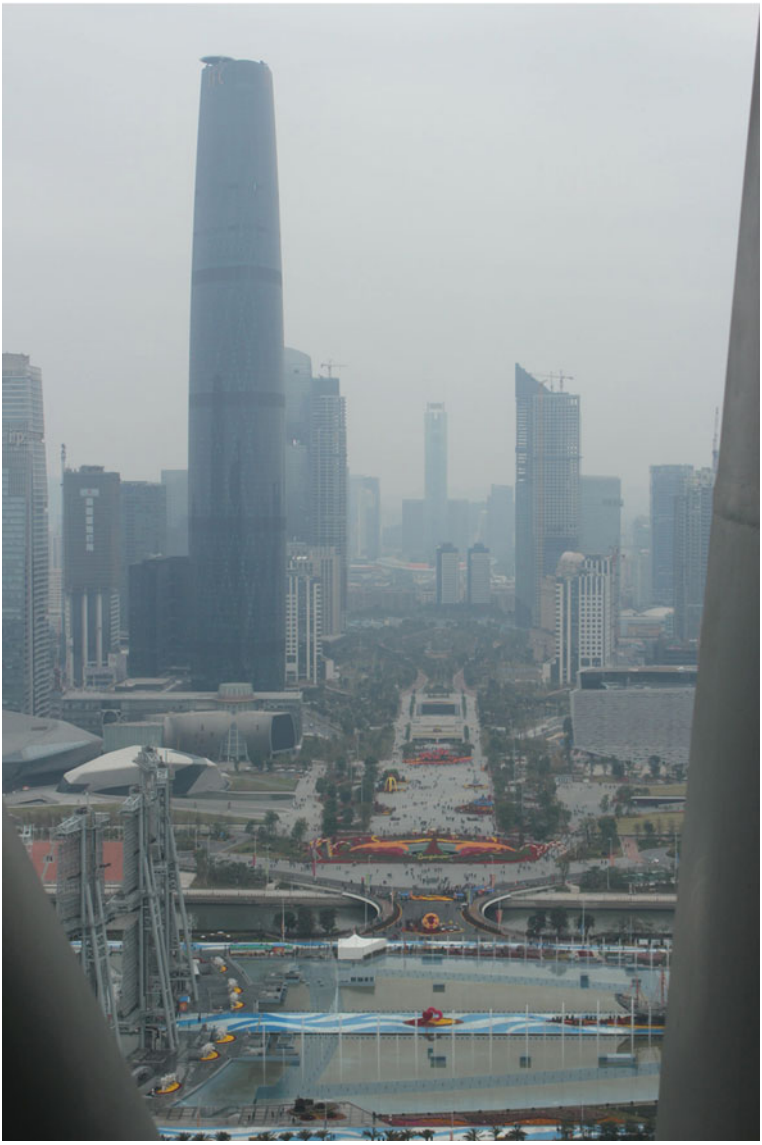

Fig. 2.9 Guangzhou's new axis, looking northward from Canton Tower (taken by the authors in October 2011)

is the second, the gap was about RMB 590 billion in 2013 (Table 2.2). We can see, however, that Guangzhou's pillar industries are rising in the province. Guangzhou's three pillar industries, namely automobile manufacturing, petrochemicals, and electronic appliance manufacturing, have been growing at a stable rate. Their contribution to Guangzhou's GOVI rose from 43.28 % in 2004 to 46.31 % in 2013,

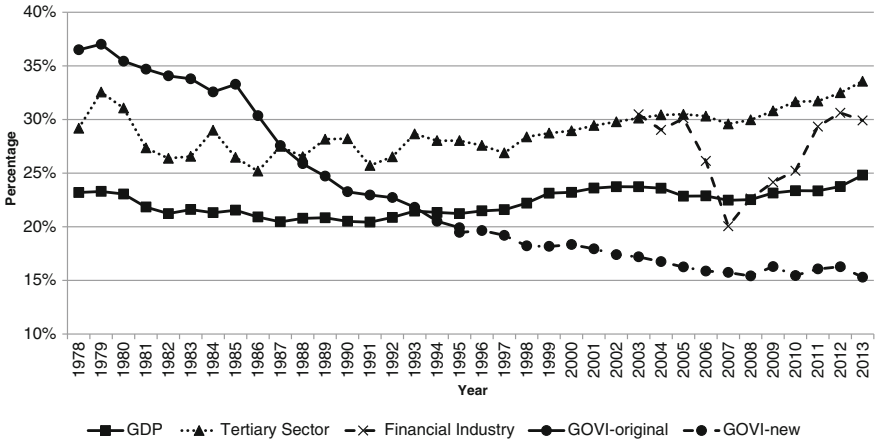

Fig. 2.10 Guangzhou's share in the total for Guangdong in major indicators, 1978–2013 (Reproduced from Guangzhou Municipal Statistics Bureau 2010, 2014; Statistics Bureau of Guangdong Province 2014)

while their contribution to Guangdong's GOVI[7] slightly increased from 20.47 % in 2004 to 22.17 % in 2013. Automobile manufacturing in Guangzhou even accounted for 70.49 % in Guangdong in 2013, revealing the dominance of Guangzhou in this industry. Guangzhou's petrochemicals industry dominates in the province similarly.

On the contrary, the share of Guangzhou's tertiary sector is the largest in the provincial GDP, about RMB 176 billion more than Shenzhen in 2013. The city led in the sub-sectors of "transport, storage and post" and "wholesale and retail trades", indicating the strong industries of trade and logistics. On the other hand, Guangzhou's financial industry's contribution to the province has stabilized in the range of 20–30 % since 2003 (Fig. 2.10), and the total value of Guangzhou's financial industry was about RMB 86 billion less than that of Shenzhen in 2013 (Guangzhou Municipal Statistics Bureau 2005, 2014; Statistics Bureau of Guangdong Province 2005, 2014). Indeed, while Shenzhen is working hard on the logistics and port industries, Guangzhou is also striving hard for the strong financial sector. Therefore, the better market development and necessary coordination and of labour of these industries between Guangzhou and Shenzhen must be of great interest among various stakeholders.

In addition, the *tenglong huanniao* strategy has been facing challenges since its implementation due to the global economic uncertainty and recession in the late 2000s on the one hand, and reluctance of moving or upgrading of those being uprooted low-end industries and sectors on the other hand. The central government

[7]Guangzhou's three pillar industries are not exactly the same as those of Guangdong. In Guangzhou, they are car manufacturing, petrochemicals, and electronic appliance manufacturing, while in Guangdong they are car manufacturing, petrochemicals, and electronic information.

has also had words on this strategy saying that the interest of those industries should be taken care of.[8] This may lead to the slowing down of the progress of industrial shift and structural upgrade of Guangzhou.

In conclusion, Guangzhou is a national central city from the perspective of politics and urban development. Guangzhou is the political centre of Guangdong province, if not of the whole south China. The then secretary of the Guangdong Provincial Committee of the CPC, Wang Yang (December 2007 to December 2012), and his successor Hu Chunhua (December 2012 to present) are also members of the influential Political Bureau of the Central Committee of the CPC. This reflects the importance of Guangdong and Guangzhou in China. Party secretaries of the same standing can only be found in Beijing, Tianjin, Shanghai, and Chongqing—all of which are municipalities under the direct administration of the central government, and in Xinjiang. Guangzhou is a national central city in terms of flows. It is an irreplaceable transportation and information hub in south China, with networks extending to many cities and provinces, facilitating intensive flows of capital, people, and information regionally and globally. In terms of economic activities, Guangzhou is a central city but faces strong challenges. Guangzhou has the biggest economy of all cities in the PPRD region, after only Hong Kong. But it does not hold the lead firmly in key areas. Guangzhou is the regional financial centre and holds a significant share of the entrepreneurial decision making, management, and coordination of financial services in south China, but the stock market is located in Shenzhen, apart from another one in Hong Kong. Hong Kong is undeniably a global financial centre and a favourable location for regional headquarters. This fact reveals that Guangzhou is a central city, but it is certainly not the sole or even dominant regional financial, trade, and logistics centre in the GPRD region.

The 12th FYPs period ended in 2015 and most of the plans should be completed. There is no doubt that the Guangzhou authorities are endeavouring to strengthen the city's status as a national central city through the implementation of the 12th FYP and other urban and thematic plans. To examine whether or not the proposed strategies and plans are beneficial to the goal of Guangzhou, the principles discussed below can be useful parameters.

Worldwide cities are experiencing transformations and so does Guangzhou. Summarising the paths of transformations of some cities, from the perspective of economic geography, the World Bank proposed the "3-D" spatial dimensions of *density*, *distance*, and *division* in the *World Development Report 2009* (WDR 2009) (World Bank 2009). Here, we carry out the discussion following this "3-D" dimension. On *density*, Table 2.3 compares the population density and GDP density of Guangzhou and other major Chinese cities. Guangzhou performed better than

[8]A series of speeches by former Premier Wen Jiabao in 2008 and 2009 reflected his concern toward the rigorous enforcement of the *tenglong huanniao* strategy that led to the dissatisfaction and unrest of many involved enterprises.

Table 2.3 Population density and GDP density of selected Chinese cities, 2013 (Reproduced from Chinese Government's Official Web Portal 2005; CSD 2015; Fuzhou Municipal Statistics Bureau 2010, 2014; Hangzhou Municipal Statistics Bureau 2014; Nanjing Municipal Statistics Bureau 2014; National Bureau of Statistics of China 2014; Shenzhen Government Online 2009; Statistics Bureau of Chongqing Municipality 2014; Statistics Bureau of Guangdong Province 2014; and The Official Website of Guangzhou Municipality 2010)

City	Land area (km^2)	Year-end population (million)	Population density (10,000 persons/100 km^2)	GDP (RMB billion)	GDP density (billion/100 km^2)
Guangzhou	7434.4	12.84	17.27	1542.01	20.74
Beijing*	16,807.8	21.15	12.58	1950.06	11.60
Taianjin*	11,305.0	14.72	13.02	1437.02	12.71
*Shanghai**	6340.5	24.15	38.09	2160.21	34.07
Shenzhen	1952.8	10.55	54.02	1450.02	74.25
Fuzhou	11,968.0	7.34	6.13	467.85	3.91
Hangzhou	16,596.0	8.84	5.33	834.35	5.03
Nanjing	6587.0	8.19	12.43	801.18	12.16
Hong Kong	1104.5	7.19	65.10	1707.51	154.60
Chongqing*	82,400.0	29.70	3.60	1265.67	1.54

Note Seven coastal cities in this book are in italics. Cities with "*" are municipalities under the direction administration of the central government

Beijing and Tianjin, as well as Fuzhou, Hangzhou, and Nanjing, but it was far behind Hong Kong, Shanghai and Shenzhen. According to the definition in the WDR 2009, density is "the economic mass per unit of land area, or the geographic compactness of economic activity". There is a strong correlation between economic mass (output) and population density and employment (World Bank 2009, p. 49, 54). The statistical figures from Table 2.3 imply that Guangzhou should, and has the room to, raise its economic density by creating an appropriate number of employment opportunities, if not a meteoric uplift. Thus Guangzhou should implement proper policies to achieve a further agglomeration of capital and talent.

On *distance*, WDR 2009 uses the concept of economic distance rather than pure physical distance, and refers *distance* to "the ease or difficulty for goods, services, labour, capital, information, and ideas to traverse space. It measures how easily capital flows, labour moves, goods are transported, and services are delivered between two locations" (World Bank 2009, p. 75). In terms of physical distance, Guangzhou's transport infrastructure has been expanding significantly and travelling times to GPRD cities and other Chinese cities have been greatly reduced. By building superior transport infrastructure, Guangzhou can directly compress the spatial distance and indirectly the economic distance to peripheral areas. This would allow Guangzhou to achieve strong agglomeration (i.e. higher *density*) and provide more direct benefits to connected cities and counties, i.e. giving Guangzhou higher influence to a larger territorial area.

However, the reduction of economic distance also depends upon (1) building an attractive and livable city to allow workers (migrants) and businesses to move closer to the city. This relies on sound economic, talent, social security, and environmental policies. This in turn further raises the *density*. (2) The free and easy movement of factors of production and delivery of services between Guangzhou and other cities is another crucial factor. One important key is to minimize protectionism, which leads to the third "D"—*division*. On *division*, it is important to remove economic borders between Guangzhou and other PRD cities, as well as the one between Guangdong and Hong Kong on the one hand. It is also necessary to figure out a strategic and appropriate regional division of labour among them on the other hand. This effort can help better regional integration.

To further work on the 3-D dimension, we suggest that Guangzhou can pay the effort in the following areas. Locally, Guangzhou needs to carry out works on advanced urbanization. On the one hand, it is necessary to continue the strategy of *tenglong huanniao* and *shuang zhuanyi*, but an upgraded version is needed to shift the unwanted low-end and low value-added activities to other regions in a more rational manner, such as the closer cooperation among Hong Kong (investor), PRD (origin) and destinations like Guangxi and Hunan to provide better supporting packages and beneficial offers.

On the other hand, sound industrial and investment policies on developing such as certain advanced, high-tech, and high value-added sectors should be complemented by the adjustment of the *hukou* system. Only a definite policy, such as a revised and clear scoring system, can offer the migrants, especially those skilled high-end manpower and investors that Guangzhou wants, a visionary path of obtaining the permanent residence of Guangzhou, enjoying their rights and fulfilling their obligations and duties in this city. This also involves the optimization of public services, social security, housing, education provision that need policy support and proper spatial planning. On urban planning and development, the latest adjustment of administrative area in February 2014 is an opportunity for the Guangzhou government to build a highly livable garden city, as well as a competitive city in modern spatial pattern that support better agglomeration and diffusion, and free flows of different factors of production. As a result, the city can better house those advanced (and global) manufacturing and services activities.

Regionally, Guangzhou, as a national central city, needs to pay attention to two directions. First, at the strategic level, is the coordination of implementing different regional development plans (at different spatial levels) in order to provide synergy for Guangzhou to better function as a central city. For example, the city can coordinate and integrate the projects and works (such as investment, trading, and infrastructure development) proposed in the *Outline Plan* (PRD level), the *Townships Planning Study* and CEPA (GPRD level), at the PPRD level, and even at the PPRD-ASEAN level, to maximize the benefit for itself and enhance regional integration at the same time.

Second, at the implementation level, there is no doubt that practical works for the PRD and GPRD regions have top priority. There is still a clear economic distance between Guangzhou (indeed the PRD region as a whole) and Hong Kong, due to the implementation of "one-country, two-systems". Competitions between Guangzhou and other PRD cities are not less. Fortunately, the CEPA, the five PRD Integration Plans, and the latest China (Guangdong) Pilot Free Trade Zone create platforms for co-opetition and strategic regional division of labour among Guangzhou, Hong Kong, Shenzhen, and other PRD cities. Based on these platforms with improving institutional environment, these government stakeholders should have a breakthrough in the institutional settings. For example, the Hong Kong-Zhuhai-Macao Bridge Authority, the first cross-border management institutional body in GPRD, is a very good example. It has strong implication for the GPRD integration and cross-border governance. Appropriate institutional settings can help reduce *distance* and strengthen *divisions* of labour.

2.7 Conclusion

Guangzhou has been an important central city in south China for a long period in history. Although it faces strong competition from other cities such as Shenzhen and Hong Kong in the GPRD region, and Beijing and Shanghai nationally, this famous historic city is now aggressively reshaping its central city status through various socio-economic strategic plans and urban planning measures. The efforts are supported by Guangzhou's strong socio-economic foundation, beneficial national and provincial policies, and other favourable conditions.

Although Guangzhou is the provincial capital and a key player in the PRD region, previous strategies and plans devised and adopted by the Guangdong or Guangzhou authorities cannot help in making Guangzhou the leader in the region before the 2000s. The city failed to transform its economic activities and economic structure to a higher level, and its economy was not as competitive in the region as it had once been. Guangzhou failed to agglomerate capital and talents as other advanced PRD cities were doing. Its chaotic spatial structure, decaying downtown area, improper land use allocations, limited city size, and other deficiencies were once at the expense of Guangzhou's central city function. Those plans, if not silently shelved, failed in the implementation process for critical reasons such as wrong expectations of strong market forces, "unrealistic" goals, and poor support from other PRD cities and central ministries, particularly the State Council.

The development of Guangzhou in the past decade, however, reversed those disadvantages and paved the path for better changes. Following the approaches of scientific development, people-oriented and sustainable development, and the goal of "a small change in a year, a medium change in 3 years, and a big change in 10 years", Guangzhou's economy has been transforming towards advanced

manufacturing and service industries, and simultaneously leading to frequent flows and closer interactions of industries and manpower between Guangzhou and peripheral areas. Guangzhou's large-scale infrastructure development and strategic and systematic spatial expansion have given the city the image and functions that it needs to become a central city. The implementation of the 12th FYP, *Outline Plan* and the *Townships Planning Study* has facilitated the process of regional integration and shaped the central city position and the network relationship in the GPRD region.

To further consolidate the national central city status, Guangzhou can work on the dimensions of *density*, *distance* and *division*. In brief, Guangzhou should enhance its strengthen, mitigate the weaknesses, and catch the opportunities, at both local and regional levels, by promoting advanced urbanization through further agglomeration and optimal spatial organization of different factors of production, i.e. to increase the *density*, shortening both the physical and economic *distance* through the infrastructure construction and removal of barriers, and optimizing regional integration under better institutional environment and settings and *division* of labour.

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Chapter 3
Shenzhen: Innovation and Governments' Roles in Reform and Development

3.1 Introduction

Completely different from the trajectory of Guangzhou's development, Shenzhen has developed from a humble small town to a Chinese mega city in only three decades. Since the early years of Shenzhen Special Economic Zone (SEZ)'s development, scholars have been keen to explore this unchartered water, particularly those from Hong Kong. For example, Wong and his colleagues in an edited book (Wong 1985) offered the first-hand information of the Shenzhen SEZ, including the political, economic, and geographical background, the development of specific industrial sectors, and various planning issues of this unknown territory when detailed facts and figures were still not widely available. Early efforts of foreign scholars like Sklair (1985) sought insights on China's reform, institutional change, and implication from the Shenzhen SEZ experiment. Subsequent efforts are not less. Like Wong et al. (1992) also reviewed Shenzhen's experiences of experiments and innovations in various sectors. Su (2001) carried out a comprehensive review on the SEZ development. Yeung et al. (2009) documented the socio-economic achievement and earthshaking urban development at the time of 30th anniversary of SEZ. From the planning perspective, Zacharias and Tang (2010) reviewed the trajectory of development of Shenzhen from a small town to a mega city. Ng (2003) also conducted a general review of Shenzhen's urban and territorial development and argued for the importance of socio-economic and spatial planning on Shenzhen's growth (*also* Ng and Tang 2004a). In the process of development, land is no doubt the most important resource and asset of Shenzhen. Zhu (1994, 1996, 1999a, b) examined the land policy and land reforms, and the relationship with local economic and physical growth. Chiu (1996) studied the housing affordability in Shenzhen SEZ and the possible national implications.

While some scholars focused on the achievement of Shenzhen, some scholars turned their attention to Shenzhen's problems. For example, Ip (1995) figured out the problems of labour reforms in Shenzhen and that governmental institution is a

J. Shen and G. Kee, *Development and Planning in Seven Major Coastal Cities in Southern and Eastern China*, GeoJournal Library 120,
DOI 10.1007/978-3-319-46421-3_3

key barrier. Liu et al. (2007) found that production-induced pollutants supported the U-shaped development-environment relationship, implying that the existing highly polluting manufacturing activities in Shenzhen made the city not sustainable. Shen (2008c) also examined the sustainability and urban growth of Shenzhen, and other emerging topics such as the inter-city relationship between Shenzhen and Hong Kong (Chu et al. 2002; Shen 2008a, 2014; Wei 2007). Sui and Zeng (2001) enriched the study of Asia's desakota regions by focusing on the dynamics of landscape structure, using Shenzhen as the case, to reach a conclusion on the relationship between the pace of urbanization and the control of the size of desakota region. Wang et al. (2009) focused on urbanization and urban villages in Shenzhen. Ample research results offer an all-round explanation to the achievements and challenges of the development of Shenzhen.

Similar to Guangzhou, the success of Shenzhen relied on its ability to create *flows* and the capacity of *agglomeration*, which contributed to its rapid economic and urban development. Such success has usually been attributed to the implementation of one macro strategy—its designation as a SEZ in 1980, which was an important part of China's Open Door Policy. Since then, incoming investment, particularly foreign direct investment (FDI) from Hong Kong, export-oriented manufacturing activities, shipping and port businesses, and the subsequent agglomeration of talents, technology, and other industrial sectors have been contributing to the city's rapid socio-economic growth. Certainly, domestic investment has also played a significant part in it (Shen et al. 2002; Yeung et al. 2005). As a pioneer of economic reform, Shenzhen has not only contributed to the development of the PRD region, but also successfully tried different innovative measures that have been widely applied in the country subsequently.

From Shenzhen's story, we can identify two critical factors that have been leading Shenzhen to success, besides the advantageous spatial and temporal factors. They are the co-existence of innovation, particularly in strategies and policies, and the endeavour of stakeholders—especially the active involvement and steering of governments. Innovation, induced by economic globalization, global warming, recent global economic crises, and so on, is now a means that is adopted by many cities and states as a strategic response, in order to solve social, economic and urban problems, to raise international competitiveness, to pursue sustainable development, and to preserve traditional and local characteristics. It is also a popular concept of study, like the one of social innovation in European cities and states, which scholars try to conceptualize and operationalize, as a new way of governance (Gerometta et al. 2005; Moulaert et al. 2007), or the contribution of social innovation, as well as learning and innovation towards sustainable territorial development (MacCallum et al. 2009; MacKinnon et al. 2002; Mieg and Töpfer 2013). Innovation is now very popular in China (Lou 2009). Besides technological innovation, the whole country is taking innovative measures in domains of economic development, urban and regional development, institution, and social management.

The active involvement and steering of government, under the Chinese context, is not hard to understand. Indeed, in the western capitalist world, the regulatory modes of production experienced changes from free market to Keynesian regime with strong state intervention to the neoliberalism in the twentieth century. The failure of state intervention, as well as the failure of free market (especially in the early twenty-first century with the outbreak of the global financial crisis) forces the world to re-consider the roles of government, the state, and the whole institutions. Besides taking the role of enabling and facilitating, some argue that state capitalism, like the cases of China and Singapore, is noteworthy experience (Bremmer 2010; *The Economist* 2012). These states play strong steering and regulative roles in economic development, and concurrently generate wealth in the market through the bodies of state-owned enterprises and sovereign wealth funds.

Although Shenzhen has taken full advantage of innovation and active participation of stakeholders in its rapid development in the last three decades, Shenzhen seems to be at a loss as to which direction its development should now take. The problem is not only about such concerns as shortages of land and the need to engage in industrial restructuring, but also about such profound issues as "What should the city do to defend its special status?", "Can Shenzhen still be the pioneer in China's development?" and "Can Shenzhen secure a place in the global platform?" In short, what is at stake is the destiny of Shenzhen. It is necessary for the city to identify new advantages and dynamics of development based on its long established innovative approach and the adventure spirit of the actors.

Compared with the aforementioned studies on the features and problems of socio-economic development and physical change and planning, the role of governments in Shenzhen's development has received less attention. Thus far, the work on this subject consists of Ng and Tang's (2004a, b) studies on the relationship between the government and urban planning in Shenzhen, Shen and his colleagues' study on the dual-track process of urbanization in the PRD region and the role of government (Shen et al. 2006), and Zhu's (1999a, 2004) studies on the formation of a local growth coalition and a local developmental state in Shenzhen. It is well known that the central and local governments under the Communist Party of China (CPC) regime remain the ultimate power in China and still play a vital role in the nation's transition into a more market-oriented economy, although the market and the private sector are becoming increasingly important (Ng and Tang 2004b; Walcott and Pannell 2006). Therefore, it is interesting and necessary to examine the role of governments in detail. This chapter focuses on the role of governments in Shenzhen in forming innovative strategies and steering the development of the city.

This chapter is organized as follows. Following this introduction, Sect. 3.2 briefly reviews the course of Shenzhen's development. Section 3.3 introduces the innovative and trial nature in development strategies adopted by Shenzhen, focusing on government strategies and plans. Section 3.4 analyzes and discusses the role of governments in Shenzhen's development and the future development of the city. Section 3.5 concludes the chapter.

3.2 The Tale of Shenzhen's Development

The fairy tale of Shenzhen is marked by specific time and space and the respective changes at both local and global scales. Global factors, as introduced in Chap. 1, and concurrently the adoption of the Open Door Policy following the decision in 1978 at the Third Plenary Session of the 11th Central Committee of CPC under the leadership of Deng Xiaoping (Fig. 3.1), gave birth to the Shenzhen SEZ, along with three more SEZs in 1980 (Yeung et al. 2009). The year 2010 marked the 30th anniversary of the establishment of the Shenzhen SEZ. The reason of Shenzhen's favourable geographical location has been well documented in the analysis of SEZ location selection. Its long distance away from Beijing limited possible political instability resulting from any failures with the SEZ experiment, and thereby minimized the risks to the central authorities. Its geographical proximity to Hong Kong, on the other hand, maximized the opportunities of learning from a capitalist economy. Indeed, throughout the years of development, Shenzhen, together with Dongguan and Guangzhou, all eastern PRD cities, have benefited greatly from the economic and cultural diffusion from Hong Kong, and their development outpaced their western PRD counterparts such as Zhuhai and Zhongshan (Table 3.1, Fig. 3.2; Lin 1997; Planning Department of the Government of the Hong Kong Special Administrative Region 2007, 2008, 2010; Shen et al. 2000; Sit and Yang 1997). Shenzhen's coastal location is also another important asset.

With the synergy of aforementioned favourable factors, as well as those to be discussed below, Shenzhen experienced a 35-year breathtaking socio-economic and urban development. From a withering border town with a population of about 300,000, it is now a member of the mega city club with a population of over 10 million since 2010 (Table 3.2), according to the definition of the United Nations (Zacharias and Tang 2010, p. 211).[1] Shenzhen is a city of migrants, with a *hukou* (registered household) population of only 3.10 million out of its 10.63 million inhabitants in 2013, a situation that is not common in China. The phenomenon of the large number of migrants in the PRD region has been well studied. Workers from other cities, counties, and provinces have been drawn by the promise of a better life to work in the factories in Shenzhen and the PRD region (Fan 1996; Li and Siu 1998; Shen 2008b, c, 2011), although such favourable condition has changed drastically in recent years that led to serious shortage of low-cost labour.

Like population, Shenzhen has an astounding economic development. Its GDP in 1979 was a mere RMB 0.196 billion, the smallest among the five SEZs (Yeung et al. 2009). Benefited from a nominal average annual growth rate of 29.95 % from 1979 to 2013, Shenzhen's GDP rose to RMB 1450.02 billion in 2013. Shenzhen is now the most successful SEZ in terms of GDP unequivocally. Shenzhen's per capita GDP, gross output value of industry, and utilized FDI have all surged

[1]The year-end permanent population of Shenzhen in 2013 was 10.63 million (Statistics Bureau of Shenzhen Municipality 2014a). According to the United Nations' definition, a mega city is a city with over 10 million inhabitants.

Fig. 3.1 Statute of Chinese leader, Deng Xiaoping, in Shenzhen (taken by the authors in January 2009)

Table 3.1 Difference of GDP growth between Eastern PRD cities and Western PRD cities (Reproduced from Greater Pearl River Delta Business Council 2006, p. 5 and Statistics Bureau of Guangdong Province 1991, 2001, 2011)

City	1980 GDP (RMB billion)	1990 GDP (RMB billion)	2000 GDP (RMB billion)	2010 GDP (RMB billion)
Shenzhen	0.3	13.59	218.75	958.15
Huizhou	0.8	4.88	43.92	173.00
Dongguan	0.7	6.46	82.03	424.65
Sub-total of eastern PRD	*1.8*	*24.93*	*344.69*	*1555.79*
Zhuhai	0.3	4.12	33.24	120.86
Zhongshan	0.7	4.35	34.54	185.07
Jiangmen	1.9	9.31	50.47	157.04
Sub-total of western PRD	*2.9*	*17.78*	*118.25*	*462.97*
Eastern PRD: Western PRD	0.62:1	1.40:1	2.92:1	3.36:1

Note Sub-total of eastern PRD is the sum of Shenzhen, Huizhou and Dongguan. Sub-total of western PRD is the sum of Zhuhai, Zhongshan and Jiangmen

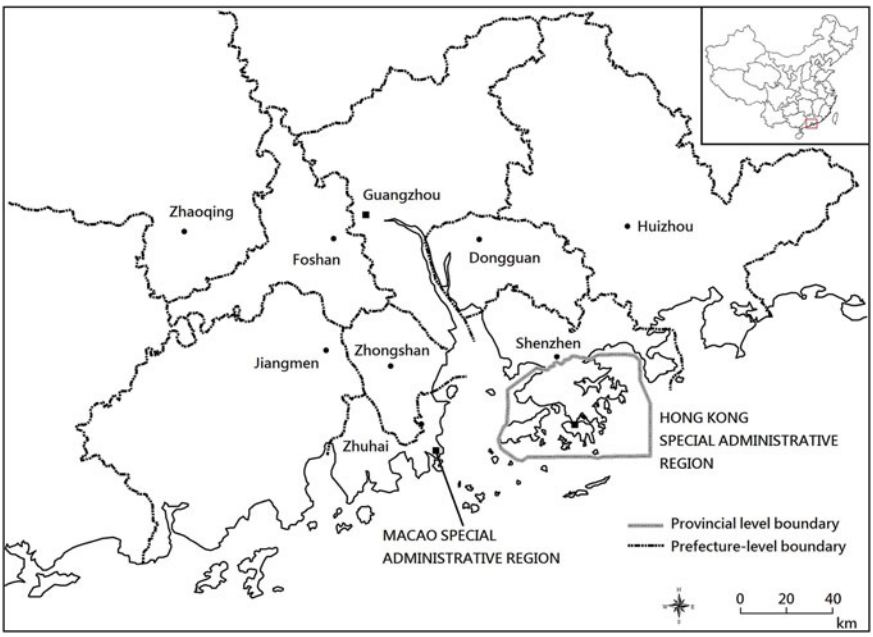

Fig. 3.2 Shenzhen and neighbouring cities in the PRD region

Table 3.2 Major social and economic indicators of Shenzhen, 1979–2013 (Reproduced from Statistics Bureau of Shenzhen Municipality 2014a)

Indicator	1979	1990	2000	2013
Year-end resident population (including population without *hukou*, thousand)	314.1	1677.8	7012.4	10,628.9
Employed persons (thousand)	139.5	1092.2	4749.7	7712.0
GDP (RMB billion, current prices)	0.196	17.167	218.745	1450.23
Per capita GDP (RMB)	606	8724	32,800	136,947
Economic structure (%; Primary:Secondary:Tertiary)	37.0:20.5:42.5	4.1:44.8:51.1	0.7:49.7:49.6	0.0:43.4:56.6
Gross output value of industry (RMB billion, current prices)	0.071	22.022	307.152	2404.403
Exports value (US$ billion)	0.009	8.152	34.563	305.702
Utilized FDI (US$ billion)	0.005	0.390	1.961	5.468

similarly in the same period. All these figures reflect a strong agglomeration capacity of Shenzhen, especially within the boundaries of the SEZ,[2] although Shenzhen accounts for less than 0.1 % of China's 9.6 million sq km of land area. Using FDI as an example again, Shenzhen attracted a lion's share of FDI in China in the early 1980s. As of December 1981, 50.6 % of all foreign inward investment in China was to Shenzhen (Wong et al. 1992). Shenzhen's share was declined as more cities in China were opened up to foreign economic activities in the late 1980s and 1990s. However, Shenzhen remains the largest recipient of FDI in Guangdong (Fig. 3.3; Statistics Bureau of Guangdong Province 2014). Such a concentration of FDI in Shenzhen in the early years gave the city a strong economic base for rapid development (Shen et al. 2000). Likewise, such an agglomeration of manufacturing and services activities allowed the evolution of Shenzhen from a primary economy to a mature economy, as shown in the change of the economic structure from 37.0:20.5:42.5 (shares of the primary, secondary, and tertiary sectors in GDP) in 1979 to 0.0:43.4:56.6 in 2013 (Statistics Bureau of Shenzhen Municipality 2014a).

Besides a strong performance of *agglomeration*, as an export-oriented economy, Shenzhen demonstrated its strong ability to create *flows*. The city had a very high degree of dependence on foreign trade at 229.56 %,[3] and contributed 48.04 and 13.84 % of the exports value of Guangdong and China, respectively in 2013.[4] After a period of rapid growth in the late 1990s and early 2000s, Shenzhen port became

[2]Shenzhen was divided into SEZ part and non-SEZ part until 1 July 2010. The whole city is now a SEZ.

[3]Degree of dependence on foreign trade = total value of imports and exports/GDP. The figures in 2013 were US$ 537.47 billion * 6.1932 (annual average exchange rate)/RMB 1450.02 billion.

[4]Export values of Guangdong and China in 2013 were US$ 636.364 billion and US$ 2209.00 billion respectively (National Bureau of Statistics of China 2014; Statistics Bureau of Guangdong Province 2014).

Fig. 3.3 A Wal-Mart store in Shenzhen (taken by the authors in January 2009)

the third largest container port in the world in 2013 (Fig. 3.4), overtaking Hong Kong and only after Shanghai and Singapore, with a container throughput of 23.279 million (Port of Rotterdam 2015). As for Shenzhen International Airport, although it is not classified as an air hub in China, its importance in the country should not be underestimated. In 2013, it was the fourth largest airport in mainland China in terms of air cargo throughput, at 913 thousand tonnes; and the sixth largest in terms of passenger volume, at 32.3 million (Civil Aviation Administration of China 2015). These figures accounted for 7.26 and 4.28 % of the country's total, respectively. The number of passengers handled already exceeds the original maximum designed capacity of 16 million. The second runway and the new terminal commenced operations in late July 2011 and late November 2013, respectively (Shenzhen International Airport 2011, 2013; Vogel et al. 2010; Yeung and Kee 2007). The massive and well-constructed physical infrastructure in Shenzhen successfully enhances *flows* and works as a tool to attract investment and as the wheels of economic activities of the city (World Bank 1994).

Shenzhen's achievement has been widely recognized. Nationally, Shenzhen has long been the most competitive city in mainland China, even surpassed Hong Kong in the 2014 edition of the China's urban competitiveness report (Ni et al. 2015). The research team recognizes the outstanding performance of Shenzhen in growth and efficiency. Globally, the city is becoming a popular entity for comparative studies in

Fig. 3.4 Yantian port looking from Hong Kong—cargoes are loading and unloading at the terminals (taken by the authors in November 2015)

such areas as competitiveness and livability. In the field of business, Shenzhen first entered MasterCard's list of Worldwide Centers of Commerce Index in 2008, ranking 60th among 75 cities. It was described as having a very poor performance in "knowledge creation and information flow", but a fair performance in the dimensions of "legal and political framework" and "economic stability" (MasterCard Worldwide 2008). The Global Financial Centres Index is another city-based study. It is issued twice a year by the City of London and later Z/Yen Group since March 2007. Shenzhen has appeared on the list since the sixth report, when it was surprisingly ranked fifth. In the subsequent reports, its ranking dropped and ranged from ninth to thirty-eighth (23rd in the 18th edition in September 2015, the latest report at the time of writing). The research institute that compiles the index explained that the increasing number of Asian respondents who were familiar with Shenzhen contributed significantly to this result. This also means that the city does not have good connections outside of Asia and lacks a global reputation. Similarly, although Shenzhen had a recognized high ranking in the industry sector sub-indices of "banking" and "insurance", its general ranking was not matched by its competitiveness ranking in "people", "business environment", "market access", and "infrastructure" (Z/Yen Group 2009, 2010). Nevertheless, Shenzhen is emerging as an important financial centre in China and has been considered to become a more significant and transnational specialist financial centre (Z/Yen Group 2015).

With all these significant and fruitful achievements, Shenzhen has more than enough to celebrate the 30th anniversary of the SEZ establishment. In traditional Chinese wisdom, the age of 30 years alludes to the time when one becomes firmly established (*sanshi erli*). Shenzhen should review and draw lessons from its experience of development over the past 30 years in order to pave a better path for its future development. Indeed, the speeding up of economic development in other Chinese cities and regions, China's accession to the World Trade Organization, and internal problems are threatening Shenzhen's viability. They reflect the diminishing advantages of Shenzhen in preferential policies (Ng 2003; Yang 2005). Throughout the years of development, various warnings have been raised. For example, a Hong Kong scholar, Man-hung Chan (1985), wrote an article about the structural problems of Shenzhen's economic development. The article prompted a spirited debate in Shenzhen and led to a critical change in the way economic growth in the city was pursued (Chen 2006; Su 2001). This will be discussed in the next section. In 2002, an Internet article entitled "Shenzhen, who has abandoned you?" and a book called *Shenzhen at the Crossroads* (Laoheng et al. 2004) clearly demonstrated the worries that were developing about Shenzhen's future. They aroused a heated debate in the society and even attracted the concern of Shenzhen's mayor (Yang 2005).

In short, Shenzhen's development is a miracle. However, the hard-won achievements in Shenzhen are often the results of innovative moves under the situation of many problems and difficulties. These approach and spirit contributed to the success in the past, and should continue to contribute in the future.

3.3 The Innovative and Trial Nature in Development Strategies

Suffered from a series of natural and man-made disasters in the 1960s and 1970s, the establishment of the Shenzhen SEZ, as a part of China's Open Door Policy, can be considered as an outcome of a political decision in responding to an economy and society that were on the verge of collapse (Ng 2003; Su 2001). Economically, riding the tide of economic globalization and regionalization that has intensified since the 1970s, the Shenzhen SEZ was established as a *window* for a then self-contained China, a *training ground* and an *experimenting ground* for new policies; and politically, as a *stabilizer* to facilitate the reunification of Hong Kong (Ng 2003; Su 2001). The then closed-door socialist China, however, lacked the resources, capital, and abled strategies that were much needed to start Shenzhen's development, except labour resources. It was left to the new Shenzhen SEZ government and its leadership to set up new systems in Shenzhen and to run the SEZ. These new trials, without clear guidance and careful planning except governments' support and tolerance, have steadily gained ground in Shenzhen and then spread countrywide. Such an approach has been famously dubbed "groping for stones to cross the river" (Lin 1997; Ma 2002; Ng 2003).

3.3.1 The Establishment of a New Market System

To build up a new city, there was a pressing need for Shenzhen to carry out massive infrastructure development. However, the traditional system of outsourcing projects by invitation would hinder the progress of development and cost more due to lack of competition among developers. A new tender system was therefore introduced. The first ever trial of such a tender system was carried out in the Shekou Industrial Zone in 1980 with great success, followed by a provisional trial in the SEZ in 1982. The Shenzhen authorities formally implemented this system in 1993 (Hu 2007).

Similar changes in regulations and practices were made in such as the employment, wage, and housing systems. Before the reform, jobs were allocated by the governments. Employment was in the nature of "iron rice-bowl" (permanent employment) and the wage system was inflexible. The *danwei* (work unit) shouldered the responsibility for employees' fringe benefits and social security such as labour insurance, subsidies for children's education, retirement benefits, and so on (Ip 1995). However, such practices were incompatible with the task of reviving a market system in China. The rise in production activities led to a higher demand for professional and skilled labour. But the traditional job allocation system could not satisfy this demand. Indeed, the State Council also supported changes to the system, as the whole country was facing a similar challenge of matching enough experts and talents to achieve the four modernizations (Hu 2007).[5] Experiments with employment through "labour services companies" and other channels outside the formal network of state labour bureaux were first carried out in Shenzhen (Ip 1995), and the idea of a mutual agreement (contract) on employment between the employer and employee was introduced (Table 3.3). This experiment resulted in the agglomeration of a large group of highly educated and skilled experts and professionals in various fields, such as administration, technology, and management in Shenzhen. The practice gradually penetrated into government-affiliated institutes and then government departments (Hu 2007; Ip 1995).[6]

The adoption of the contract employment system was a success in terms of raising production, while the introduction of a new wage system provided incentives to raise the efficiency of the labour force. At the core of the reform was the move to replace the age-old fixed salary system with piecework pay and bonuses. After trials in the Shekou Industrial Zone with obvious success, the Shenzhen authority drew up and implemented a policy to change the wage system. The reform was carried out step by step, with initial trials in joint venture enterprises,[7] followed

[5]The four modernizations are the modernizations of agriculture, industry, national defense, and science and technology.

[6]For the details of this new civil service system, see Wang and Zhu (1990).

[7]In 1982, one joint venture enterprise applied a new employment system that broke the traditional fixed salary system and pay scale. The enterprise offered jobs and pays according to the need and the negotiation with the applicant (Shenzhen Museum 1999, p. 107). Prudent trials of new strategies and policies were also first carried out in some enterprises, such as the China Merchants

Table 3.3 Special roles and innovations of the Shenzhen SEZ (Reproduced from Yeung et al. 2009, p. 227)

Special roles	• Slow but steady shift to market conditions on a greenfield site (fishing village) • Learn from capitalist economies methods of global capitalism and modern management • Raise capital
Innovations	■ New contract labour and wage system ■ New tender system ■ Home-purchase scheme for workers ■ First urban land development rights auction (1987) ■ Separation of commercial functions from the state and government departments ■ Increasing emphasis on the role of the legal system and the democratic election of factory managers ■ First stock exchange in China (1990) ■ Price reform system ■ Market-led industrial upgrading

by state-owned enterprises and collective enterprises, and later expanded to an increasing number of business sectors and institutions (Hu 2007). In addition, following the adoption of the new wage system, the previous fringe benefits, and social security provisions for employees were gradually reduced or terminated. Instead of the *danwei* or enterprise, the society now shoulders the responsibility of providing social benefits and security. A policy on this was issued in 1992 (People's Government of Shenzhen Municipality 2010a). Similarly, housing was no longer allocated by the *danwei* and the direct link between housing quality and job hierarchy was terminated. The Shenzhen SEZ introduced a commercialized housing and rental market in 1988 (People's Government of Shenzhen Municipality 2010a) while related products, such as instalment payment plans and mortgages were also introduced (Hu 2007).

Commercialization was also found in the financial and capital market. The old policies on lending[8] and capitalization strictly limited the market development and were unable to facilitate the economic reform in Shenzhen where much capital was needed in infrastructure development and manufacturing production. Therefore, reform in this area is a must. The first shareholding company was founded in 1983 (Office of Shenzhen History Archives 2009). The first shareholding commercial bank (China Merchants Bank) and insurance company (Ping An) in the People's Republic of China were set up in Shenzhen in 1987 and 1988, respectively, while trading in the stock exchange began in 1990 (Hu 2007; People's Government of

(Footnote 7 continued)

Group (CMG), a Hong Kong-based state-owned company under the administration of the then Ministry of Communications of China, and other enterprises like China Travel Service (Hong Kong) Limited (CTSHK) with close relations with the government.

[8]Such as no money could be borrowed for infrastructure development (Shenzhen Museum 1999).

Shenzhen Municipality 2010a). In the 1990s and 2000s, these business sectors experienced a period of rapid development. The banking, securities, and insurance sectors are now pillar industries of the city (Office of Shenzhen History Archives 2009, p. 106). The financial sector is now the largest sector in the tertiary industry and the largest among all Guangdong prefecture-level cities. It was the second largest sector in the city after the "industry" of the secondary industry. The added value created by the financial sector was RMB 200.81 billion in 2013, accounted for about 14 % of Shenzhen's GDP (Statistics Bureau of Shenzhen Municipality 2014a). In terms of the total value of the assets of the industry, Shenzhen ranked third among all cities in China in 2007. Various businesses (in the money market, gold market, funds, and banking business) set up in Shenzhen have accounted for either a plurality or a major share of their sector in the country (Office of Shenzhen History Archives 2009, p. 106).

Other efforts of building a new market system include the legalization and simplification of the approval procedures and administrative procedures of incoming foreign investment, the separation of party (CPC), government and enterprise, and the retreat of government from micro economies to be replaced by market regulations. Shenzhen is still building itself a modern market system. The nature of "groping for stones to cross the river" and the gradual and piecemeal changes and evolutions in various domains, such as investment, production, and employment over the past three decades, indeed, have been building the city a good foundation of the development of an export-oriented economy and a pro-growth market system in Shenzhen. Changes are also found in understanding. There are new definitions of the factors of production such as land assets. We can now see the frequent transactions of the right of use. There are also new stakeholders like private enterprises, new roles of government that will be discussed below, and new relationships between government and business sector and between enterprises and labour force.

3.3.2 Modernized Planning and Regional Development

Although the policy of "groping for stones to cross the river" is the cornerstone of Shenzhen's success, planning did play a certain role in guiding Shenzhen's development, both in terms of economic growth that discussed above and in terms of urban landscape transformation that led Shenzhen to a highly urbanized city full of skyscrapers. While those five-year plans and socio-economic outline plans guide almost every aspect of Shenzhen's economic and social development, from the nurturing of the industrial sector to the investment in R&D, and from the provision of education to the construction of recreational facilities, those master layout plans and development strategy documents direct land use in the city and rationalize its spatial development and expansion (Table 3.4). The built-up area of the city has expanded greatly to 869 sq km, or 43.5 % of the city's territory in 2013 (Organization of Urban Socio-Economic Survey 2014).

Table 3.4 Spatial and socio-economic plans in Shenzhen, 1980–2010 (Reproduced from Ng and Tang 2004a, p. 196; Zacharias and Tang 2010 and Urban Planning Bureau of Shenzhen Municipality, n.d.)

Year	Planning document
1980	Draft Master Layout Plan (1980)
1981–1985	Sixth Five-year Plan
1982	Shenzhen SEZ Socio-economic Development Outline Plan
1982	First Master Layout Plan
1986–1990	Seventh Five-year Plan
1986	Second Master Layout Plan (1986–2000)
1989	The Comprehensive Report on Modifications of the Second Master Layout Plan
1991–1995	The 10-year Development Plan and the Eighth Five-year Plan
1993	Review of the Master Layout Plan
1995	Outline for Modifying the Master Layout Plan (approved by the Municipal Government)
1996–2000	Ninth Five-year Plan and the 2010 Long-term Objectives
2000	Third Master Layout Plan (1996–2010) (approved by the State Council)
2001–2005	Tenth Five-year Plan
2006	Shenzhen 2030 Development Strategy (approved by the Shenzhen Municipal People's Congress)
2006–2010	Eleventh Five-year Plan
2009	Overall Plan on Comprehensive Reforms in Shenzhen (approved by the State Council)
2010	Consultation on the Shenzhen 2040 Development Strategy; Master Layout Plan (2010–2020) and Overall Development Plan for Shenzhen–Hong Kong Cooperation on Modern Service Industries in Qianhai Area (approved by the State Council)

From the very beginning, Shenzhen's undulating linear landscape, with an east-west span that is much longer than the north-south span, has restricted the pattern of the urban landscape, particularly of the old SEZ territory (Ng 2003). The city offers a clustered linear model of urban development (Zacharias and Tang 2010). The corridor from Luohu to Shekou is the most developed area, in which a few clusters can be identified. Recent master plans have also launched development along the corridors and axes, and have established a network consisting of "three axes, two belts, and multiple clusters" for the whole city (State Council 2010). These corridors and axes also form the major skeleton for communications and flows. The city's transportation system has improved greatly over the past 30 years. The endeavour to develop comprehensive transportation infrastructure including ports, an airport, a large-scale mass transit railway network, and inter-city highway and railway networks has not only facilitated flows of factors of production, but has also fostered the development of the service sector, such as logistics (Shen 2010; Zacharias and Tang 2010).

Such planning endeavour is mutually reinforcing with the local administrative unit adjustments. Being promoted from a county (Bao'an county) to a

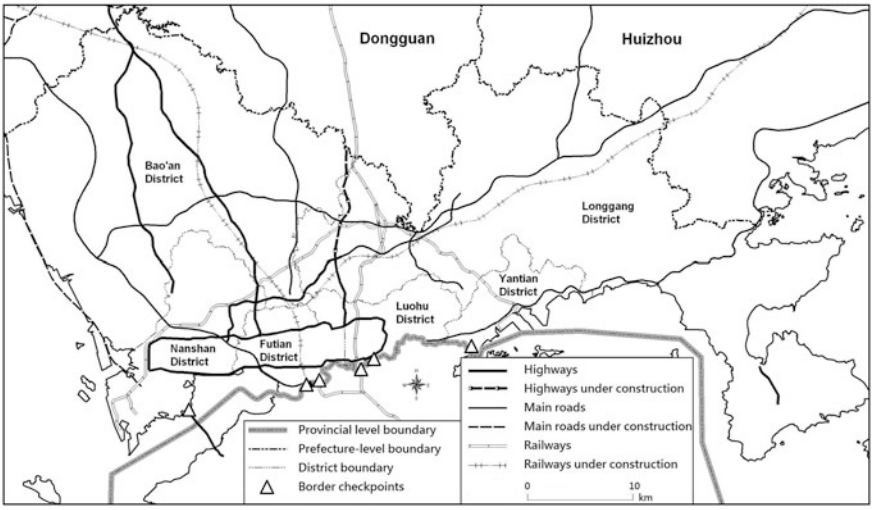

Fig. 3.5 Map of Shenzhen, *circa* 2010

prefecture-level city (Shenzhen city) and then an SEZ (Shenzhen SEZ), Shenzhen was divided into a SEZ part and a non-SEZ part (i.e. Bao'an county) in the early 1980s. The size of the SEZ portion of the city, which included Luohu, Futian, Nanshan, and Yantian districts was less than one-fifth of the whole city. In 1993, the authorities turned Bao'an county into two districts (Bao'an and Longgang) of the city in order to incorporate their economic and urban development. In 2007, two new districts were established within Bao'an and Longgang districts, i.e. Guangming New District and Pingshan New District, respectively. The Shenzhen government started trying out new management and administrative systems in these two new districts. However, these two new districts are not formal administrative districts registered in the State Council that can enjoy the same status as the other six original districts in Shenzhen SEZ (*see* Appendix). On 1 July 2010, with the State Council's approval, the Shenzhen SEZ expanded to include Bao'an and Longgang districts (Fig. 3.5). These two districts can enjoy SEZ preferential policies on the one hand and can provide the enlarged SEZ with ample land and other resources on the other hand. Such move may also lead to better implementation of SEZ laws and regulations in the whole city, and facilitates the city's economic and spatial restructuring and flows of factors of production.

The even more important and meaningful change, however, should be the fundamental evolution of the urban planning system. Although a new planning institution was set up[9] and different plans were formulated in the first decade of opening, the urban planning system in Shenzhen did not experience a real

[9]Urban Construction and Planning Committee of the Shenzhen Municipality was set up in May 1980.

modernization at all until the late 1980s and the 1990s (Ng and Tang 2004b). Since then, the Shenzhen Urban Planning and Land Administration Bureau was established in 1989, the *Regulations on City Planning of the Shenzhen Municipality* was enacted in 1998, and the Urban Planning Board of Shenzhen was set up in 1999 (Ng 2003). All these steps have led to the establishment of a modern planning system that approaches international standards, and have allowed development in Shenzhen to take place in a more controlled manner. Shenzhen was also the first city in China to adopt "the capitalist world's urban development practices" in land management and the "rule of planning" (Zacharias and Tang 2010), as well as a set of mechanisms that facilitate the market (Ng 2003). Political economy is highly influential to the role of urban planning. Shenzhen is changing from a resource-constrained economy to a demand-constrained economy, and the local urban context is of increasing relevance to urban planning. Central and local governments, however, still play a vital role in directing and facilitating the transition of China's economy and in planning (Ng and Tang 2004b).

Even though there are many different plans guiding different aspects of the city's development, the city is not free from spatial problems. The foremost issue is, although there is no longer the SEZ and non-SEZ division in terms of administration, the significant differences in economic and urban landscapes. The difficulties in managing land use and allocating resources are yet to be solved properly. The efficacy of land use planning has also been questioned due to the difficult relationship between state control and market forces (Zhu 2004). Moreover, the authorities are struggling to deal with the high flexibility and uncertainties of modern city development and the discrepancy between the rhetoric and realities of urban planning (Ng and Tang 2004a). These difficulties, as well as an increasing need to take into consideration *region* in development and planning, have forced the Shenzhen authorities to place the latest focus on a strategic plan. Works on the *Shenzhen 2030 Development Strategy* started in 2002 and the document was approved by the Shenzhen Municipal People's Congress in 2006 (People's Government of Shenzhen Municipality 2007). It is now a legal planning document in Shenzhen, providing directions for master layout plans and specific plans, such as the development of the Qianhai area and border areas (People's Government of Shenzhen Municipality 2007; Urban Planning Bureau of Shenzhen Municipality 2006, 2007). Their successful experience with *Shenzhen 2030* encouraged the planning authorities to launch the *Shenzhen 2040 Development Strategy* in 2010.

The consideration of *region* in development and planning can be revealed in two aspects. First, the possibility of integrating Shenzhen with Dongguan and Huizhou has been hotly discussed in society. Although it is not quite possible to establish Greater Shenzhen nowadays, Shenzhen, Dongguan, and Huizhou were indeed all under the administration of Huiyang District before 1979. The recent PRD Outline Plan has guided the three cities in question, under the cluster of the eastern PRD, to carry out in-depth cooperation and further integration in individual fields, such as transportation and communication, social services and security, and urban planning (National Development and Reform Commission 2008; People's Government of Shenzhen Municipality 2009a).

Second, there are already many related studies concerning the formation of a Shenzhen-Hong Kong metropolis or common community (Shen 2014; Song 2000; Wei et al. 2007). However, "one country, two systems" and the Basic Law may prevent the full administrative integration of Shenzhen and Hong Kong. The central government has no such intention as well while anti-integration atmosphere has emerged among some Hong Kong people. Nevertheless, through the recent plans of each city and the memorandums signed, there has been good progress in inter-city cooperation at the governmental level. Cooperation on airports and border area development are two examples (Shen 2010, 2014; Shen and Luo 2013). Inter-changeable electronic systems of payment (Hong Kong's Octopus and Shenzhen's Shenzhen Tong) and education are among other areas of bilateral cooperation among governments and business sectors in two cities.[10]

3.4 The Role of Governments and Shenzhen's Future Development

3.4.1 The Role of Governments

Governments played some crucial roles in Shenzhen's development. The central and provincial governments have been steering Shenzhen's development. The local government initiated different plans. The further elaboration of the two roles played by the governments below can help better understand the importance of governments.

First, governments are reformers. Under the critical situations in the late 1970s, China had no choice but to change, correcting the mistakes and figuring out the way out for economic development. Therefore, the central government, Guangdong provincial government, and Shenzhen government dared to try various new things out in Shenzhen for the reform of the country. The strong will and active intervention of members of the senior leadership, especially members of the Political Bureau of the Central Committee of the CPC, were of great significance to Shenzhen. Deng Xiaoping was unquestionably the leading figure.[11] Besides his support in the early years, his decisive second trip to Shenzhen SEZ in 1992 made the continuation of SEZ policy and economic reform of China possible, and avoided further internal political struggle. Other leaders like Gu Mu, Li Xiannian, and Xi Zhongxun also played important parts in the development of the

[10]After years of negotiation, a cross-border e-payment system—"Hu Tong Xing"—that links Hong Kong and Shenzhen was on sale from 11 September 2012 onwards, see Octopus's homepage, http://www.octopus.com.hk/get-your-octopus/choose-your-octopus/cross-border-octopus/overview/en/index.html.

[11]Deng Xiaoping was officially recognized as the chief architect of China's economic reforms and socialist modernization.

Shenzhen SEZ.[12] Their efforts represented the best support that the central and provincial governments could give to the Shenzhen SEZ. Likewise, Yuan Geng, Liang Xiang, Li Hao, and others were the local leaders who demonstrated dedication in building up Shenzhen from a greenfield site in the early years.[13] Indeed, instead of the frequent reshuffling of the city's leadership that has taken place in recent years, Liang and Li served as city mayor and party secretary of Shenzhen, respectively from 1981 to 1993. Li held the longest term in office (1986–1993) among all the party secretaries of Shenzhen. This remarkably long period of service of 13 years provided a stable environment for the thorough and effective implementation of development strategies.

One major feature of central government's support is decentralization. On the one hand, administrative power was decentralized. For example, lower level local departments were given power to approve investment projects within certain scale. The higher the administrative level, the stronger the power of approval. On the other hand, the rise of Shenzhen's administrative status represents a greater power and more flexibility in economic development. Shenzhen was promoted from a county to a city in March 1979 and then to a prefecture-level city in November 1979, and then to a city listed separately in the national socio-economic plan (*jihua danlie shi*, a predecessor of the vice-provincial level city) in 1988. In fact, in 1980, Shenzhen already enjoyed the same political status as Guangzhou—the provincial capital. The decision in 1988 further granted Shenzhen the same administrative power in economic development as a province. In 1992, the People's Congress of Shenzhen and the Shenzhen government were granted the right to draw up their own laws and regulations (Su 2001). The promotion of political status benefited Shenzhen directly in many ways. For example, it became possible to come up with a relatively favourable fiscal arrangement between the central and local governments, which allowed the city to retain a higher ratio of revenues and extra-budgetary funding for urban development. The decentralization also encouraged rapid local development and marketization in Shenzhen, in areas, such as land use (Zhu 2004).

In addition, the local government has long been steering the direction of economic reform. As an export-oriented economy, it is important to avoid the trap of over reliance on foreign investment and exports for economic growth that may have a lock-in effect and keep Shenzhen in a state of dependence (Shen 2010). At the same time, internal problems of increasing cost,[14] environmental degradation and

[12]Gu Mu was a then vice-premier of the State Council, Li Xiannian was also at the time a vice-premier of the State Council and the president of the country, and Xi Zhongxun was the then governor of Guangdong and the Secretary of the Guangdong Provincial Committee of the CPC.

[13]Yuen Geng was assigned by the then Transportation Bureau to be the head of the CMG and Shekou Industrial Zone, Liang Xiang was the first mayor of Shenzhen, and Li Hao was Liang Xiang's successor.

[14]For example, the minimum wage policy leads to rapid rise in the cost of labour in consecutive years and Shenzhen's minimum wage is the highest in China. In 2015, the minimum monthly wage is RMB 2030 (http://www.chinadaily.com.cn/dfpd/sh/2015-04/03/content_19991364.htm).

land use shortage are eroding Shenzhen's competitiveness and the sustainability of its labour intensive industries. In response, the local government has determined to develop high-tech industries with strong capacity of innovation and research and development (R&D) and to develop the service sector. These two strategies, along with attracting foreign investment, have been identified as a three-leg strategy for the development of Shenzhen (Shen 2010).

In brief, there have been strong efforts on reform to foster the development of Shenzhen. The leadership support and appropriate strategic and policy changes have made a virtuous cycle of development, and a favourable institutional environment has been created for economic development. However, only promotion can help foreign investors and other people understand Shenzhen's changes and attract them to come.

Second, governments are promoters to realize those obtained preferential policies and advantages, as well as to promote the city, by working with the business sector and the civil society. For governments, the provision of both hardware and software of this city is a measure of promotion. The massive infrastructure development is the hardware. On the software, it is a recurrent work to keep changing, improving, and innovating in such as policy, and institutional and living environment, making Shenzhen one of the entrepreneurial-cum-livable cities in the world. To make this work, a fundamental transformation of governance of the city has taken place and turned the Shenzhen government to a pro-growth government.

Indeed, it is now popular for cities to attract potential investors by means of constructing modern legal infrastructure and institutional environment, organizing overseas road shows, carrying out trials of preferential policies and so on, providing them the best investment and living environment. In Shenzhen, road shows promotion, both solely and jointly with Hong Kong, is now a general practice. The organization of mega event such as Shenzhen Universiade in 2011 is also a way of brand building. Nowadays, more and more local governments in China behave in an entrepreneurial manner (Shen 2007). They are building *platforms* and doing everything possible to attract members of the private sector to achieve *performances* in their cities and provinces. Such a move reflects a basic change in the philosophy of running a city in China.

Platform building is not the only means of the pro-growth government to promote the city. The Shenzhen government, indeed, has been working closely with the private sector throughout the years. On the one hand, through the decentralization process, state-owned enterprises have been allowed to have their own decision-making power and many state-owned enterprises have also been privatized. Making profit, instead of following instruction is now in the top priority of these state-owned enterprises. On the other hand, more private enterprises and foreign enterprises have emerged in Shenzhen, and run their businesses according to their own strategies and the needs of the market. They are now the pillars of Shenzhen's economy and are influential to Shenzhen's economic development. Together, the pro-growth government and aggressive enterprises have formed a close, if not entangled, relationship with regard to urban development. A local public–private growth coalition has emerged (Zhu 1999a). The development of the

Shekou Industrial Zone and the Overseas Chinese Town in the early and mid-1980s, respectively revealed the pioneering inter-dependent relationship and close cooperation between the local government and enterprises, such as CMG and CTSHK. Also, many heads of the enterprises are now members of the Shenzhen, Guangdong, or national People's Congress and Chinese People's Political Consultative Conference. Their influence on Shenzhen's economic, social, and political development is increasing. This is a reflection of the CPC's decision to accept businessmen into its ranks.

In short, with the support of government leadership, Shenzhen made use of strategic policies and planning as the tools, with continuous innovations, to initiate reforms and city image building to foster its economic development. In this process, governments played the roles of reformers and promotors. The city government got the support and worked with private sector to build a modern city and a modern market.

3.4.2 The Future of Shenzhen

Concluding Shenzhen's years of experience of opening, there are four key features of its successful development. First, the city enjoyed unique temporal-spatial and policy advantages that once no other Chinese cities enjoyed. Second, the city was able to develop in unique and new fields that gained itself early bird benefits. Third, different stakeholders, both private sector and the government, met their needs and gained in the development. Fourth, innovation and the steering of government were the important tools. Therefore, to answer the question of Shenzhen's destiny, it is very reasonable to maintain its uniqueness in enjoying special advantages in development, allow Shenzhen to further explore new fields of development and meet the stakeholders' needs according to the goal of development of the city. Innovation is still the tool and the government still plays some roles in it. Besides paying endeavour in the economic area, Shenzhen should have innovation in such new fields as social development, livelihood, and administrative institutions. Moreover, instead of learning and imitation, independent innovation, creation of proper atmosphere, and cultivation of innovative talents will be crucial works for Shenzhen's sustainability.

Being a *window*, a *training ground*, and an *experimenting ground* for three decades has made Shenzhen special. However, Shenzhen is now no longer the only *window* in China for attracting foreign investment. Trials of new economic and social policies can be found everywhere in the country. Therefore, it makes little sense for Shenzhen to keep the notion of being *special* in the economic realm, although it is not necessary to fully give up the idea of its uniqueness. Shenzhen should, instead, carry out experiments and strive to come up with innovations in the social, environmental, public administration, and even political realms.

The idea of bringing changes for Shenzhen's administration and politics is an issue of the greatest sensitivity and the subject of heated debates in China.

Responding to some of the issues that have been brought up, Shenzhen launched the *Overall Plan on Comprehensive Reforms in Shenzhen* (*Comprehensive Reforms Plan*) in 2009 (Table 3.4). According to this document, the Shenzhen authorities are going to carry out all-round reforms. The administrative reforms aim to make the government to serve the people in a better way; the economic system reforms are to further optimize the socialist market economy; the social reforms strive to establish a harmonious society under socialism; the institutional innovation targets to save resources usages and create an environmentally friendly society, and so on (People's Government of Shenzhen Municipality 2009b).

Although the foundation and nature of socialism are retained as stated in the document, it is clear that Shenzhen needs to undergo further modernization to retain its appeal to the world, to be in accord with global trends, and to respond to the needs of the people. Moreover, breakthroughs in geographical perspective are important too. Numerous examples have reflected already that many Chinese cities, including Shenzhen, suffered from (county-level) political fragmentation that led to excessive use of resources and ineffective implementation of policies and plans (Feng and Zhu 2011; Xu and Yeh 2011). It is necessary to have trials to get rid of this barrier in order to execute policies and plans properly. By the same token, inter-city cooperation is another spatial scale of interaction that those barriers should be overcome with innovative development. Shenzhen should move on integration with Huizhou and Dongguan on the one hand, and with Hong Kong on the other hand. This will be a milestone of the change and evolution, if not upgrade, of its uniqueness, and Shenzhen will enjoy special advantages through changes in these new fields.

In the coming future, low-end and low value-added manufacturing activities are definitely not the choices for Shenzhen, and a high-tech industrial, service-based, and knowledge-based economy should be the target in foreseeable future, which is also the choice of Shenzhen authority (Figs. 3.6, 3.7; Ng 2003). Both the government and private enterprises like Huawei are making huge investments in R&D with fruitful result in new invention and the number of patent granted every year.[15] In 2013, the total value of high technology products reached RMB 1413.30 billion, up 9.3 % from 2012; while over 60 % (RMB 864.9 billion) was contributed by the products with own intellectual property right (Statistics Bureau of Shenzhen Municipality 2014a, b). There is also a platform for promotion—the annual China Hi-tech Fair since 1999, which is the largest one in China.[16] Shenzhen's long-term strategy in this sector can be found in 2008 the formulation of the strategy and planning of building Shenzhen as a national innovative city from 2008 to 2015 (Shenzhen Government Online 2008), and in the *Comprehensive Reform Plan* to improve the mechanisms of innovation and to create an innovative city (People's Government of Shenzhen Municipality 2009b). The establishment of the South

[15]For example, while Huawei and ZTE ranked top in the list of patent granted in China in 2014, Shenzhen topped in the list of all Chinese cities (State Intellectual Property Office, 2015a, b).

[16]For details of the China Hi-tech Fair, see http://www.chtf.com/english.

Fig. 3.6 Science Park of Shenzhen (taken by the authors in December 2012)

Fig. 3.7 ZTE Corporation, a leading Chinese multinational telecommunications equipment and systems company in Shenzhen (taken by the authors in December 2012)

University of Science and Technology of China, imitating the experience of the Hong Kong University of Science and Technology, is a way to cultivate more talented people and experts for Shenzhen and strengthen the city as a base for knowledge creation and innovation.[17] External resources are also sought by cooperating with Hong Kong. For example, the two governments signed an agreement on the Shenzhen/Hong Kong Innovation Circle in 2007. They also reached an agreement with DuPont to establish a base for the manufacturing of thin film photovoltaics in the Guangming New District of Shenzhen and a business headquarter and R&D centre at the Hong Kong Science Park (Government of the Hong Kong Special Administrative Region 2010; Office of Shenzhen History Archives 2009). Shenzhen's effort in this sector has been recognized. Shenzhen topped the Forbes list of mainland China's most innovative cities (Forbes list of 2010 China's most innovative cities 2010), indicating Shenzhen's achievement in innovation and creation. This is a vigorous response to MasterCard's study of Worldwide Centers of Commerce, which criticized Shenzhen for poor performance in "knowledge creation and information flow" (MasterCard Worldwide 2008).

It is necessary for Shenzhen to cooperate and integrate with Hong Kong in the development of a service-based and knowledge-based economy (Fig. 3.8). There is a strategy in the *Comprehensive Reform Plan* to strengthen cooperation between Shenzhen and Hong Kong, and to experiment with innovative mechanisms of regional cooperation (People's Government of Shenzhen Municipality 2009b). It would be difficult to achieve all-round cooperation and integration of the two cities, especially in the political arena, due to the present political and administrative set-up. In addition, the development goals of Shenzhen in the financial and service sectors may compete with those of Hong Kong to some extent. Fortunately, the bilateral interactions in the past few years have paved the way for further exchanges to take place. There have been breakthroughs in cooperation in various dimensions. A recent move is the approval in August 2010 by the State Council of the *Overall Development Plan for Shenzhen–Hong Kong Cooperation on Modern Service Industries in Qianhai Area*. It is now a national development project. An innovative mechanism for cooperation between Shenzhen and Hong Kong will be tested in this zone and will have the effect of setting an example for the country. Qianhai is not only a special zone inside the Shenzhen Special Economic Zone, but also a major constituent cluster of the China (Guangdong) Pilot Free Trade Zone. It is expected to form an agglomeration of high-end and modern service sectors, such as modern logistics and finance, and to develop a headquarters economy. Institutional innovation in financial, legal, arbitration and other areas, which approaches international standards, may also be found in Qianhai, such as the recent implementation of the 16 innovative measures in the financial industry.[18] Spatially, many stakeholders have expressed the possibility of coordinating the development of Qianhai with the

[17]Please refer to http://www.sustc.edu.cn/about4.asp and http://baike.baidu.com/view/1215910.htm.

[18]Please refer to http://qhsk.china-gdftz.gov.cn/zwgk/cxyzc/201507/t20150723_18141542.html.

Fig. 3.8 Shenzhen Research Institute of the Chinese University of Hong Kong (taken by the authors in December 2012)

development of the Lok Ma Chau Loop along the western part of the boundary in the long term. There is therefore a demand for innovative bilateral or regional mechanisms of cooperation and creative legal and political systems ("Qianhai dingwei jiemi: jian Zhusanjiao 'Manhattan'" 2010). The central government, the Guangdong provincial government, and governments on both sides of the Shenzhen River do have high expectations of the development of Qianhai.

In the past, governments and business sectors were the key stakeholders in Shenzhen's development. However, there are many debates and comments on the gap between economic reform and social reform in Shenzhen, and China in general in recent years. People have been criticizing the poor provision of social services and social security, which has led to the issue of fairness, and the need for relevant reforms. "To establish a harmonious society" is now a goal in China. Achieving this goal requires the authorities to plan for the people and to work for the people. This issue involves bringing about changes to different systems and policies, particularly, the ideology of development, i.e. a balance among economic, social, and environmental development, instead of the previous inclination towards economic development. On the social side, the innovative change on the household registration system should be the most critical, as presently, the social security entitlements of the *hukou* population and the non-*hukou* population differ greatly. A trial of a more scientific and systematic mechanism for *hukou* registration was adopted

in August 2010 (People's Government of Shenzhen Municipality 2010b). This new system can also help Shenzhen to create a bigger pool of talented people and experts. Moreover, a harmonious society can also be facilitated by proper planning. The aforementioned *Shenzhen 2030* and *Shenzhen 2040* development strategies are the macro strategic plans to complement traditional technical plans. According to the *Shenzhen 2040* website, besides such technical issues as controlling land use and economic development, "people-oriented" issues, such as family, health, education, culture, and society have also been raised in the consultation.[19] This should be taken into consideration in the planning for a sustainable city. For the Shenzhen authorities, it is an ideal starting point for making plans with the people and providing social services and facilities to the people.

Definitely, similar to the situation 30 years ago, the approval and support of the central and provincial governments is needed to carry out these new trials and innovations in social and political reform. During the 30th anniversary of the establishment of the Shenzhen SEZ, the then Premier Wen Jiabao paid a visit to the city in late August 2010 and encouraged the Shenzhen SEZ to keep exploring for innovation. He specifically mentioned reforms in the political system ("Wen Zong xuanfeng fang Shen mian xu tansuo chuangxin" 2010). At the ceremony to celebrate the 30th anniversary of the Shenzhen SEZ, the then President Hu Jintao also encouraged Shenzhen to optimize the socialist political system ("Hu Jintao: Jianchi gaige pai ganrao shunying renmin xin qidai" 2010). Last but not least, memorizing the 20th anniversary of Deng's southern trip, the General Secretary of the CPC—Xi Jinping re-took the route of Deng's trip for his first trip to visit Shenzhen in December 2012 after becoming the party chief, demonstrating his commitment to the reform and support to Shenzhen. Their visits and the speeches have not only demonstrated the continuous support of the current central government and leadership for Shenzhen and the SEZ policy, and for maintaining the guiding principle of economic reform, but also clearly showed that the Shenzhen SEZ should strive to overcome obstacles to achieve these changes and reforms. Shenzhen has been given a new mission to remain "special". Shenzhen cannot remain lost at the crossroads. Shenzhen should head straight towards the new direction that has been pointed out.

3.5 Conclusion

Change is needed when facing adversity and such change needs great courage to carry out trial and innovation. When China faced socio-economic hardship in the late 1970s, some central and local leaders took the initiative to carry out reforms by launching the Open Door Policy, including the establishment of the Shenzhen SEZ in 1980 to experiment with new and innovative socio-economic policies and

[19]Please refer to the homepage of Shenzhen 2040 Development Strategy, http://www.sz2040.com/default.aspx.

institutional systems. The Shenzhen SEZ celebrated its 30th birthday in 2010 and its development has been a great success. Shenzhen is now one of the powerhouses of the Chinese economy, while China itself is now the second-largest economy in the world. Shenzhen, evolved from a tiny town bordering Hong Kong, has experienced huge changes and significant economic, social, and urban development and is now a prosperous mega city with over 10 million inhabitants. The city is one of the leaders in the country in various indicators such as GDP, container throughput, urban competitiveness, quality of life, and innovation. The city is transforming from a traditional manufacturing economy to a high-tech industrial, service-based, and knowledge-based economy.

However, Shenzhen has been facing many problems of development and challenges about its future and special status throughout the reform period. Both the secret of success and the solution to problems and challenges are, certainly, "change", i.e. innovation and the involvement of government, in the Chinese context. The city has been establishing new market and institutional systems, restructuring the economy, and making different socio-economic development and urban plans to adapt to the changing world and to attract worldwide investors. Most, if not all, of these innovative policies have been introduced nationwide gradually.

To explain the success of Shenzhen, many studies have pointed to the contribution of the private sector, especially the inward foreign investment that contributed to the rise of Shenzhen's economic strength and the rapid urban development. Most also agreed that the decisions of the central government to carry out the Open Door Policy and establish the Shenzhen SEZ were of great importance. A systematic analysis of the role of governments in this chapter reveals two important roles of the governments in Shenzhen—reformers and promoters, in launching innovative policies, steering the development, and making corresponding institutional changes.

As reformers, the decision of decentralization of certain authority and administrative power in social and economic development from the central government and provincial government to the Shenzhen government, and the promotion of Shenzhen's political status have set the frame to reform. The support of senior leadership of the central government and the dedication of local leadership should be credited. The administrative, fiscal, and tax reforms made marketization and globalization in Shenzhen possible.

As promoters, benefited from the reforms, the philosophy and approach of running a city have been changed. Shenzhen, instead of purely executing central government policy, is now rather a pro-growth and entrepreneurial-like city. Better physical and legal infrastructure, institutional and living environment, and so on have been built to attract investors, provide a livable environment for people, and raise the competitiveness of Shenzhen. Local public-private growth coalition has also appeared to lead the rapid development of the city.

Looking ahead, full attention to three important issues concerning Shenzhen's future is needed. To maintain Shenzhen's uniqueness in enjoying special advantages, besides carrying on economic reforms, Shenzhen should again be a pioneer

in making changes and innovations in the social, environmental, public administration, and political realms. The *Comprehensive Reforms Plan*, the *Shenzhen 2030 Development Strategy*, and the *Shenzhen 2040 Development Strategy* can be considered as the first step of doing so.

All the measures taken by the Shenzhen authority should be "for the people" and "with the people"; and bridging the gap between economic development and social development must be a major task of the Shenzhen government. Better social provision, services, and security, and innovation of the *hukou* system are some examples among all pressing works. Moreover, there is an urgent need for a spatial breakthrough and policy innovations. Within mainland China, the progress of cooperation and integration among Shenzhen, Dongguan, and Huizhou is a positive sign. In the GPRD region, the cooperation between Shenzhen and Hong Kong on the development of Qianhai and Lok Ma Chau Loop may not only extend the room for cooperation under "one country, two systems" to create new ways of cooperation bilaterally, but also lead to new development approaches to economic, social, legal, and political development in Shenzhen. Such spatial breakthrough and industrial cooperation in hi-tech and cultural sectors should also be the major components of service-based and knowledge-based economy that can be developed as the pillar industries for Shenzhen in the future. An environment should also be created to nurture its own talent to sustain its innovation strength.

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Chapter 4
Fuzhou: Re-energizing Regional Economic Development and the Changing Urban Functions

4.1 Introduction: Political Economy of Urban and Regional Development

Urban and regional development is never a simple process involving only economic mechanism. It is an outcome of complex interactions of political, economic, social, and cultural development. In the modern world, urban and regional development should also be considered at national and global levels, especially for those with a strong central state. By one national policy, a city or a region could be established as a national or regional economic growth engine. By the same token, on the contrary, a city could be marginalized if urban resources of a country are reallocated to or concentrated in one or two other large cities (Davis and Henderson 2003). In this complicated process, government and non-governmental stakeholders work together in different forms of interaction, maximize own benefits, create a win-win situation for the city or region and find solutions to problems of urban development. This is an approach of urban or regional governance and political economy (Shen 2000). In the modernizing China, Chinese cities are also experiencing similar process and development, like the case of Shenzhen in Chap. 3.

To analyze the change of political economy of an area over a certain period, the concept of time-space envelope (TSE) can be applied to explain the development of different regions, with special attention paid to the relationship (such as competition) among places and stakeholders at different scales in the time of globalization and regionalization (Sum 2001a, b). Geoeconomic TSE, geopolitical TSE, nationalist TSE, and gendered TSE have been identified (Luo and Shen 2012; Shen 2004; Sum 2001a). On the other hand, from the viewpoint of international relations, the end of the Cold War, the prevalence of economic globalization, and the emergence of catalysts such as the Asian financial crisis in the late 1990s allowed a transformation of regional relationship from the tension between adjoining countries that emphasized military security affairs to the possible construction of economic relations (Dieter 2009). It is particularly notable along the border regions and

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cross-border economic development in the Greater Mekong Sub-region, the ASEAN and Northeast Asia are good examples (Dieter 2009; Drover et al. 2001; Kim et al. 2011). This tendency not only reflects the rising economic interdependence between countries, but also enhances the socio-economic development of these once marginalized regions.

In Northeast and Southeast Asia, increasing numbers of cross-border economic zones and growth triangles have been formed in the marginalized regions, such as the Indonesia–Malaysia–Singapore Growth Triangle, the Greater Mekong Sub-region, the Southern China Growth Triangle and the Northeast Asia Economic Cooperation (Chen 1994; Grundy-Warr et al. 1999; Kim et al. 2011; Thant 1998; Wang 2001).[1] These economic regions do face various difficulties and challenges throughout the cooperation processes. Nevertheless, these cooperation arrangements have greatly improved the regional relations among the members by relaxing the political and military tensions. These arrangements have also greatly boosted intra-regional and intra-continental trades and investments, and strengthened the development of local and regional infrastructure networks (Tang and Thant 1998; Yeung and Kee 2007). A recent report by the Chinese government presented the fruitful achievements in trade and investment, infrastructure development like transportation, electricity, and ICT (information and communications technology), environmental protection, cross-border anti-narcotics action, and technology development between China (particularly Yunnan and Guangxi) and ASEAN countries in the Greater Mekong Sub-region (Chinese Government's Official Web Portal 2011).

Fuzhou's urban and regional development is also the outcome of interactions of politics, economic, culture, and even national strategies. Geopolitical factor has once played a key role. As a coastal city, Fuzhou was once identified as part of the first front line that confronted with the Kuomintang-controlled Taiwan directly. The whole Fujian province did not have any large national industrial and infrastructural projects from 1950 to 1980 due to the military considerations (Maruya 2000; Zheng et al. 2008). A 1992 consensus was reached between the authorities in mainland China and Taiwan which says "there is only one China, but each side can interpret the meaning of China". It remains to be seen if the new Taiwan government led by Democratic Progressive Party will accept this 1992 consensus. A reconciliation agreement has yet to be reached between the authorities in mainland China and Taiwan. There is still a warfare possibility between mainland China and Taiwan although a war is not likely to happen.

Since the later 1970s, taking the advantages of the national Open Door Policy and the adjustment of Mainland's policies towards Taiwan, and the positive response from Taiwan since the late 1980s (Cao and Ouyang 2002; Maruya 2000), Fuzhou has started to attract foreign investment projects, mainly from Hong Kong

[1]The Indonesia–Malaysia–Singapore Growth Triangle is also known as the Singapore–Johore–Riau Growth Triangle; the Southern China Growth Triangle is also known as the Greater China economic region.

and Taiwan (including those via Hong Kong), and was once a major recipient of foreign direct investment (FDI) in China (Hu and Hu 2000; Ye 2010). The city has gradually connected to the global economy and become a key player of the commodity network in Southern China (Chen 1995; Chen and Lee 1998; Thant 1998).

Entering the twenty-first century, Fuzhou has come across three new regional circumstances that may enhance its development. Physically, China has been building comprehensive transportation networks covering the whole country, including the multimodes linkages between Fuzhou and the Pearl River Delta (PRD) and the Yangtze River Delta (YRD) regions, and a conceptual future connection to Taiwan.[2] There is similar great improvement in ICT infrastructure.[3] The investment in infrastructure has three important functions in China, they are (1) responding to the unmet infrastructure demands, (2) anticipating future development and stimulating investment in other sectors and economic growth, and (3) shaping the distribution of growth as well as facilitating flows, agglomeration, and dispersion within the region (Yeung and Kee 2008, quoting ADB & MOF 2002). Every province and city is pursuing mega infrastructure projects.

Economically, coastal provinces and cities are experiencing the transition of economic structure and activities, which can probably alter the economic relationship between foreign investors (global economy) and Fuzhou (national and domestic economies), and between Fuzhou and inland provinces and cities. Fuzhou may benefit from receiving additional investment capital, obtaining new technologies for various industrial sectors, and upgrading its economic and industrial structure.

Politically, the tension between Mainland and Taiwan has been greatly relaxed and the focus has moved to civil exchanges and commerce and trade, especially in the period 2008–2016 when Taiwan was ruled by Kuomintang (KMT). This favourable condition allows the revival of the once impossible regional development strategy across the Taiwan Strait. Fuzhou considers that it is an opportunity to optimize its urban functions and has proposed the new strategies and urban positioning (S. Lin 2011; Pan and Zhang 2009; Zheng et al. 2008). Fuzhou, however, is facing stronger competitions from the two leading coastal regions of YRD and PRD and provinces in central China. The municipality also needs to deal properly with the political economic relationship with Xiamen and Quanzhou within the province.

Although different political and economic factors have been identified concerning the urban functions played by Fuzhou, a comprehensive investigation on the latest circumstances has yet to be done. For example, Pan and Zhang (2009) proposed six positioning for Fuzhou in the context of Taiwan Strait West Coast development. Chen (2011) emphasized that developing modern service sector is the way to raise the city's development level and improve the urban functions. These studies, however, do not provide a complete picture on how the political and

[2]Refer to "Guojia gaosugongluwang guihua" (National Highways Plan), http://www.gov.cn/ztzl/2005-09/16/content_64418.htm.

[3]For reference, see Yeung and Kee (2007, 2008).

economic factors affect the urban and regional development of Fuzhou and its urban functions in the past, present, and future at both the local and regional scales. Overseas Chinese scholars such as Chen (1995) and Chen and Lee (1998) carried out studies with a comprehensive study framework. Nevertheless, their studies suffered from the problems of time and scale. Their studies were completed more than a decade ago and further studies are needed to reveal the present condition. In addition, these studies were at the provincial level (the political economy of Fujian province) only. Indeed, prefecture level is not a popular level of studies. There are only limited articles studying engineering, soil, land use, and so on of Fuzhou, and few studies on Fuzhou's socio-economic and urban development in the literature.

This chapter aims to fill these research gaps and tries to (1) analyze the geopolitical, geoeconomic and other factors that have contributed to the development of Fuzhou since the 1980s, (2) investigate the changing factors that have altered the participation and functions of Fuzhou in urban and regional economic development, and (3) analyze the ways for Fuzhou to engage in regional development and urban functions in the future. The structure of this chapter is as follows. After this introduction, we review briefly the economic and urban development of Fuzhou. Then, the changing socio-economic circumstances and the recent strategic plans of Fuzhou such as the 12th Five-year Plan (FYP) will be studied in Sect. 4.3. Through investigating the changing TSEs and growth triangle, and conceptualizing the urban and regional development of Fuzhou, this chapter reveals and discusses the evolution of regional economic development and the urban functions of Fuzhou in Sect. 4.4. A concluding remark completes this chapter.

4.2 Economic and Urban Development of Fuzhou

Fujian is a coastal province in Southern China and Fuzhou—the provincial capital—located alongside the coastal line in the middle part of the province, bordering the Taiwan Strait to the east, prefecture-level cities of Sanming and Nanping to the west, Ningde to the north and Putian to the south. Fuzhou has a complex landscape. Western and eastern parts of the municipality are mainly the hilly areas while plain can be found in the southern part. There are over 300 outlying islands, and Pingtan Island is the fifth largest island in China (Fuzhou Yearbook Editing Committee 2009). Fuzhou city is divided into five urban districts (Gulou, Taijiang, Cangshan, Jin'an, and Mawei), with an area of 1043 sq km. Two county-level cities—Fuqing and Changle—with an area of 2176 sq km, and six counties (Minhou, Lianjiang, Luoyuan, Minqing, Yongtai, and Pingtan), occupying the remaining area of 8569 sq km (Fig. 4.1), are under the administration of Fuzhou on behalf of Fujian

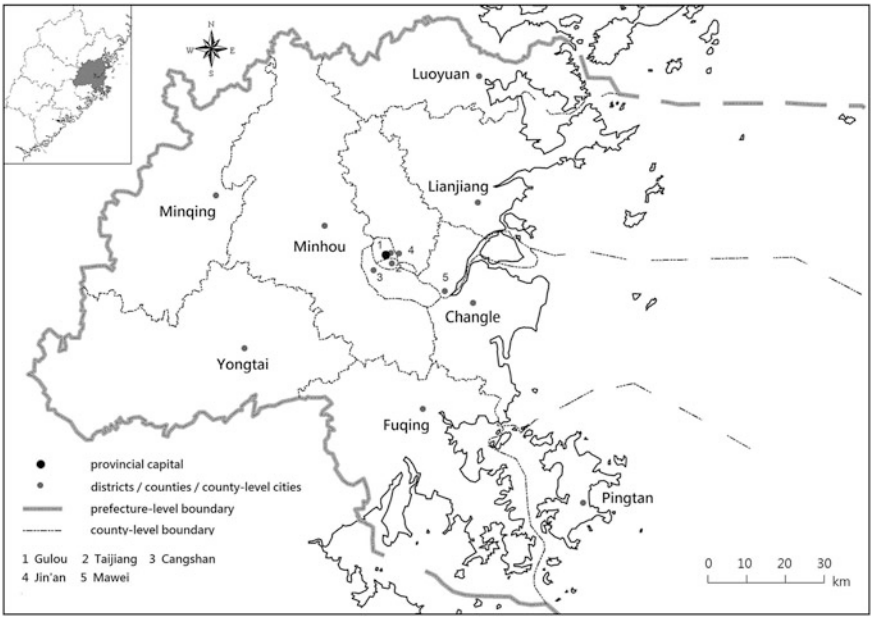

Fig. 4.1 Administrative division of Fuzhou

province. The total land area of Fuzhou municipality[4] is 11,968 sq km (Fuzhou Municipal Statistics Bureau 2010a). The built-up area of five urban districts was 227 sq km in 2013 (Organization of Urban Socio-Economic Survey 2014). The year-end *hukou* (household registration) population of the municipality increased from 4.37 million in 1978 to 6.65 million in 2013, and the number of permanent residents was 7.34 million in 2013.

Like Guangzhou, Hangzhou, and Nanjing (*see* Chaps. 2, 6, and 7 respectively), Fuzhou is a historical city with over 2200 years of history (Figs. 4.2 and 4.3). Since being named as Fuzhou in the Tang Dynasty (725 AD) for the first time, the name of the city has changed many times. Nevertheless, it has long been an important city in Fujian (Fuzhou Yearbook Editing Committee 2009). Throughout the history, Fuzhou established many international connections. It was once a major port in the Ming Dynasty (1368–1644) and contributed much to the expeditions of Zheng He's fleets in the early fifteenth century. The city was also one of the five ports opened for trading under the Nanking Treaty signed between the Qing Dynasty (1644–1912) and the United Kingdom in 1842. After ups and downs in the next 140 years, the Chinese government (re-)opened the country to the world intentionally in the 1980s, instead of being forced by the foreign military hegemony. Fujian became a

[4]Throughout this chapter, the word *municipality* refers to the whole area under the administration of Fuzhou, including the two county-level cities and six counties. Fuzhou *city* refers to the five urban districts only, or the historical city of Fuzhou.

Fig. 4.2 Ancient three lanes and seven alleys in the downtown area of Fuzhou (taken by authors in June 2012)

Fig. 4.3 Ancient three lanes and seven alleys in the downtown area of Fuzhou (Southern Street) (taken by authors in June 2012)

pioneer in the economic reform and Fuzhou was designated as an open coastal city (OCC) along with 13 counterparts including Guangzhou in 1984.

Although Fuzhou and Guangzhou have similar background (for examples, both are provincial capitals and OCCs) and have been granted similar preferential policies in the economic reform, the paths of development in the past three decades are highly different. Table 4.1 presents the trajectory of socio-economic development of Fuzhou from 1978 to 2013. Fuzhou's GDP at current price increased from RMB 1.27 billion in 1978 to RMB 467.85 billion in 2013, with average annual nominal and actual growth rates of 18.40 and 14.82 %, respectively. The per capita GDP at current price increased from RMB 293 in 1978 to RMB 64,045 in 2013, with average annual nominal and actual growth rates of 16.64 and 13.48 %, respectively. The shares of the three economic sectors transformed from 26.76:47.24:26.00 (Primary:Secondary:Tertiary) in 1978 to 8.60:45.60:45.80 in 2013 (Fuzhou Municipal Statistics Bureau 2014). Like many other Chinese cities, the importance of primary industry in Fuzhou's economy has diminished, the average annual actual growth rate is only 8.25 %. On the contrary, the share of tertiary sector has increased rapidly at the same growth rate of 16.30 %, while the one for secondary sector is 15.94 %. The secondary and tertiary sectors had almost similar contribution to Fuzhou's economy in 2013.

The relative share of the primary sector in Fuzhou's economy has been declining but the sector is growing. The gross output value of agriculture, forestry, animal husbandry, and fishery increased from RMB 0.48 billion in 1978 to RMB 68.28 billion in 2013. Agriculture used to be the largest sub-sector but was replaced by fishery in the early 1990s. The latter accounted for 57.56 % of the gross output value of the whole sector in 2013 while the former contributed another 25.80 %. Fishery also had the largest real annual average growth rate of 10.07 % during the period of 1978–2013 (Fuzhou Municipal Statistics Bureau 2014). While fishery and aquatic products are now the major products of Fuzhou, the production scale of cash crops like fruits, vegetables, flowers, and mushrooms is also expanding. Besides diversification, advancement is another focus. The authority emphasizes the development of special products and the importance of quality (Fuzhou Municipal Statistics Bureau 2010b). Industrialization policies of nurturing modern dragonhead enterprises and emphasizing the standardization of development in the primary sector have also been proposed (Fuzhou Municipal Government 2011b).

Nevertheless, there are hurdles to overcome before realizing the goals of modernization and industrialization. First, the pace of development and the economic efficiency are not as good as those of secondary and tertiary sectors. Second, extra effort is needed for the modernization and industrialization, in particular the development of the commodity chain and the effective management. Third, the municipality lags behind in the development of related service sectors such as the agricultural R&D, education and training, innovation, and commercial promotion (Geng and Wei 2011; Zhang and Li 2007). Fourth, the opening of the Mainland market to Taiwan's agricultural products can be a challenge to Fuzhou's primary sector.

Table 4.1 Major social and economic indicators of Fuzhou, 1978–2013 (Reproduced from Fuzhou Municipal Statistics Bureau 2010a, 2014)

Indicator	1978	1990	2000	2013
GDP at current price (RMB billion)	1.27	10.24	87.64	467.85
Shares of three economic sectors (%; Primary:Secondary:Tertiary)	26.76:47.24:26.00	28.72:40.25:31.03	15.43:43.23:41.34	8.60:45.60:45.80
Per capita GDP at current price (RMB)	293	1936	14,841	64,045
Year-end registered *hukou* population (thousand)	4373	5353	5892	6655
Permanent residents (including population without *hukou*, thousand)	n.a.	n.a.	n.a.	7340
Total investment in fixed assets (RMB billion)	n.a.	n.a.	23.75	386.98
Government revenue (RMB billion)[a]	0.24	1.09	5.54	45.40
Government expenditure (RMB billion)[a]	0.13	0.83	5.40	53.38
Urban households per capita annual disposable income (RMB)	295	1537	7944	32,265
Per capita net income of rural households (RMB)	n.a.	864	3860	12,910
Gross output value of agriculture, forestry, animal husbandry and fishery (RMB billion)	0.48	4.25	21.74	68.28
Gross output value of industry (RMB billion)				
- all	1.62	13.73	112.39	725.40
- above designated scale	n.a.	n.a.	n.a.	678.63
Retail sales of consumer goods (RMB billion)	0.69	4.53	35.18	268.17
Total value of exports (US$ billion)	n.a.	0.23	2.73	19.34
Utilized foreign direct investment (US$ million)	0.78 (1979)	101.93	800.87	1430.63[b]

Notes [a]While the 1980, 1990, and 2000 figures represent the gross government revenue and expenditure, the 2009 figures are the local government revenue and expenditure based on the budget

[b]A new standard was applied in counting utilized FDI since 2005 and stopped using the old standard from 2012 onwards. For 2009, the figure was US $1032.27 million under new standard

On the contrary, the secondary sector has been developing significantly in the past 30 years. The GOVI (gross output value of industries) expanded drastically from RMB 1.62 billion in 1978 to RMB 725.40 billion in 2013. The real average annual growth rate was 19.20 % in this period. The GOVI of all industrial enterprises at designated scale and above was RMB 678.63 billion in 2013 with following characteristics. (1) Heavy industry accounted for 54.12 % of GOVI, relatively balanced between heavy and light industries when compared to other cities such as Nanjing (*see* Table 7.2); (2) sole foreign invested enterprises, including those from Hong Kong, Macao, and Taiwan, contributed 44.08 % of GOVI, which used to be over half; and (3) similar contribution by large, medium-sized, and small enterprises, their shares in GOVI were 36.72, 33.11, and 29.81 %, respectively (Fuzhou Municipal Statistics Bureau 2014).

In recent years, Fuzhou's manufacturing industries have been transforming from a labour intensive one to a capital intensive one. Industries such as electronic information, textile, and automobile manufacturing are getting more mature and higher competitiveness, with higher input of R&D and technology. A Fuzhou-based company has even emerged as the largest LCD monitor manufacturer in the world.[5] Again, like the primary sector, the foundation of the manufacturing industries is weak. Further effort is needed to extend and optimize the manufacturing chain. In addition, although a spatial pattern of industrial agglomeration is developing with downtown as the core and Luoyuan and Jiangyin as the wings, it is necessary to further strengthen the coordination and interdependence among industrial clusters (Fuzhou Municipal Government 2011a; Fuzhou Municipal Statistics Bureau 2010b; Zhang and Li 2007).

The tertiary sector of Fuzhou has been experiencing dramatic growth, indeed with a real average annual growth rate of 16.30 % from 1978 to 2013, higher than that of the secondary sector (Figs. 4.4 and 4.5). The absolute values in GDP were RMB 0.33 billion and RMB 214.26 billion in 1978 and 2013, respectively (Fuzhou Municipal Statistics Bureau 2014). Among 14 categories of the tertiary sector in 2013, wholesale and retail trades was the largest sub-sector, accounting for 21.68 % of the tertiary sector; financial industry was the second largest accounting for 15.01 %; real estate was the third, transportation, storage, and postal service was the fourth, and the R&D related sub-sector was twelfth (Fuzhou Municipal Statistics Bureau 2014). Such order of GDP contribution within the tertiary sector reflected that the service economy of the municipality is still dominated by traditional consumer services and speculative activities rather than modern producer services. Both the tertiary sector and the producer services are in a lower level of development when compared with such cities as Shanghai, Shenzhen, Guangzhou, and Hangzhou. All of these cities are striving hard to develop their modern service sector. Moreover, Fuzhou's tertiary sector is suffering from the shortage of skillful

[5]For details, see http://big5.huaxia.com/tslj/rdqy/fj/2012/07/2914802.html (in Chinese), Accessed 15 August, 2012.

Fig. 4.4 Commercial development in Fuzhou (taken by authors in June 2012)

Fig. 4.5 Busy street in Fuzhou (taken by authors in June 2012)

labour force, poor governmental administration, and other institutional obstacles (H. Lin 2011).

As an open coastal city, Fuzhou municipality has reconnected with the modern global economy since the early 1980s. Foreign trade and investment is one of the key contributors of Fuzhou's economic and urban development. The total value of export of Fuzhou increased from US$ 0.23 billion in 1990 to US$ 19.34 billion in 2013; while the utilized FDI skyrocketed from US$ 0.78 million in 1979 to US$ 2295.96 million in 2009.[6] Hong Kong has long been the largest source of utilized FDI, accounted for about 70 % of the total in 2009 (Fuzhou Municipal Statistics Bureau 2010a); and Taiwan is the second largest (Fuzhou Yearbook Editing Committee 2010). The advantages of spatial proximity to Hong Kong and Taiwan and the social ties across the Taiwan Strait are the key contributing factors.

However, compared with the OCCs and the Special Economic Zones (SEZs) in Guangdong, Fuzhou did not achieve the same level of growth and urban competitiveness. According to the annual urban competitiveness ranking by Ni and colleagues, Fuzhou was ranked 39th only in 2014, while Shenzhen, Guangzhou, Xiamen, and Quanzhou were ranked 1st, 5th, 17th, and 32nd, respectively (Ni et al. 2015), lagged far behind the first three cities. About the popularity, among the six mainland cities studied in this book, Fuzhou recorded the smallest air passenger throughput in 2014, and was ranked 26th in China. This figure was also lower than that of Xiamen which was ranked 11th (Civil Aviation Administration of China 2015).[7] Xiamen was the second largest city in Fujian. It is an attractive tourist city and has direct sea-link with Taiwan which has increased its air passenger throughput.

In short, Fuzhou has benefited greatly from the economic reform in China. Its economic linkage with Hong Kong and Taiwan in Southern China has enhanced the economic and urban development of the municipality. However, its pace of development has been slower than the PRD region and the YRD region, and also lagged behind its Fujian counterparts—Xiamen and Quanzhou in some areas.

[6]The new standard of counting foreign investment was applied since 2005 and the old one was no longer used from 2012 onwards. The old and new figures of utilized FDI in 2009 were US$ 2295.96 million and US$ 1032.27 million, respectively. The utilized FDI in 2013 was US$ 1430.63 million.

[7]The air passenger throughputs of studied cities in 2014 were: Guangzhou (54.78 million, 2nd), Shanghai Pudong (51.69 million, 3rd), Shanghai Hongqiao (37.97 million, 4th), Shenzhen (36.27 million, 6th), Hangzhou (25.53 million, 10th), Nanjing (16.28 million, 16th), and Xiamen (20.86 million, 11th).

4.3 Major Development Strategies and Plans of Fuzhou

Since the economic reform, Fuzhou's social, economic, and political environment has experienced tremendous changes and development. Fuzhou is now one of the economic bellwethers in the province and is expanding its economic capacity. It is, meanwhile, facing the challenge of structural economic change. There are both challenges from stronger regional competition and opportunities from regional cooperation with the competing counterparts such as YRD, PRD, and Pan-PRD (PPRD). At the global and national levels, the unstable global market is a double-edged sword to Fuzhou as its economy is sensitive to any global economic threats and crises. On the other hand, the Chinese market is now the hotspot of the world, if not the saviour of the crisis-ridden global economy. The expanding domestic consumption market allows Fuzhou to get a share by diverting its economic structure from export manufacturing-led to domestic market-led gradually.

Politically, Fuzhou needs to make good use of two breakthroughs of the political environment. First, within mainland China, the existing vertical administrative structure does not encourage any horizontal interaction among local administrative units. Moreover, the decentralization, globalization, and marketization in China have brought about vicious competition among the local administrative units (Shen 2007; Wei 2001). Bottom-up regionalization is now a widespread phenomenon in China. Local governments, in different coalitions or alliances, are fighting for central government support to their bottom-up regional development. Fuzhou needs a breakthrough in the regional cooperation framework, and only a structural reform can help regional integration and further development of the municipality.

Taiwan factor is the second breakthrough. The designation of Xiamen as an SEZ, Fuzhou as an OCC, and the whole Fujian province as a pioneer of the economic reform 30 years ago already reflected the intention of making use of Taiwan to drive Fujian's development. Taiwan has once again become a critical factor. In May 2009, the central government released the *State Council's Comments on Supporting Fujian Province to Expedite the Development of Taiwan Strait West Coast Economic Zone*. Fujian and Fuzhou show their great interests in this favourable policy and the eagerness to pursue regional development on this basis. They do make good use of this breakthrough. The provincial and municipal 12th FYPs and the latest Urban Master Plan have all adopted the Taiwan Strait West Coast development as the core agenda. The provincial government has formulated a special plan on the establishment of the Taiwan Strait West Coast Economic Zone. All these documents will be studied briefly in this section.

The roles, functions, and positioning of Fuzhou have been clearly stated in the planning. Politically, Fuzhou needs to play the role of provincial capital well while economically Fuzhou intends to strengthen the roles as an economic centre and dragonhead. Fuzhou expects that such roles can expand its influence over the region, achieve sustainable development and build Fuzhou "a wealthy and strong city which is harmonious and livable". In order to achieve such positioning and realize the aforementioned roles and functions, Fuzhou must, and has been allowed

Table 4.2 Selected major socio-economic indicators of Fuzhou's 12th FYP (Reproduced from Fuzhou Municipal Government 2011c)

Indicator	Year 2010 estimated	Year 2015 projected
GDP (RMB billion)	306.82	Above 540.7
Per capital GDP (RMB)	43,800	Above 73,806
Utilized FDI (US$ billion)	16.3	24.0
Shares of three economic sectors (%, Primary:Secondary: Tertiary)	9.2:44.5:46.3	5:45:50
Share of the value-added of high-tech industries in GDP (%)	15	19
Urbanization level (%)	60	67.5
Share of R&D expenditure in GDP in the whole city (%)	1.8	2.5
Urban households per capita annual disposable income (RMB)	22,723	34,962
Per capita net income of rural households (RMB)	8543	Above 12,552
Natural population growth rate (‰)	7	7
Urban unemployment rate (%)	Below 3.4	Below 3.9
Number of low-incoming housing built (thousand flats)	30.8	Provincial target
Insurance rate of urban basic medical insurance (%)	95	Above 95
Comprehensive energy consumption per unit of GDP (tonne of standard coal equivalent per RMB 10,000)	0.64	Provincial target
Urban green coverage (%)	40.3	42.0

to, have pioneering trials and experiments, and speed up the transformation, i.e. a leap forward development. Various development targets can be useful indicators. Table 4.2 presents the major socio-economic indicators of the goals of development in the 12th FYP period of Fuzhou.

4.3.1 Economic Development

Following the nationwide trend of industrial transformation, Fuzhou is developing advanced manufacturing (secondary sector) and modern services (tertiary sector), which, sticking to the provincial strategy, will establish the municipality as an advanced manufacturing base and a modern service centre on the Taiwan Strait West Coast (Fujian Provincial Government 2011; Fuzhou Municipal Government 2011c).

Pinpointing the secondary sector, the municipality has identified key industries (such as electronic and information, textile, and petrochemical), high-tech industries, and rising industries (such as new materials, biomedicine, and energy) as the foundations of the sector. Policies have been worked out to nurture these industries

(Fujian Provincial Government 2011; Fuzhou Municipal Government 2011c). The common paths of development for all these industries are the transformation to high-end industries, large-scale development, and brand building. Specifically, each industry has been encouraged to extend the production chain both upward and downward, and to reach high-end and high value-added sections of the value chain. Each industry tries to achieve the brand building goal by nurturing large enterprises and by means of merger and acquisition. By realizing the goal of advanced manufacturing base, Fuzhou can probably overcome the present disadvantages and shortcomings of the secondary industry.

Tourism and trading have been considered as the major traditional services of the municipality, and they are undergoing revitalization and rebranding for a sustainable future. For example, the tourism industry tries to make better use of Fuzhou's historical, cultural, and hot spring resources as the driving forces for development. On the other hand, the municipality is using producer services as a new economic engine. Logistics, financial services, and headquarters economy have been considered as the pillar industries. Fujian province aims to build Fuzhou as a key logistics node of the country. Although the provincial planning document does not make a specific statement, it is believable that Fuzhou will play a leading role in the development of regional financial centre. In fact, for both secondary and tertiary sectors, Fuzhou and Xiamen constitute a pair of leading cities in Fujian's 12th FYP, and occasionally, Quanzhou is the third one of the triad (Fujian Provincial Government 2011; Fuzhou Municipal Government 2011c).

The municipality has also emphasized the importance of maritime economy and expects that this sector can grow and contribute a value added over RMB 150 billion or 28 % of GDP value in 2015. Spatially, the municipality aims to build a Blue Industrial Belt. Based on the approach of regional division of labour, four different maritime industrial zones will be created in three major bays of Luoyuan, Fuqing, and Xinghua (Fuzhou Municipal Government 2011c).

Innovation will be the most important tool to support the best development of all the above industries. The municipality is going to build an innovation system that emphasizes R&D and high technology. Platforms will be built to encourage cooperation among enterprises, universities, research institutes, and the government, in order to facilitate knowledge transfer and application.

4.3.2 Urban and Regional Development

Compared with other coastal cities studied in this book, Fuzhou lags behind her sister cities in the scale and level of urban and regional development. With the introduction of Taiwan Strait policy, Fuzhou aims to make improvement, build the municipality a metropolitan on the West Coast of the Taiwan Strait, and function as a regional hub and a platform for exchange across the Strait (Fuzhou Municipal Government 2011c). Specifically, Fuzhou plans to be one of the two metropolises with a population of over five million in Fujian, a key node of the

provincial-designated coastal city belt and the northern development axis, and a key node of the regional comprehensive transportation network (Fujian Provincial Government 2011).

To become a metropolis, the problems of small urban area and inefficient land use must be well tackled. New urban development is heading towards the eastern and southern parts of the municipality, while renewal and regeneration will be carried out in the old districts. The whole municipality will be divided into clusters with a pattern of "one zone, three axes, and eight new towns". The authority intends to break the administrative barriers and strengthen the core-peripheral coordination with such spatial design. The core-peripheral coordination can help integrate the two county-level cities (Fuqing and Changle) with the downtown. Within the downtown, the authority plans to provide better transport infrastructure and public utilities such as water and gas supply. The government also encourages the urbanization of small towns and villages, and the integrated urban–rural development in transport networks, public utilities, and public services provision like housing and education (Fuzhou Municipal Government 2011c).

Regionally, Fuzhou, as a provincial capital, has a responsibility of coordinating development among municipalities on the West Coast of the Taiwan Strait, including the interaction with municipalities in Guangdong, Zhejiang, and Jiangxi provinces (Fujian Provincial Government 2010; National Development and Reform Commission 2011a). There is also an intention to strengthen the interchanges and complementary relationship with YRD, PRD, and ASEAN countries. The main subjects of cooperation include the development of common markets, the promotion of barrier-free flows of people, capital, and other factors of production. In this regard, Fuzhou is going to function as the hub and central city, and Pingtan will host such development. Official planning document was released in late 2011 and Pingtan was designated as a comprehensive experimental zone aiming to promote regional socio-economic and cultural integration, including the connection between Mainland and Taiwan (Fujian Provincial Government 2010, 2011; Fuzhou Municipal Government 2011c; National Development and Reform Commission 2011b; "Pingtan da kaifa" 2011).

The *State Council's Comments on Supporting Fujian Province to Expedite the Development of Taiwan Strait West Coast Economic Zone* (the *Comments*) was promulgated in May 2009 (State Council 2009). Under the guidance of the *Comments*, Fujian province drafted and endorsed the *Taiwan Strait West Coast Economic Zone Development Framework* (the *Framework*) in 2010 and the National Development and Reform Commission issued the *Taiwan Strait West Coast Economic Zone Development Planning* (the *Planning*) in 2011 (Fujian Provincial Government 2010; National Development and Reform Commission 2011a).

As Taiwan Strait West Coast is now being considered as a national strategy, the *Planning* covers a larger area. Besides designating Fujian province as the core, Wenzhou, Quzhou, and Lishui in Zhejiang province, Shantou, Meizhou, Chaozhou, and Jieyang in Guangdong province, and Shangrao, Yingtan, Huzhou, and Ganzhou in Jiangxi have also been called up under the *Planning* (National

Development and Reform Commission 2011a; State Council 2009). Both the top-down guidance and bottom-up efforts in the implementation of this regional development are expected. Instead of considering the *Framework* or *Planning* as a brand-new or individual document, it is more appropriate to see it as a planning complementary to the national and local FYPs, rearranging the concrete planning and development by making use of the opportunity of the improving Mainland-Taiwan relationship and the comparative advantages of Fujian province, in order to achieve the fine-tuned socio-economic development of the Taiwan Strait West Coast region.

Similar to Fujian and Fuzhou's FYPs, the *Comments*, the *Framework*, and the *Planning* provide a comprehensive planning and concrete directions for the development of the Taiwan Strait West Coastal Economic Zone. For example, one of the goals is to build the Economic Zone as an advanced manufacturing base, and a cultural and natural tourism centre. In the economic perspective, details of the development of modern agriculture, advanced manufacturing industries, and service industries have been suggested. In the urban and regional development perspective, these plans propose to establish urban agglomerations, and stimulate counties and rural development. Details of the projects of ports, railways, highways, and airports, improvement of livelihood, and pursuance of sustainable environment have also been clearly stated. Nevertheless, the principal characteristic of the *Framework* and the *Planning* is to build (and will work as) the major platform for the Mainland-Taiwan civil exchanges. Experimental trials will be conducted in the industrial activity connection, cultural exchange, or transportation linkages. For example, more new and critical industrial sectors will be open for Taiwan capital, such as biomedicine and new energy, to encourage industrial docking and industrial chain connection. On the other hand, besides encouraging exchanges in the cultural, educational, and health sectors, mutual qualification recognition between Mainland and Taiwan has been proposed as well (Fujian Provincial Government 2010; National Development and Reform Commission 2011a; State Council 2009).

The above documents have crucial political and economic meanings and effects. Politically, it is a mission to create a harmonious and win-win environment for the possible unification between mainland China and Taiwan, in which Fujian province can play a key role. Economically, mainland China can make good use of the Taiwan factor for further economic development, structural economic reform, urban–rural and regional development, and so on (State Council 2009). Fuzhou, again, shoulders these duties and is definitely willing to take these opportunities, as reflected in various strategies and concrete policies of the provincial and municipal 12th FYP documents. In brief, major efforts include strengthening the capacity of Fuzhou in order to facilitate flows, enhance agglomerations, and increase its influences to both Taiwan and mainland counterparts, and consolidating the central city status of Fuzhou.

4.4 Discussion: Regional Economic Development and the Changing Urban Functions

Based on the previous analysis and discussion, this section is going to analyze the TSEs and the growth triangle found in Fuzhou in the early years, and the urban functions at that time. The latest socio-economic and political circumstances create new TSEs for Fuzhou to re-energize the development of regional economy and the growth triangle. It is expected that Fuzhou's urban functions will be upgraded.

4.4.1 Changing Urban Functions

As stated in the introduction, geopolitical factors have greatly influenced Fuzhou's development, indeed the development of whole province. The Cold War and the tension between Mainland (Communist Party of China) and Taiwan (KMT) were the major geopolitical factors hindering Fuzhou's development, particularly from the 1950s to the 1970s. Since the 1980s, the stabilizing relationship between Mainland and Taiwan has helped to establish a new economic relationship across the Taiwan Strait for the next 30 years. Geoeconomic factor and nationalism stood alongside geopolitics as the crucial factors of Fuzhou's development. Sum (2001b) contended that the concepts of geoeconomic and nationalist TSEs can be applied to explain the pioneering economic reforms and regional development in the cross-border sub-region of Fujian and Guangdong, the economic interaction with Hong Kong and Taiwan, and the establishment of the Southern China Growth Triangle (Fig. 4.6; Chen 1995; Chen and Lee 1998; Thant 1998). For geoeconomic TSE, the globalizing and regionalizing economy, the popularity of ICT, and so on are the key contributors. For nationalist TSE, Fuzhou and Fujian have absolutely

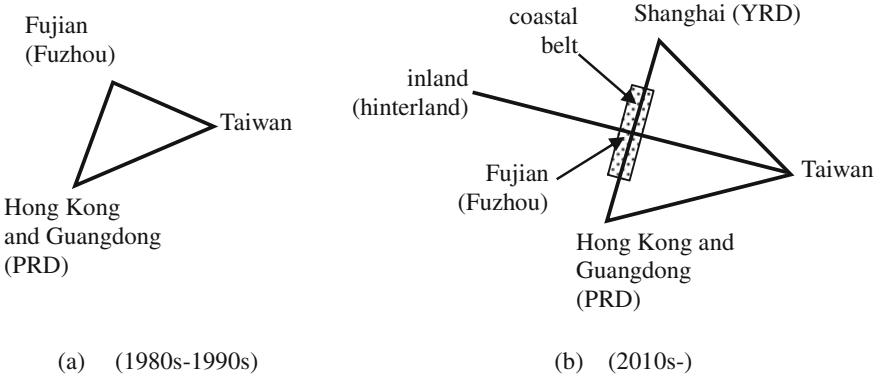

Fig. 4.6 The evolution of the growth triangle (developed based on the growth triangle concept of Chen 1995, Chen and Lee 1998, and Thant 1998)

taken the advantages of common language and culture with Taiwanese and a large number of migrants in Hong Kong and Southeast Asia countries such as Singapore, who have brought in the needed inward capital for investment.

Since the economic reform, Fuzhou has played three urban functions. First, it has played as a *destination of industrial relocation*. Its spatial proximity to Taiwan, Hong Kong, and Southeast Asia countries, the social ties with the overseas Chinese in the region, the special administrative status of OCC, favourable investment policies, and inexpensive production cost allowed Fuzhou to function as one of the investment hotspots in the early years. Fuzhou, like Shenzhen, Guangzhou, and Xiamen, involved in the new international division of labour and emerged as an important part of "world factory" in the global and regional commodity chains.

Second, as a national political mission, Fuzhou has functioned as a *bridgehead* to strengthen connections to Taiwan before the unification of Mainland and Taiwan. Instead of military action, "economic incentive and integration" is considered a better means to resolve the Taiwan issue in the contemporary world. The deeper the economic interdependence is, the higher the possibility of the implementation of "one-country, two-systems" in Taiwan will be, at least in the mindset of the Mainland leadership. Simply from the statistical figures, this proves to be a successful strategy. Taiwan is the second largest investor in Fuzhou, even excluding the indirect investment via Hong Kong. It is the same for the Fuzhou-Taiwan trading. Taiwan businessmen's investment in mainland China keeps growing.

Third, as the provincial capital, Fuzhou was a *leader* to "get-rich-first" to guide the development of the whole province. During the first two decades of opening, the provincial government proposed a series of regionalization policies, in which Fuzhou was assigned a key role in the regional economic and infrastructure development (Zheng et al. 2008). Nevertheless, Fuzhou's development has been limited by various constraints and the expected urban functions have not been developed significantly (S. Lin 2011). The positioning of the municipality lacks individuality as well (Pan and Zhang 2009).

We can conceptualize the urban functions of Fuzhou as follows. Based on the aforesaid three functions, Fuzhou positioned itself as a regional manufacturing base. This manufacturing base provided an environment for foreign investors to transfer their labour intensive manufacturing processes from their cost-increasing hometowns, in order to minimize the cost and maximize the profit. This manufacturing base, on the other hand, provided ample job opportunities to local and migrant workers to improve their lives, and provided capital for urban and economic development. It plays as a major area in Fujian to improve the overall living standard and urban environment. Definitely, this manufacturing base supported the national political mission to unify with Taiwan by playing as the bridgehead and through economic means (Fig. 4.7a).

New socio-economic and political circumstances, and development plans were introduced in the previous section. It is worth to mention that the development of the Southern China Growth Triangle, which rose in the 1980s, became less significant and stagnated in the early 2000s. There are four important reasons. For Fuzhou and Fujian, the province suffered from strong interprovincial competition.

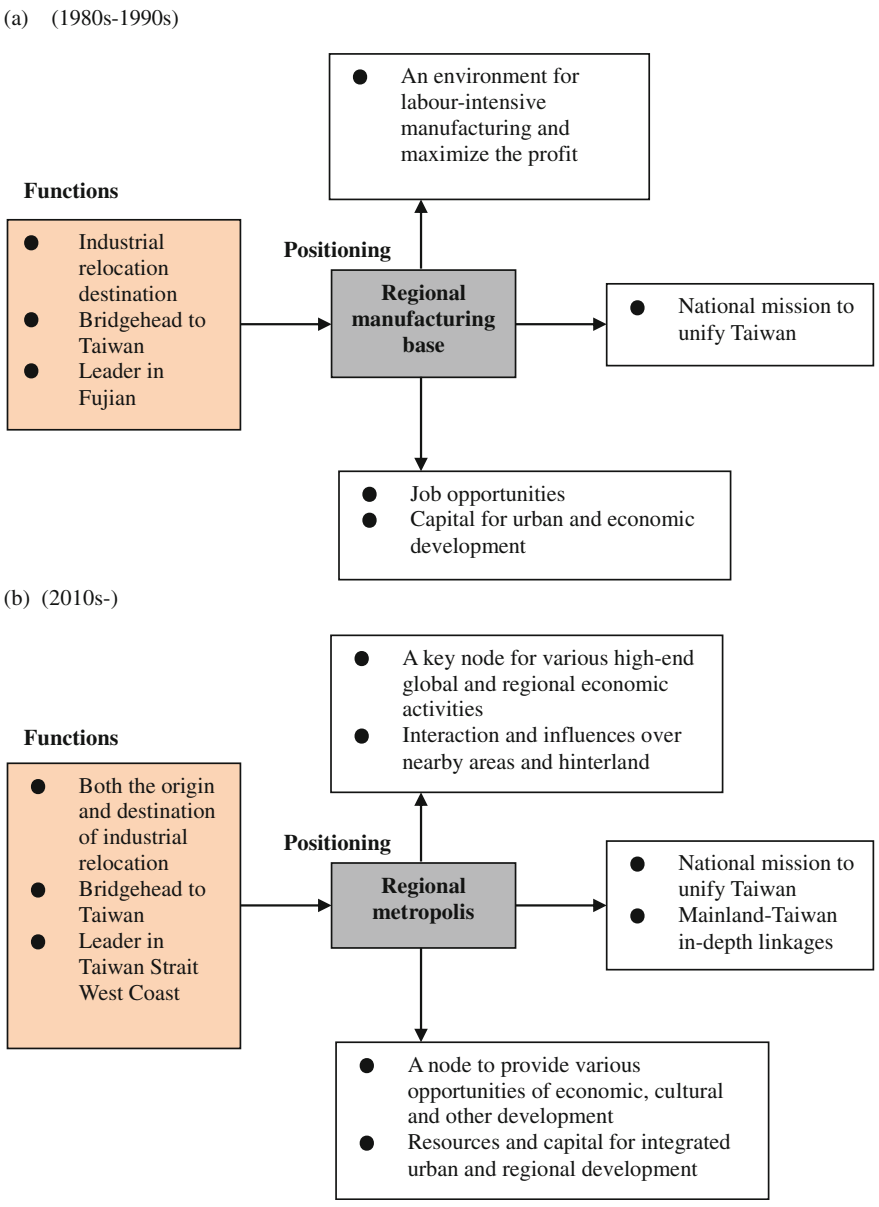

Fig. 4.7 Urban functions and positioning of Fuzhou

Its drawbacks and weaknesses, such as low technical skills, poor infrastructure and the misconduct of some officials, hindered the development and failed to further attract large-scale, capital- and technology-intensive investments from Taiwan and elsewhere. Indeed, such investments went to Jiangsu and Guangdong (Yeung et al.

2010; Zheng et al. 2008). For Taiwan, besides the aforementioned locational shift of investment, the ruling of Taiwan by the Democratic Progressive Party and the then party chairman Chen Shui-bian from 2000 to 2008 was a critical factor. The advocacy of the *de jure* Taiwan independence by this party and those anti-China policies and tricks played by Chen resulted in stagnant relations between mainland China and Taiwan. This dragged the development of the cross-Strait economy until the returning of KMT to power in 2008. For Hong Kong, after the reunification in 1997, the interaction with Taiwan was slowed down and any official connection to Taiwan became a sensitive political issue until recent years ("Gang huiguihou shouwei gaoguan jiang fangTai" 2009; Mainland Affairs Council 1998–2011). For Guangdong, similar to Hong Kong, it was once at loss and was identifying a new direction of economic development, such as the pursuance of PPRD economic development in 2004.

The economic circumstances have forced Fujian and Guangdong provinces to change. The Southern China Growth Triangle "thrived on distinctive comparative advantages and high complementarity" (Chen 1995, p. 615), and used to concentrate on labour intensive manufacturing. Guangdong is now implementing the strategy of "free the cage for a new bird" (*tenglong huanniao*) and two-way transfers (*shuang zhuanyi*), and is upgrading the industries to high-tech and knowledge-based ones. Fujian is also under similar industrial restructuring. Labour intensive manufacturing can no longer make use of the advantage of low land and labour cost. They have even been forced to leave the two provinces due to environmental and other reasons (Yeung et al. 2010). Spatially, the rapid rise of YRD and PRD has been changing the distribution of economic power in the coastal area and the relationship between Fujian and YRD, and between Fujian and PRD subtly. This implicitly means that the environment for TSEs has changed and the original growth triangle can no longer function properly as before.

Actually, the Taiwan Strait West Coast Economic Zone development framework has conceptualized a possible growth triangle, or a regional economic development network, for the coming decades (Fig. 4.6b; Fujian Provincial Government 2010). Based on the original growth triangle, Fujian keeps the linkages with Hong Kong/Guangdong (PRD) and Taiwan, and is going to strengthen the connections to YRD and the inland—a large hinterland to Fujian. Centering on Fuzhou, the Taiwan Strait West coastal belt (Fig. 4.6b) will also be established to consolidate the cooperation among the coastal cities.

It is expected that Fuzhou's urban functions will have the following changes. First, Fuzhou is still a *destination of industrial relocation*, but the city is specifically targeting the high-end and high value-added activities. Fuzhou is also the *origin of industrial relocation*. The low-end manufacturing base is coming to an end and Fuzhou needs to choose preferred industries. By shifting the unwelcome economic activities to nearby areas and hinterland, Fuzhou is going to build the municipality with advanced manufacturing base and modern service centre as stated in the 12th FYP. Second, Fuzhou is still a *bridgehead* to unify Taiwan and economic integration is still the best way. Taiwan, under the leadership of Ma Ying-jeou during 2008–2016, responded actively and positively to the regeneration of regional

economy. Third, Fuzhou is a *leader* not only in Fujian but also in the Taiwan Strait West Coast. Instead of getting rich first, it is necessary for Fuzhou, as a core, to work together with other cities in Taiwan Strait West Coast to achieve a win-win situation and well-coordinated regional economic development.

We can conceptualize the new urban functions of Fuzhou as follows (Fig. 4.7b). Fuzhou is going to build and position itself as a regional metropolis. Ideally, this metropolis will be a key node for various high-end global and regional economic activities. Simultaneously, it is a metropolis that encourages interaction with nearby areas and hinterland. The stronger influence of the metropolis over the region allows appropriate regional division of labour and better coordinated regional development. This metropolis will also be a node full of various opportunities of economic, cultural, and other development for its citizen and investors. Definitely, there will be more resources and capital in the metropolis for the integrated urban and regional development. Last but not the least, the national mission to unify Taiwan does not change. This metropolis will also be the venue to try out various in-depth strategic linkages between Mainland and Taiwan.

4.4.2 Fuzhou-Taiwan Relationship

For Fuzhou, improving Fuzhou-Taiwan relationship should be a top priority, in particular in building a closer Fuzhou-Taiwan socio-economic relationship. Indeed, it can be contended that Fuzhou continues to play mainly a receiver or importer role in this bilateral relationship. All the preparation works of Fuzhou, such as the designation of industrial zones, are for the inflow of Taiwan's capital, industries, and so on. On the other hand, Taiwan mainly plays the role of provider or exporter, exporting its products, services, and investment capital to Fuzhou. Taking reference to the Closer Economic Partnership Arrangement between Hong Kong and mainland China, Taiwan proposed Economic Cooperation Framework Agreement (ECFA), a preferential trade agreement between mainland China and Taiwan that was signed in June 2010.[8] Both the Taiwan Strait West Coast Economic Zone and the ECFA target bilateral trade and investment, and can be considered as two important platforms that Fuzhou can make good use of them. Economic cooperation can start in advanced manufacturing, modern services of tourism and education, and trading of agricultural products.

Land use and flows should be of major concerns to the Fuzhou side. In terms of land use, further expansion of investment zones for Taiwan investors, and the designation of Pingtan as the Mainland-Taiwan cooperation experimental zone are two key policies. The most important task is to improve the infrastructure, reversing the adverse situation in the early 2000s. Otherwise, Fuzhou will not be attractive to the Taiwan investors. In terms of flows, the operation of the Big and Small Three

[8]For details, please visit http://www.ecfa.org.tw.

Links are the pioneering steps. Fuzhou should seek the approval from the central and provincial governments to explore more free flows of people and other factors of production between Fuzhou and Taiwan. This also depends upon the attractiveness of Fuzhou, including transportation, economic, and institutional infrastructure, in agglomerating people and economic activities.

4.4.3 Intra-provincial Relationship

Fuzhou has always stressed its roles of provincial capital and regional economic centre. However, the regional relationship with Xiamen (the economic powerhouse of Fujian) and Quanzhou (a rising competitor) should also be dealt with properly. The importance of Xiamen and Quanzhou in Fujian's economy was clearly shown in the provincial 12th FYP. Both the provincial 12th FYP and the provincial Taiwan Strait West Coast Economic Zone development plan stated explicitly the division of labour among these three municipalities and their roles in the development. Provincial transportation infrastructure has also been improved to enhance the connection among them. However, the only issue is the regional governance among them (and probably among all the involved cities in the Taiwan Strait West Coast Economic Zone), i.e. the institutional setting to carry out effective and virtuous cooperation. Top-down guidance by the Fujian provincial government is one way, but bottom-up initiative is indispensable and should be the most critical. Behaving like an entrepreneurial state, each municipality should recognize its role —an investor or a facilitator. They should construct a favourable and sustainable environment to attract investment rather than engage in cut-throat competition in the region. Moreover, it is possible to establish a bottom-up regional governance network and coalition among municipal governments, inviting private sector to join, to solve regional conflicts and discuss concrete regional development strategies. Both the CUE Forum (*see* Chap. 5) and the PPRD trade fair meeting should be useful references. Fuzhou should take the initiative to do so.

4.5 Conclusion

In the beginning of the opening and economic reform of China, Fuzhou took the advantage to promote local economic growth and regional economic development with the presence of favourable national and geoeconomic TSEs. Fuzhou's economy was connected to the global commodity chain successfully in a regional economic network, known as the Southern China growth triangle with Taiwan as a key player. The achievement of Fuzhou, however, was not as great as those of Guangzhou and Shenzhen. The development of the Southern China growth triangle was stagnated as well in the 1990s. The municipality entangled in problems such as poor infrastructure and shortage of skilled labour.

Since entering the late 2000s and the 12th FYP period (2011–2015), there have been significant changes in the economic, social, and political circumstances in the region and the world. Fuzhou is now making good use of the implementation of the Taiwan Strait West Coast Economic Zone development policy and ECFA. The municipality has launched aggressive development strategies to boost the urban and regional socio-economic development.

Taiwan factor is no doubt important to Fuzhou's development, and the promotion of Fuzhou-Taiwan bilateral relationship is probably the most important right now and in the coming future. The political stability of Taiwan and Taiwan government's approach to the Mainland-Taiwan relationship are crucial factors, especially after the Democratic Progressive Party took the office again in 20 May 2016 to replace KMT. The designation of Pingtan as an experimental zone to carry out trials for new Mainland-Taiwan cooperation model is the most important step. On the other hand, Fuzhou also considers that it is highly valuable to construct the West Coast (Cities) Belt and enhance the relationship with YRD, Hong Kong, Guangdong (PRD), and inland areas. Fuzhou emphasizes the role of provincial capital and central city, and expects to have stronger regional influences in the Taiwan Strait West Coast.

In the 1980s and 1990s, Fuzhou played the role as a regional manufacturing base in the Southern China growth triangle, providing a favourable environment to maximize the profit for foreign investors, and providing job opportunities for local and migrant workers. It also had the mission to unify Taiwan by means of economic cooperation. Coming into the 2010s, following the changing environment, the growth triangle has become complicated and Fuzhou is going to position as a regional metropolis. Fuzhou plans to have the urban functions of playing as not only the destination, but also the origin of industrial relocation, the bridgehead to Taiwan, and the leader in Taiwan Strait West Coast.

In the coming future, Fuzhou and Taiwan will continue their receiver–provider or importer–exporter bilateral relationship. Land use and flows should be of major concerns to Fuzhou. On the other hand, any changes of the relationship among Fuzhou, Xiamen, and Quanzhou will not only affect their future paths of development but also the general benefit of the whole province. An appropriate regional governance relationship among these cities has to be developed urgently.

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Chapter 5
Shanghai: Urban Development and Regional Integration Through Mega Projects

5.1 Introduction: Mega Projects and Its Impacts

Although the path of modernization started only a decade after the opening of the PRD region, Shanghai has experienced a rapid, if not even faster, economic growth and an astonishing change of its urban landscape through large-scale development and re-development in the past two decades. The city now stands as a leading national economic centre. Shanghai's strength has been well recognized in the world, and so does its potential and prospect. Unlike the strong competition among Guangzhou, Shenzhen, and Hong Kong in the PRD region, Shanghai owns an advantage that it does not have well-matched competitors in the Yangtze River Delta (YRD) region although the economies of Hangzhou and Nanjing have good performance. Shanghai stands out in the YRD region in terms of geographical location, economic strength, and the stage of development.

The favourable position of Shanghai leads to a simple, clear, and ambitious goal of development—to become a world city. This is hardly a quixotic goal indeed. In the early twentieth century, having transformed itself from a third-class local town, Shanghai was the most prosperous city in China and a leading metropolis in the world (Yeung 1996). The academic world also recognized the potential of Shanghai dating back to the 1970s (Gottman 1976). Although the city experienced 40 years of sluggish growth until 1990, the decision by the central government in 1990 to open up Pudong, an open area of 350 sq km initially in Shanghai (Yeung 1996), provided the city with an opportunity to regain its previous prosperity and metropolitan image. In the era of economic globalization emphasizing urban competitiveness, world city, or global city, becomes a popular topic catching attention of numerous scholars from various disciplines such as geography, sociology, and planning. This book pays an attention to this topic as well and readers can refer to the brief discussion in Chap. 2.

There are many ways to build a world city. Implementation of mega projects is a way to establish a strong foundation for a city, to raise its competitiveness and

J. Shen and G. Kee, *Development and Planning in Seven Major Coastal Cities in Southern and Eastern China*, GeoJournal Library 120,
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international image, and to attract foreign investment. In this study, we understand a mega project in two aspects. First, it refers to the host of mega-events such as Olympics Games and World Expo that are short-term and "large events of world importance and high profile which have a major impact on the image of the host city" (Lamberti et al. 2011, p. 1477, quoting Law, 1993). Second, it refers to major constructions and development that may be but not necessary parts of the mega-events, such as a construction of a comprehensive transportation hub. Both mega-events and major constructions can lead to short-term and long-term influences—no matter benefits or risks—on the economic, social, cultural, and urban development of a city that involve significant effects at local and regional scales and on the competitiveness of a city.

Mega-events are not an uncharted topic in the academic world, and their impacts —both positive and negative, and both direct and indirect impacts—on the urban development and regeneration, economic and industrial development, public or community participation, culture, citizenship, and identity, and so on of the hosting cities and countries have been well studied (Andersson et al. 2008; Birkendorf 2009; Carlsen and Taylor 2003; Lamberti et al. 2011; Li 2004; Roche 2000; Smith 2012; Zimbalist 2010). Among all, economic benefits are the issues with most concern. There is no guarantee that organizing a mega-event can bring quantified revenue to the host city. For example, among recent Olympic Games, generation of surplus at the 1984 Los Angeles Olympic Games was an exceptional case. Indeed, a large sum of public money was committed in the six subsequent Olympic Games (Zimbalist 2010). Greece's failure to make good use of the abandoned sports venues, which became a social and financial burden, is also a well-known big mess. Similar financial risk can happen to the host cities of World Expo. Li (2004) analyzed the factors leading to the huge deficit of the 2000 World Expo in Hannover. While the budget had a surplus of 40 million Deutsche Mark, the turnout was a deficit of 2 billion Deutsche Mark. This was caused mainly by unexpected poor ticket selling and huge additional expenditure (Li 2004). Avoid repeating those problems can help Shanghai minimize the financial risk of hosting the 2010 World Expo.

Most studies only focus on short-term interest because of its relatively easy measurement compared with the long-term one. Long-term interest, however, is more than economic benefit to cities and industries, and is less quantifiable. On the one hand, mega-events can enhance community participation, even the involvement of the whole society (Lamberti et al. 2011). On the other hand, mega-events can foster the progress of urban renewal with appropriate long-term development strategies (Carlsen and Taylor 2003), although they may have uncertain multiple impacts in both cases.

Concerning major constructions and development, for example, as introduced in Chap. 2, the Guangzhou authority initiated massive urban (re)development plans to bring the city a revitalized urban landscape in a decade. This goal was further bound to the mega-event of the Asian Games 2010. The new city axis and the comprehensive mass transit network are two out of many new landscapes of the city. The city achieved a new height of its international image, urban competitiveness,

economic strength, and influence on other cities in the PRD region, along with the success of the Asian Games 2010. The implementation of major constructions and development, as well as the host of mega-events are now very common in China, if not an obsession.

Time is needed to show the influence and effectiveness of mega projects on the future of Shanghai, with the synergy of the integration with national and local development strategies and local characteristics, which will be discussed below. However, since the start of Pudong development in 1990, Shanghai has faced many challenges and problems throughout this latest round of development that imperative response is needed. Shanghai has the strongest and most productive economy among China's four province-level municipalities,[1] in terms of GDP and GDP density (*see* Table 2.3). Yet it is also the smallest and most densely populated one, with 6340.5 sq km of land. Thus, Shanghai faces some critical problems that constrain its development, including shortage of land and natural resources. The increasing costs of running a business, the lack of high-end manpower, increasing environmental pressure, and the need to explore new approaches to economic and social development and to optimize the industrial structure are also pressing issues (Wang and Zuo 2005; "Zuo kexue fazhan paitoubing" 2010). In addition, regional relationship and development is a crucial subject highly related to the problems that Shanghai is facing now. Theoretically, according to industrial shift and comparative advantage, the discrepancy of stages of economic development between Shanghai and other YRD cities, and differences in comparative advantages should lead to division of labour, which should be the catalyst of better regional interaction and cooperation, relaxing the problem of shortage of land and natural resources of Shanghai. However, competition, sometimes vicious, is not uncommon (Huang 2009; Luo and Shen 2009; Wang and Slack 2004). Political and administrative factors hinder regional development and integration.

In an era of globalization and regionalization, regional cooperation in different parts of China has proliferated since the late 1990s and regional development has become a de facto national strategy of China (Yeh and Xu 2008). Since 2009, the Chinese government has issued over ten regional development plans, including plans for Guangdong (Pearl River Delta), Hunan (Changsha–Zhuzhou–Xiangtan), Sichuan–Chongqing (Cheng-Yu), Fujian (Taiwan Strait West), Guangxi (Beibu Bay), and YRD ("Changsanjiao guihua huopi dingwei Yatai menhu" 2010; Pan-Pearl River Delta Cooperation 2010). The best way for Shanghai to respond to the challenges brought by the flourishing regional development in China so as to achieve a sustainable future for the city is to come up with well-planned goals and to properly implement a strategy of regional cooperation. How has Shanghai responded to the challenges to meet its future needs through mega projects? How can Shanghai achieve a win-win situation of development through regional cooperation? Certainly, there is no second Shanghai or YRD region in the world. Shanghai's unique approaches and modes of development are interesting and

[1]The three others are Beijing, Tianjin, and Chongqing.

important topics for academic research and policy analysis. By studying the city's strategic plans and policies, reviewing the recent mega projects, and analyzing the major approaches to development, this chapter shows the path that Shanghai has taken in its urban and regional development in recent decades.

This chapter is organized as follows. Following this introduction, Sect. 5.2 reviews briefly the start-up mega project of Shanghai's development. An introduction to the present dynamics of urban and regional development in Shanghai is given in Sect. 5.3. Section 5.4 analyzes development plans and various mega projects, and their impact on Shanghai at three different levels, i.e., local, regional, and global. Section 5.5 presents a discussion and the conclusion.

5.2 The Start-up Mega Project of Shanghai's Development Under Globalization

If globalization and regionalization are the underlying background, the following two reasons are the catalysts of making the decision of Pudong development in 1990. On the one hand, the successful economic development of the Shenzhen SEZ and the PRD region in the 1980s was both a good experience for the central government to pursue further economic opening in Shanghai and a challenge to Shanghai's economic position in the country. Shanghai was not unfamiliar with economic reform indeed. Some top-down trials took place in Shanghai in the 1980s and the city gained good experiences for a real reform. On the other hand, Shanghai needed a solution and a blockbuster to balance the long-lasting economic gap between the highly developed Puxi and the underdeveloped Pudong, and optimize the industrial structure that relied heavily on traditional manufacturing. The development of Pudong, therefore, can be considered as the start-up mega project of Shanghai after years of sluggish development.

After the 1990 opening-Pudong decision, a series of preferential policies were implemented to establish different kinds of development zones in this greenfield, such as hi-tech industrial zones, financial zones, free trade zones, and export-processing zones, in order to attract high-end inward investment and agglomerate advanced manufacturing activities from all over the world. Within only 20 years, a brand new landscape has emerged in Pudong, with a prosperous CBD, spacious port areas, well-suited residential areas, dense transport networks, and modern urban infrastructure. The Lujiazui Finance and Trade Zone, with its mushrooming high-rise commercial buildings, marks the most ambitious transformation in Pudong (Fig. 5.1).

Such rapid land use development and breathtaking landscape changes of Pudong and development in other parts of Shanghai likewise involve two features. First, many of these development zones, which host economic activities of transnational corporations (TNCs), if not simply be regarded as foreign direct investment (FDI)-oriented themed zones (Gu and Tang 2002; Gu et al. 2008; Walcott and Pannell

Fig. 5.1 Skyscrapers in Lujiazui Finance and Trade Zone, overlooking from Puxi to Pudong, giving Shanghai a new urban landscape (taken by the authors at the Shanghai Urban Planning Exhibition Centre in June 2009)

2006; Wu 2008; Wu and Barnes 2008), lie in the peri-urban areas (PUAs) outside the inner city. PUA development was not common before 1990, and such development has resulted in a dramatic change in the spatial patterns and expansion of built-up areas in Shanghai (Wu 2008). It has also resulted in the second feature—spatial restructuring of economic activities in Shanghai and changes to the city's economic structure, such as the relocation of factories that were previously scattered in the urban core (Wei and Leung 2005; Wei et al. 2006; Wu 1999, 2010; Yeung and Shen 2009).

However, the development was not free from problems. Land use conflicts and environmental deterioration are two of the many problems that the city faces. Wu and Barnes (2008) criticized the single-minded planning of urban mega projects (UMPs) by the host city (Shanghai). The assumption that global actors and globally footloose capital would follow the implementation of the UMP plans and the host city's expectations might not be fully realized. UMP plans can, on the contrary, lead to various land use and spatial problems. For example, some development zones are too large and have high vacancy rates. There may also be direct or indirect competition between development zones in adjacent districts, neighbouring cities, or between the national development zone and the local one, due to lack of good planning, long-term strategies, and proper coordination (Gu et al. 2008; Wu and Barnes 2008). Such single-minded planning and assumption, as well as unnecessary intra-city competition should definitely be avoided in the subsequent mega projects. Nevertheless, the contributing effect of Pudong development is significant and the pioneering role of Pudong in Shanghai's modernization should be recognized.

5.3 Characteristics and Dynamics of Urban and Regional Development

The most obvious change of Shanghai since the start-up mega project is the transformation of the sleeping city into a world city (Gu et al. 2008). The Shanghai government is able to make good use of FDI to develop Pudong and successfully *sell* Shanghai in the global market (Wu and Barnes 2008, p. 372). Shanghai not only has re-established its status as the central city in the YRD region and the Yangtze River Basin, but also has been regaining functions of an international city and returning to the global platform (Gu et al. 2008, p. 201; Ramzy 2010), in only two decades. Pudong has not only brought countable benefits to Shanghai, but also given the city intangible new images and paradigm of development.

Some essential attributes of Shanghai should reach critical threshold to reflect the world cityness (Doel and Hubbard 2002). The agglomeration of various international enterprises and financial institutions, the growth of international trade, the development of advanced services, and the rise of city competitiveness are certain useful indicators. Numerous TNCs, as well as an increasing number of promising domestic (Chinese) enterprises, have set up their (regional) headquarters (RHQs), representatives, and R&D centres in Shanghai and Pudong. By the end of 2013, there were already 445 TNC RHQs, 283 foreign investment companies, and 366 foreign R&D centres in Shanghai (Shanghai Municipal Commission of Commerce 2014). It is an outstanding number to Shanghai and China, considering that the strategy of attracting TNCs' RHQs started only in 2002.[2] Among these 445 TNC RHQs, 214 RHQs were located in Pudong District (48.1 %), reflecting the importance of Pudong to the Shanghai economy.

Measurement of competitiveness and global connectivity is a similar way to evaluate the world cityness. Using advanced producer service firms as the attributes, the work of Peter Taylor and his associates is well known to those studying world city networks (WCNs) and the City Globalization Index. An application of the latest dataset (for the year 2008, before the outbreak of the global financial crisis) by Hanssens et al. (2011) found that the urban connectivity for a few advanced producer service sectors (such as accountancy and financial services) had been rising in Chinese cities in general and Shanghai and Beijing in particular. The finding matches the new result of the WCN measurement that Shanghai had improved significantly, with its ranking rose from Alpha− in 2000 to Alpha+ in 2008. Shanghai is now in the same tier with Hong Kong, Singapore, Tokyo, and Beijing, just after London and New York (Alpha++) (Taylor et al. 2010).[3]

[2]The 2011 figures indicated that Shanghai was ranked first in the number of RHQs and foreign investment companies in China, see http://sh.eastday.com/qtmt/20111231/u1a950672.html, accessed 4 August 2012.

[3]According to another publication by Taylor and his colleagues (Taylor et al. 2011), Shanghai was ranked 9th in the overall network connectivity (NC), 7th in the financial NC, 11th in the law NC, 8th in the advertising NC, 14th in the accountancy NC, and 23rd in the management NC.

Table 5.1 Average annual growth rate of GDP in Shanghai, 1978–2013 (%) (Reproduced from Shanghai Municipal Statistics Bureau, 2014 and authors' calculations)

Period	GDP	Primary	Secondary	Tertiary
1978–1990	7.45	2.16	6.76	10.44
1990–2008	12.24	1.12	11.91	13.42
2008–2013	8.37	−2.18	7.05	9.36

Shanghai also ranked 16th according to the 17th report of Global Financial Centres by Z/Yen Group (2015). Shanghai was categorized as one of the established transnational financial centres and considered as the financial centre most likely to become more significant in the future. The report also shows that Shanghai performed particularly well in the Banking, Investment Management, and Government & Regulatory sub-indices. Nevertheless, the study team saw Shanghai a dynamic financial centre, which exhibited a moderate volatility in future global financial centre ratings. Indeed, Shanghai's ranking ranged 5th–35th in the past 16 editions, compared with London, New York, and Hong Kong which have been among the top three since the first edition.[4] In short, this implies that there is still a long way for Shanghai to become a top and well-established global financial centre. It is another scenario within China. In the annual China's urban competitiveness study conducted by Ni and his team, Shanghai ranked stably, ranging from second to fourth in the past 13 editions up to 2014 (Ni et al. 2015), usually after Hong Kong and Shenzhen. Indeed, the latest edition found that Shanghai had a better performance in the economic scale sub-index of comprehensive growth competitiveness than Hong Kong and Shenzhen.

Quantitative indicators are very useful in comparing and ranking world cities. These indicators, however, cannot show all of the facts and every facet. The most indicative example is the *strong* competition among Shanghai, Beijing, and Hong Kong as international financial centres. Their coexistence in China does not seem very possible if only statistics-based quantitative studies are referred to. An in-depth qualitative analysis of these three cities, on the contrary, yields a completely different conclusion. A relationship of functional complementarity makes it entirely possible that these three cities can simultaneously exist as world cities and financial centres (Lai 2012). Therefore, to evaluate the relationship of Shanghai with other YRD cities, both statistical indicators and texts of plans and policies will be used and examined in this chapter.

The contribution of the financial industry and Pudong to Shanghai's economy is significant. Shanghai experienced a rapid growth of its economy, particularly during the period of 1990–2008 (Table 5.1). The city accounted for disproportionate shares in a number of areas in the country as shown in Table 5.2. The

[4]The London-New York-Hong Kong ranking is very stable throughout the 17 reports of GFCs, except that Singapore was in the third place in the fourth and fifth reports, and New York replaced London as the top global financial centre since the 15th report.

Table 5.2 Shanghai's share of the national total in selected indicators, 1978–2013 (Reproduced from Shanghai Municipal Statistics Bureau 1988, 1995, 1999, 2001, 2006, 2009, 2014 and National Bureau of Statistics of China 1988, 1995, 1997, 2014)

	1978		1994		2000		2013	
Indicator	Shanghai	Shanghai/National (%)	Shanghai	Shanghai/National (%)	Shanghai	Shanghai/National (%)	Shanghai	Shanghai/National (%)
Population and labour force								
Year-end permanent population (million)	11.04	1.15	13.98	1.17	16.09	1.27	24.15	1.77
Total employment (million)	6.97	1.73	7.86	1.17	8.28	1.15	10.15	1.32
Economy								
GDP (RMB billion)	27.28	7.48	199.09	4.09	477.12	4.81	2160.21	3.80
Economic structure (Primary:Secondary: Tertiary)	4.0:77.4:18.6	–	2.4:57.7:39.9	–	1.6:46.3:52.1	–	0.6:37.2:62.2	–
Total investment in fixed assets (RMB billion)	4.54[a]	4.99	112.33	6.86	186.97	5.68	564.78	1.27
Gross output value of industry (RMB billion)[b]	51.40	12.13	425.52	6.06	702.30	8.17	3389.94	–
Foreign capital and trade								
FDI actually absorbed (US$ billion)	–	–	3.23	9.57	3.16	7.76	16.78	14.27
Total value of exports (US$ billion)	2.89	29.67	9.08	7.50	25.35	10.17	204.24	9.25
Transport and communications								
Volume of freight traffic (billion tonnes-km)	126.70	12.89	395.30	11.82	662.00	14.94	1786.8	10.63
Cargo handled at principal ports (million tonnes)	79.55	40.11	165.81	22.30	204.40	16.27	775.75	10.65

Notes [a]1980 figures

[b]Figures in 1978 and 1994 are not comparable to those in 2000 and 2008

development of Pudong contributed a large share of the growth—about 23 % of Shanghai's GDP in 2013 (Statistical Bureau of Pudong New Area People's Government 2014). The tertiary sector now dominates Shanghai's economy. Among all tertiary industries, the financial industry is the second largest and its share in Shanghai's GDP increased by 2.91 percentage points from 2001 to 2013. Wholesale and retail is the largest one and showed the greatest increase in the share in the same period, i.e. 5.7 percentage point (Shanghai Municipal Statistics Bureau 2014). This reflects the increasing maturity of Shanghai's economy. Finance, IT, and business services are forming a strong industrial chain in Shanghai. Indeed, finance and IT are two of the six pillar industries in Shanghai, as designated by the government (Shanghai Municipal Statistics Bureau 2009).

The dominance and importance of the financial industry in Shanghai can also be presented in the following ways. The People's Bank of China—the central bank of China—set up its second headquarters in Shanghai in August 2005. The Shanghai headquarters is in charge of those market-based operations of the central bank that were previously conducted in the Beijing headquarters, such as the stock and futures exchanges, foreign exchange, gold, and inter-bank borrowing. The Shanghai headquarters is also responsible for developing new financial products and enhancing regional financial cooperation ("Central Bank to open 2nd headquarters in Shanghai" 2005; "Yanghang Shanghai zongbu jiepai" 2005). The People's Bank of China moved its market-related businesses to Shanghai because of Shanghai's strong financial role in China, being closer to markets and customers, and the attractiveness of Shanghai's financial industry to the international market (Lai 2012).

FDI makes a significant contribution to Shanghai's financial industry. A major portion of FDI in Shanghai has been invested in the tertiary sector, rather than in the manufacturing sector which is the case in PRD. Out of a total of US$ 16.78 billion of incoming FDI, US$ 13.57 billion went to the tertiary sector in 2013 (Shanghai Municipal Statistics Bureau 2014). Among 1240 financial institutions in Shanghai in 2013, 215 were foreign financial institutions. Besides running *renminbi* operations, foreign financial institutions are allowed to offer different financial services under the framework of China (Shanghai) Pilot Free Trade Zone that was established in September 2013.[5]

Besides banking, the trading of equity securities is another leading business in Shanghai. The Shanghai Stock Exchange is now one of the largest stock markets in the world. It was the largest market in the Asia-Pacific region in terms of market capitalization as of June 2015, and ranked third in the world.

What has agglomerated in Shanghai is more than (foreign) capital, there are also the agglomeration of talents, other factors of production and products. The permanent population, including population without *hukou*, of Shanghai experienced extraordinary growth, increasing from 11.04 million in 1978 to 24.15 million in

[5]For details, see China (Shanghai) Pilot Free Trade Zone website: http://www.china-shftz.gov.cn/jrcx_index.aspx.

2013 (Table 5.2). The annual growth rate from 1990 to 2013 was far higher than that of the country as a whole. The natural growth rate of the population in Shanghai has been negative since 1993 (except 2012 with +0.26 ‰), with the lowest figure being −3.24 ‰ in 2003. Increasing net migration makes up more than the loss, and has become the sole contributor to the city's population growth. There was an agglomeration of people from foreign countries such as Japan, Korea, and the United States, making up a total of 176,363 persons in 2013 (Shanghai Municipal Statistics Bureau 2014), which provided the city with an ample amount of talents and labour force.

The agglomeration and dispersion of production factors such as people and capital, as well as the concentration of various economic activities, can show how important Shanghai is as a core city. The flows of factors of production can also reflect Shanghai's increasing connectivity to the region and the world. Shanghai has become the busiest port in the world in terms of cargo throughput since 2005, surpassing Singapore. With continuous growth, Shanghai ports handled 775.75 million metric tonnes of cargo in 2013. Similarly, after years of domination by Hong Kong and Singapore, Shanghai took the throne of the world's busiest container port in 2010, with the container throughput reaching 35.29 million TEUs (twenty foot equivalent) in 2014 (Port of Rotterdam 2015).

The growth in Shanghai's air cargo traffic is even more dramatic. According to the annual traffic data reported by Airports Council International, Shanghai airports were not among the list of the 30 busiest airports for cargo traffic in the world until 2002, when Shanghai Pudong International Airport (PVG) (which started operations in 1999) was ranked 26th with 635,000 metric tonnes of cargo. Since then, the amount of cargo handled by PVG has increased in folds and was close to three million metric tonnes in 2013, ranked third in the world, only behind Hong Kong and Memphis (Airports Council International 2014). The list of cargo freight shows that PVG has direct connections with over 70 cities in Asia-Pacific, America, and Europe. It was reported that, in the early 2010, the two airports in Shanghai together offered domestic fight connections with 87 cities and international air links with 111 cities worldwide, which is comparable to that of Hong Kong International Airport (Fig. 5.2) (Hong Kong International Airport 2010; "Shanghai Pudong, Hongqiao guoji jichang jianwen" 2010). In 2013, PVG and Hongqiao airports handled 82.79 million passengers and were ranked third and fourth among all mainland Chinese airports (Civil Aviation Administration of China 2015). There was rapid increase of passengers after the host of the 2010 World Expo (Fig. 5.3).

From a regional level comparison, Shanghai's achievement is even more significant and has shown its advantages in the YRD development. As shown in Table 5.3, Shanghai outperformed in all aspects, including GDP, GDP density, and the level of urbanization, with the only exception of per capita GDP. It is clear that Shanghai is the dragon head of the YRD region. Nevertheless, the combined strength of YRD cities cannot be ignored and this vast area is a hinterland full of potential. In fact, Shanghai has been playing an indispensable role throughout years

Fig. 5.2 Shanghai Pudong International Airport, one of the busiest airports in China (taken by the authors in May 2014)

of cooperative development of Shanghai-YRD cities (Yeung and Shen 2009, p. 309), and a stable relationship of pairing has played an important role (Zhang 2006). In the recent decade, a division of labour has been formed in the region, between industries, between products, and within the production chain. For example, while Shanghai accommodates the national or regional headquarters of foreign and domestic corporations, research and development centres, and advanced manufacturing facilities, cities in Jiangsu have concentrated on the IT and machinery sectors, and cities in Zhejiang are centres of clothing industry (Han 2008; Yeung and Shen 2009). Nevertheless, there is a high degree of similarity in the industrial structure, both at city level and provincial level. The degree of similarity between Shanghai and Jiangsu, Shanghai and Zhejiang, and Jiangsu and Zhejiang were 0.82, 0.76, and 0.97 respectively. They were close to the highest degree of similarity of 1 (Yu 2009, p. 14, quoting Yu 2004). Competition is significant and a further division of labour in the region should be developed.

The realization of the division of labour in the YRD region relies on improving the physical connections among cities to release the bottleneck to regional coordination and integration. The YRD region, especially the core cities along the "Z" corridor from Nanjing to Ningbo via Shanghai and Hangzhou (Figs. 5.4, 5.5), now

Fig. 5.3 Maglev train connects Shanghai Pudong International Airport with Pudong (taken by the authors in December 2008)

has the densest highway network among regions in China. There are also a dense railway network, a coordinated river transport system, a seaport system, and an airport system. These well-constructed transport networks are strengthening Shanghai's role as a distribution hub in the YRD region and the Yangtze River Basin. Such infrastructure also makes the one-day drive regional market possible (Leman 2002). However, the most important step in realizing an integrated YRD region should be, as mentioned in Leman's (2002) article, the removal of inter-provincial trade barriers, and other administrative obstructions or red tape.

Bottom-up efforts are important for successful regional development, and the Forum for the Coordination of the Urban Economy of the YRD region (the CUE Forum, a government-led city group for coordination established in 1997) is an important initiative. This body expands from 15 founding city members from Shanghai, Jiangsu, and Zhejiang to 30 cities in April 2013. All prefecture-level units of Jiangsu and Zhejiang have joined the CUE Forum, and five cities like Hefei and Ma'anshan are members from the province of Anhui. The advantages and benefits of getting closer to the YRD region, Shanghai specifically, are now widely recognized, and participating in mega projects is a reasonable way.

However, favourable policies and plans from the central government are also important in China. The *Yangtze River Delta Regional Planning* (the *Regional Planning*) was approved by the State Council in May 2010 (Chinese Government's

Table 5.3 Key indicators of YRD CUE Forum cities, 2013 (Reproduced from Anhui Statistical Bureau 2014, Jiangsu Provincial Bureau of Statistics, 2014, Shanghai Municipal Statistics Bureau 2014, and Zhejiang Provincial Bureau of Statistics 2014)

Province/city	Land area[d]	Permanent population	GDP	GDP: tertiary sector	Per capita GDP[c]	GDP density	Urbanization level	GOVI above designated scale	Imports and exports	Utilized FDI
	km^2	million	RMB billion	RMB billion	RMB	million/km^2	%	RMB billion	US billion	US billion
Shanghai	6341	24.1515	2160.212	1344.507	90,092	340.674	90.0[a]	3389.938	441.398[b]	16.780
Jiangsu		79.3949	5916.175	2642.165	74,607		64.1	13,464.891	550.844	33.259
Nanjing	6582	8.1878	801.178	435.656	98,011	121.723	80.5	1264.714	55.757	4.033
Wuxi	4627	6.4841	807.018	371.422	124,640	174.415	73.7	1489.065	70.371	3.339
Xuzhou	11,259	8.5910	443.582	188.512	51,714	39.398	58.1	1,052.310	6.289	1.500
Changzhou	4180	4.6921	436.093	197.201	92,995	104.328	67.5	1,006.788	29.215	3.111
Suzhou	6267	10.5787	1,301.570	595.162	123,209	207.686	73.2	3,039.290	309.348	8.698
Nantong	8544	7.2977	503.889	206.998	69,049	58.976	59.9	1,135.154	29.814	2.287
Lianyungang	7476	4.4283	178.542	71.883	40,416	23.882	55.7	413.059	6.641	0.870
Huai'an	10,122	4.8269	215.586	90.013	44,774	21.299	55.1	480.292	3.661	1.151
Yanchang	16,972	7.2198	347.550	135.034	48,150	20.478	57.2	645.458	6.528	1.550
Yangzhou	6,634	4.4700	325.201	133.386	72,775	49.020	60.0	849.939	9.507	1.828
Zhenjing	3,847	3.1654	292.728	124.888	92,633	76.093	65.4	719.727	9.950	3.097
Taizhou	5,787	4.6340	300.691	122.695	64,917	51.960	59.0	850.165	10.441	1.323
Suqian	8,555	4.8191	170.628	65.567	35,484	19.945	52.4	284.515	3.322	0.509
Zhejiang		54.9800	3,756.849	1,733.722	68,462		64.0	6,298.029	335.789	14.159
Hangzhou	16,571	8.8440	834.352	441.612	94,341	50.350	74.9	1,240.798	65.071	5.276
Ningbo	9,845	7.6630	712.887	311.080	93,030	72.411	69.8	1,301.009	100.329	3.275

(continued)

Table 5.3 (continued)

Province/city	Land area[d]	Permanent population	GDP	GDP: tertiary sector	Per capita GDP[c]	GDP density	Urbanization level	GOVI above designated scale	Imports and exports	Utilized FDI
	km^2	million	RMB billion	RMB billion	RMB	million/km^2	%	RMB billion	US billion	US billion
Wenzhou	11,784	9.1970	400.386	187.299	43,534	33.977	67.0	451.656	20.602	0.502
Jiaxing	3,915	4.5580	314.766	126.531	69,058	80.400	57.1	689.367	31.763	2.207
Huzhou	5,824	2.9160	180.315	72.440	61,836	30.961	56.0	382.802	9.533	1.059
Shaoxing	8,279	4.9490	396.729	167.109	80,163	47.920	61.0	933.931	33.369	0.808
Jinhua	10,942	5.4280	295.878	137.288	54,510	27.041	62.2	423.336	34.274	0.249
Quzhou	8,845	2.1240	105.657	41.751	49,744	11.945	47.7	149.195	3.776	0.066
Zhoushan	1,455	1.1420	93.085	42.357	81,511	63.976	65.8	133.356	12.672	0.209
Taizhou	9,411	6.0380	315.334	142.449	52,225	33.507	58.1	380.576	21.878	0.400
Lishui	17,308	2.1220	98.308	40.056	46,328	5.680	53.8	179.341	2.589	0.128
Anhui		60.2982	1,903.887	628.682	31,683		47.9	3,375.682	45.634	10.688
Hefei	11,484	7.6114	467.291	184.195	61,555	40.691	67.8	827.448	18.190	1.890
Huainan	2,674	2.3565	81.939	24.474	34,897	30.643	66.7	107.769	0.504	0.239
Chuzhou	13,398	3.9618	108.614	30.233	27,474	8.107	46.5	200.294	1.855	0.726
Ma'anshan	4,042	2.2080	129.302	37.925	58,733	31.990	62.6	237.739	3.625	1.479
Wuhu	5,987	3.5956	209.953	58.27	58,532	35.068	59.4	480.886	5.433	1.605

Notes [a]Shanghai's urbanization level is based on non-agriculture population
[b]Shanghai's imports & exports value is the value of Shanghai enterprises only, not the figure based on Shanghai Customs Zone (US 821.137 billion)
[c]All per capita GDP figures are based on permanent population; all Zhejiang prefecture cities per capita GDP figures are by authors' calculation
[d]All land area figures are from Wikipedia, except that of Zhejiang's prefecture-level cities from Zhejiang Statistical Yearbook 2014

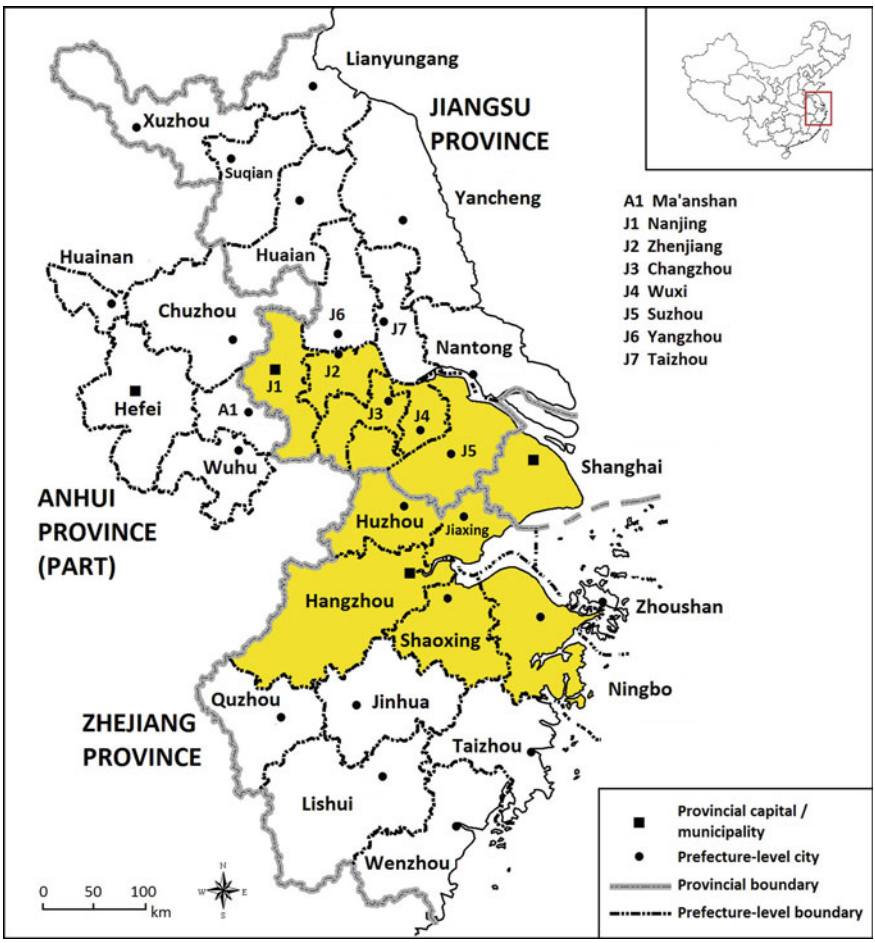

Fig. 5.4 The CUE Forum member cities and the "Z" corridor (*yellow*), 2015

Official Web Portal 2010a). The *Regional Planning* provides further details on regional cooperation and pinpoints the optimal positioning of the YRD region. The *Regional Planning* updated the *Guidance by the State Council on the Advancement in Reform, Opening-up, and Socioeconomic Development of the YRD Region* (the *Guidance*) that was released in 2008. Compared with the sole efforts by either side, the present involvement of the central government (state regulation and policies) and bottom-up endeavours from the members of the YRD region (mutual interests) can promote closer cooperation for the development of an integrated region and a single market.

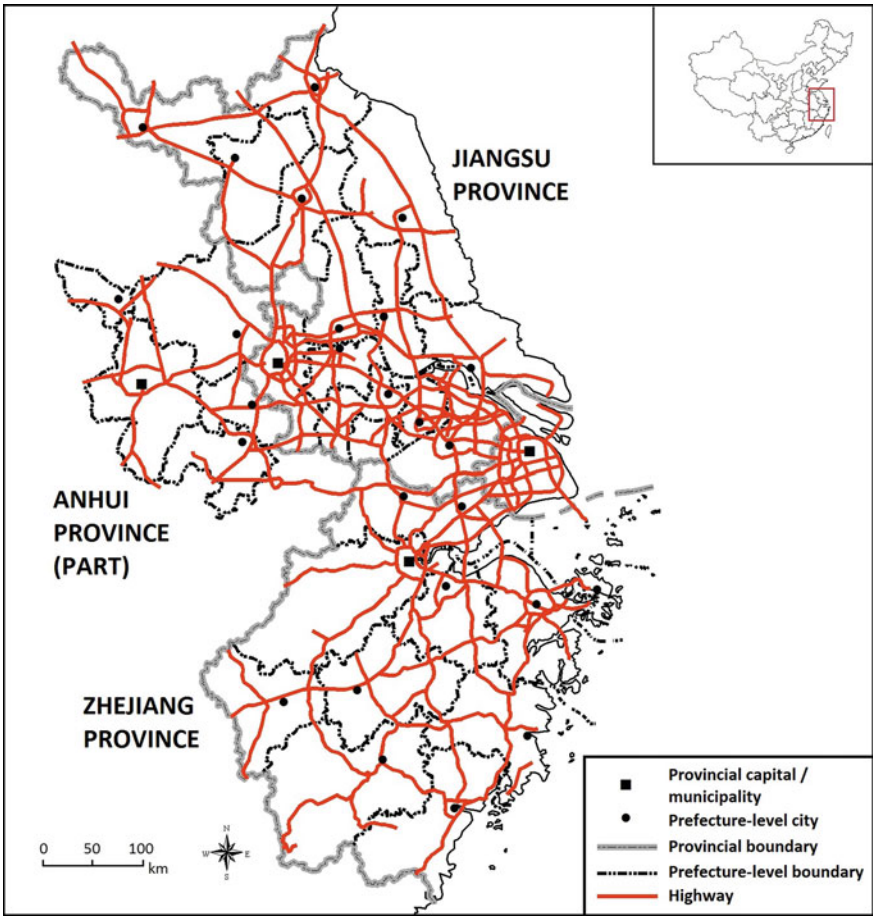

Fig. 5.5 The CUE Forum member cities and the highway networks, 2015

5.4 Recent Mega Projects and Their Impact on Urban Development and Regional Integration

5.4.1 Goals and Positioning

Shanghai's ambition to become a recognized world city is crystal clear. It is necessary, therefore, to have all-round strategies to boost the city's strength in order to raise its attractiveness and competitiveness on the one hand; and to reinforce the external influence of the city, particularly its leadership in the development of YRD region and the Yangtze River Basin on the other hand. Since the period of the Eleventh Five-year Plan (FYP) (2006–2010), Shanghai has been implementing a strategy of "four centres", i.e. to become an international finance centre, an

international trade centre, an international shipping centre, and an international economic centre, so as to better serve the country, and to compete globally with its modern service and advanced manufacturing sectors (Shanghai People's Government 2006).

To better serve the YRD region, a clear relationship among YRD cities and a sharp positioning need to be established. Shanghai's 11th FYP and the *Guidance* clearly reveal a model for a relationship in which Shanghai is the dragon head (or the core) while Jiangsu and Zhejiang are the two wings of the YRD region. Under such a model, YRD cities need to coordinate the division of labour for industrial activities, cooperate in the construction of major infrastructure, and collaborate in the provision of social security such as employment insurance and welfare, environmental management, and so on (State Council 2008). The *Regional Planning* is positioning the YRD region as the international gateway to the Asia-Pacific region and one of the leading metropolises in the world. In addition, as stated in the *Guidance*, it further emphasizes the YRD's role as "the centre of a modern service sector and an advanced manufacturing sector" instead of merely being a "base for an advanced manufacturing sector". The eight designated dimensions of development include the spatial distribution of industrial sectors, infrastructure development, urban–rural development, regional development, and others (Chinese Government's Official Web Portal 2010b). There is no doubt that Shanghai will be that "important centre of a modern service sector", with full efforts being made to transform the city into an international finance centre and an international shipping centre.

5.4.2 Development of Mega Projects

The successful development of Pudong reflects the significant contribution of an appropriate mega project to the development of Shanghai. To realize the aforementioned goals of development, many important mega projects have been introduced. Among all, the 2010 World Expo is probably the biggest, crucial, and most influential one. Other projects, however, have also had a great impact on Shanghai's urban and regional development (Fig. 5.6).

Yangshan Deep-water Port. Located right at the estuary of the Yangtze River, Shanghai has been able to develop maritime industries and acquire command over the regional maritime and logistics industries. Shanghai's economic influence reaches the whole Eastern China and the Yangtze River Basin up to Chongqing. Most of the ports in Shanghai are, however, mainly river ports. To overcome the problem of limited capacity and the lack of a deep-water port, the Shanghai authority declared to build a new deep-water port on two outlying islands southeast of Shanghai—Yangshan Islands, with the approval of the central government in 2002. A 32-km long Donghai Bridge was also constructed to connect the Yangshan port and Nanhui District (now part of the Pudong New District). It is also the first bonded port area in China (An 2006). There is a controversy of administration as

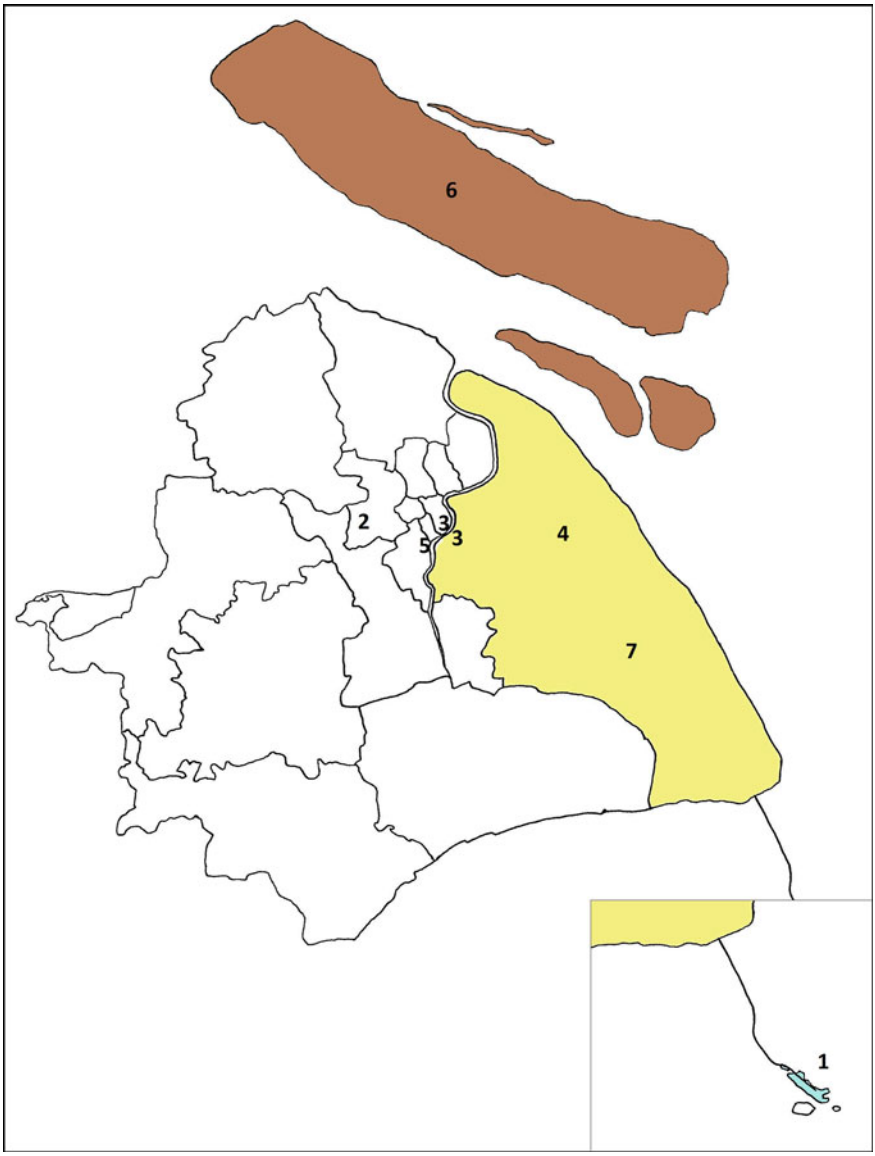

Fig. 5.6 Mega projects in Shanghai Keys: *1* Yangshan deep-water port, *2* Hongqiao comprehensive transportation hub, *3* The 2010 World Expo (Pudong and Puxi sites), *4* Disneyland, *5* Dream Center, *6* Chongming development, and *7* The enlargement of Pudong District

Yangshan islands are in the territory of Zhejiang province but the port itself is under the administration of Shanghai. The issue is solved by the coordination of the central government. The Yangshan port began operation in December 2005, and it is Shanghai's newest and busiest port (Huang 2009).

As one of the largest ports in the world, it has a planned size of over 25 sq km. There are ports for containers, as well as for oil and liquefied natural gas. Its present annual container handling capacity is 15 million TEUs and is further expanding.[6] With its well-constructed and continuous optimizing facilities, ample capacity, and special policies, it is developing as the key ports supporting the shipping and logistics industries of Shanghai and the region. In 2010, Yangshan port already accounted about 34 % (10.77 million TEUs) of the total container throughput of Shanghai (Pudong Yearbook Editorial Committee 2011). Yangshan port, as a key component of the Shanghai ports system, is helping the city to realize the goal of becoming an international shipping centre. The first outcome is that Shanghai port has become the busiest container port in the world since 2010 (Port of Rotterdam 2015).

Hongqiao Comprehensive Transportation Hub. Hongqiao Airport was once the only airport in Shanghai until Pudong International Airport was built and started operation in 1999. To accomplish the goal of international shipping centre and to better serve the 2010 World Expo, a comprehensive transportation hub serving the YRD region is needed. With the airport advantage, Hongqiao was selected as the site of this transportation hub and the Hongqiao Airport, rather than phasing out, has become a major component of it. Specific works include the expansion of airport—a second runway and a second terminal that were opened in March 2010, a new railway station (Fig. 5.7), new metro stations, and a new coach station. Hongqiao comprehensive transportation hub covers an area of over 26 sq km (Chinese Government's Official Web Portal 2010c), which is nearly the size of Macao (29.2 sq km). This hub serves as an interchange for regional and international transport services such as air, railway, maglev, and long haul coach services, as well as for local metro, public bus, and taxi services (Fig. 5.8). The whole project was completed right before the opening of the 2010 World Expo.

The effect of this mega project is far more than simply transportation. Its effect is also beyond this 26 sq km area. On the one hand, it facilitates the formation of transport networks and connection of major transport infrastructure in Shanghai. For example, Line 2 of Shanghai Metro connects Pudong and Hongqiao airports and passes through Puxi downtown (Nanjing Road) and Pudong CBD (Lujiazui). The Hongqiao Metro station, in fact, will be the interchange of up to five lines by 2020. The aggressive Metro plan projects rapid development of metro lines, reaching over 20 lines with a total length of around 877 km by 2020 (Chinese Government's Official Web Portal 2009a; Shanghai metro, n.d.), which will become the longest city metro system in the world (List of metro systems, n.d.).

[6]For details, please see http://www.yangshanterminal.com and http://baike.baidu.com/view/88787.htm.

Fig. 5.7 The concourse of the Hongqiao railway station, an interchange terminus to airport, local metro, public bus and long haul coach services (taken by the authors in April 2011)

Fig. 5.8 Hongqiao Comprehensive Transportation Hub, with a size almost as large as Macao (taken by the authors in July 2012)

Similarly, Hongqiao railway station is the terminal of inter-city high-speed railway to Beijing, Hangzhou, and Nanjing. The high-speed railway to Nanjing started operations on 1 July 2010, while the high-speed railway to Hangzhou began operating on 26 October 2010 ("Huhang gaotie tongche" 2010; "Shanghai-Nanjing high-speed railway in operations" 2010). Beijing–Shanghai High-Speed Railway, 1318 km long, started operation on 30 June 2011, reducing the travel time between Beijing and Shanghai to 5 hours. The expanding railway network will closely integrate Shanghai with other YRD cities and other major mainland cities.

On the other hand, businessmen and tourists are the expected major users of this transportation hub. The local authorities of the adjoining districts, enticed by this group of people—potential investors and consumers, have proposed various business zone projects attempting to attract high-tech, IT, amusement industries, and regional headquarters. These projects bring new development or renewal to these urban fringe and suburb districts. These business zones, together with the transportation hub, aim to serve the city and the YRD region together (Chinese Government's Official Web Portal 2009b).

The 2010 World Expo. World Expo is probably the most effective tool to attract as many worldwide visitors as possible and exhibit a city within a short period of time, similar to the sport events of the Olympic Games and the FIFA World Cup. Since the decision to bid for the 2010 World Expo, the authority has prepared to demonstrate a new Shanghai to the world. Occupying a large area of 5.28 sq km in the urban core on both sides of the Huangpu River—3.93 sq km in Pudong and 1.35 sq km in Puxi (Shen 2006), the World Expo park was divided into five clusters (Zones A to C in Pudong and Zones D and E in Puxi) with different themes and accommodated different exhibition halls and pavilions. While most of them were temporary constructions, some large-scale permanent pavilions were built in Zone B for subsequent convention and exhibition, arts and amusement uses, along with a 25-ha riverside greening (Shen 2006), creating a new landscape in Pudong. For example, the China Pavilion became the permanent venue of China Art Museum. AEG, an American-based enterprise, also jointly operates a 18,000-seat Mercedes-Benz Arena with a Shanghai enterprise and NBA. This is a popular indoor venue in Zone B that has held many international sports and entertainment shows. Another new landscape has also been created from a large site of a former shipyard in Puxi.[7] This site has been rejuvenated, designated as Zones D and E, and built some theme pavilions (Fig. 5.9). Besides infrastructure, transportation, and urban landscape, preparatory works were also done in the areas of urban management, volunteer recruitment, Expo atmosphere cultivation, and enhancement of citizen's foreign language proficiency. This global event accommodated over 73 million visitors during its 184-day exhibition period from May to October 2010—3

[7]The historic location of Jiangnan Shipyard founded in 1865, see http://jnshipyard.cssc.net.cn/compay_mod_file/mode_3.php?cart=1.

Fig. 5.9 A theme pavilion—Pavilion of Footprint in Zone D, a few hundred visitors—out of 73 million throughout the 6-month period—were queuing up to enter (taken by the authors in September 2010)

million more than the estimated 70 million visitors. About 5.8 percent of the visitors, or 4.25 million, were foreigners.[8]

Another characteristic is the regional involvement of YRD cities. The CUE Forum member cities agreed to speed up the coordinated development with the Shanghai World Expo opportunity at the 2003 CUE Forum, by enhancing the development of regional transport system, regional industrial development, regional information flow, regional environmental quality control, and regional security control (Zhang 2012). Prior to the opening of the World Expo, a series of public forums were held in different Chinese cities, and six theme forums were held concurrently in six major YRD cities throughout the World Expo 6-month period.[9] Many YRD cities regarded that it is a rare opportunity and made great efforts to take the advantages of additional visitors and (business) opportunities to boost the local tourism industry and economy, and connect to Shanghai.

Theme Parks. In terms of the size of site, compared with other mega projects mentioned above and below, Shanghai Disney Resort (Disneyland) and Oriental DreamWorks' Dream Center may not be eligible to be counted as mega projects.

[8]For details on the number of visitors, please refer to the homepage of the 2010 World Expo (http://www.expo2010.cn/). Among the 4.25 million foreign visitors, about two third were from Asia. For the detail of distribution, please refer to http://news.xinhuanet.com/world/2010-11/09/c_12755602.htm.

[9]For details, please see http://www.expo2010.cn/sbw_sblt/list.htm.

However, the foreign investment nature by the leading United States entertainment enterprises, the popularity of Walt Disney and DreamWorks in China, and as their respective first ever theme park in mainland China with great concern attached by both enterprises and the local governments, the development and the expected influence (such as potential economic benefits and the effect to the tourism industry) of these two theme parks to the city must be well considered.

After a decade during which the scheme was initiated and negotiated, Walt Disney decided to set up its second theme park in China, located in a suburban area of Pudong. The news was announced in late 2009 and a contract was signed between the two parties in November 2010 ("Shanghai Dishini xiangmu zhengshi qidong", 2010). Ground was broken on the Disneyland in April 2011 and the estimated investment is RMB 24.5 billion, or US$ 3.7 billion.[10] Shanghai Disneyland opened on 16 June 2016. It was so popular that the opening-day tickets were sold out within an extremely short time. On the other hand, DreamWorks Animation SKG, Inc. has set up a joint venture company—Oriental DreamWorks with three Chinese parties to develop family entertainment industry in China. The company will spend over RMB 20 billion in developing Dream Center—positioned as a world-class cultural and entertainment destination that located in Xuhui District, Puxi. It will open in late 2017 (Makinen, 2015).

It is estimated that the huge investment—about RMB 45 billion in total of these two projects—will boost employment and Shanghai's tourism and entertainment industries. For example, Oriental DreamWorks distributed a few DreamWorks Animation cartoon movies in China in the past few years and is also the co-producer of the movie Kung Fu Panda 3. Moreover, it is expected that these two cultural and entertainment giants will help to transform Shanghai's industrial structure by enhancing the development of the modern service sector, especially as Shanghai already has a strong base of cultural industries. However, Shanghai should learn something from the less than successful experience of the Hong Kong Disneyland.[11] The integration of the Chinese and western cultures and the promotion of a unique Chinese culture are also concerns ("Dishini jinnian shang bannian wancheng tengdi" 2010; "Diyuan fang Shanghai weibi heshi" 2009).

Chongming Development. Shanghai is a city built on the alluvial plain of the Yangtze River. Chongming Island, the third largest island in China and the largest alluvial island in the world, is located in the northeast corner of Shanghai quietly. In terms of administration, almost the whole island, along with Changxing Island and

[10]See http://en.shanghaidisneyresort.com.cn/en/press/company-information/fact-sheet/, accessed 29 August 2012; and https://www.shanghaidisneyresort.com.cn/en/press-room/press-release-shanghai-disney-resort-tops-out-enchanted-storybook-castle/, accessed 13 August 2015.

[11]Many Hong Kong people, through different media reports and discussions on the Internet, generally consider that the Hong Kong government signed an "unequal treaty" in the joint venture development of the Hong Kong Disneyland. They criticized that although the government is the major shareholder of the theme park, it is indeed under full control of the Walt Disney Company. Any disclosure of business results such as the data on visitors and revenue is at the discretion of the company. The adoption of the American-style management is also regarded as the reason for the failure.

Hengsha Island, are under the administration of Chongming County—the only county of Shanghai ("Chongming, Shanghai" Governmental Portal 2009, 2011a).[12] Due to the historical and geographical reasons, the islands have experienced slow development and remained as the only unexplored part of Shanghai until recently. Such condition came to an end finally. Shanghai government announced the latest development plan for Chongming on 20 January 2010 ("Chongming, Shanghai" Governmental Portal 2011b). The authorities plan to develop Chongming into modern ecological islands in a new and sustainable mode in the period of 2010–2020, which will be significantly different from the old development in urban Shanghai with the traditional approach of "polluting first, cleaning second". The so-called *Ecological Chongming* project has six themes, including building Chongming as a forest garden, an ecological living place, a leisure island, and islands providing green food, marine equipment, and R&D service ("Chongming, Shanghai" Governmental Portal 2011b).

With the implementation of this plan, at least three contributions can be identified. First, this will help Shanghai to develop a new economic structure in green and ecological fields. Second, this plan helps the city to realize the coastal economic development strategy running from Chongming in the north to Yangshan port in the south. Third, regionally, the development of Chongming Island can enhance Shanghai's connection to Jiangsu along the coast. The Shanghai–Yangtze River Tunnel-and-Bridge connecting Pudong, Changxing Island, and Chongming Island opened in October 2009, and Chongming–Qidong (Jiangsu province) Bridge also opened in December 2012.

Enlargement of Pudong District. With the brilliant results achieved in the past two decades, the 1990 Pudong development should be considered as a successful mega project in Shanghai. Pudong has both the symbolic significance in and actual contribution to Shanghai's development. To maintain Pudong's vitality and the pioneering role, even to further boost the development under new circumstances, a new strategy was applied by offering Pudong more resources. In April 2009, Nanhui District, which lied to the south of Pudong originally, was merged into the Pudong New District. This decision can be understood as a continuation of the 1990 Pudong development mega project. Pudong has more resources under control and higher flexibility of allocation. The expanded Pudong has an area of 1211 sq km, which is even bigger than Hong Kong (1104 sq km). In proportion to its expansion, Pudong New District shoulders much more responsibility for Shanghai's development. The Yangshan bonded port area and coastal new town (Lingang New Town, *see* Fig. 5.10), formerly in Nanhui District, and the Lujiazui (finance), Waigaoqiao (bonded area, trading), Jinqiao (export processing), and Zhangjiang (hi-tech) national development zones, are now all under the administration of Pudong New District. This change allows Pudong to give full play to its leading role as a national

[12]Chongming County is the only county among all county-level units of Shanghai, and all others are districts. While most parts of Chongming Island are under the administration of Chongming County, there is a small part under the administration of Jiangsu Province.

Fig. 5.10 Lingang New Town (taken by the authors in February 2016)

comprehensive reform experimental zone, and to create an environment with higher degree of openness (Chinese Government's Official Web Portal 2010a). Better coordination of the operation of these development zones and consolidation of the development of the financial, trading, export, and shipping industries is also expected. To continue experiments, the first national free trade zone was established in Pudong in September 2013, with an initial area of 28.78 sq km (Waigaoqiao, Yangshan bonded area, and Pudong airport) and was further expanded to 120.72 sq km (added Lujiazui, Jinqiao, and Zhangjiang) in December 2014. The China (Shanghai) Pilot Free Trade Zone enjoys various innovative policies, and the free exchange of *renminbi* and foreign currency is the most significant one. Many industrial sectors are now opened to foreign enterprises, such as finance, transportation, education, cultural industries. The negative list is also applied.[13]

[13]For details, see China (Shanghai) Pilot Free Trade Zone http://www.china-shftz.gov.cn/Overview.aspx.

5.4.3 Impact of the Mega Projects on Urban Development and Regional Integration

Many people have expected that the execution of above mega projects can lift the city up to a new level of development. Possible impact, indeed, can be identified at different spatial scales. Locally, there will be new urban landscape and industrial structure by optimizing land use and nurturing new industrial sectors. For example, the host of the 2010 World Expo fostered the renewal of the decaying urban core and the relocation of industrial activities to create a large piece of open space and green corridor along the Shanghai Bund, as well as the construction of new residential districts in suburb areas to resettle those affected by the construction activities for the World Expo. On the other hand, with the operation of Hongqiao comprehensive transportation hub, the district has been rejuvenated gradually, and along with the Expo, given Shanghai a dense metro network, although the negative impacts on the residents during the period of construction should be not ignored. The World Expo site, Chongming development, and the theme parks will also provide new facilities for sectors such as convention and exhibitions, entertainment, and cultural events. Shanghai's industrial structure will certainly be diversified and facilitate the development of advanced technology, cultural and professional, and consumer services.

Regionally, closer connection and integration with other YRD cities can be expected. Regional plans and mega projects such as Hongqiao comprehensive transportation hub and Chongming development are going to enhance the physical connections between Shanghai and other YRD cities through multiple modes and comprehensive networks. Many neighbouring cities will be linked together, both physically and economically, which can facilitate the YRD integration and the development of megalopolis. With these improved networks, one-day return trip between Shanghai and any YRD city is possible, especially with the attraction of the two theme parks and the MICE[14] facilities to be built in Chongming, and a better division of labour and proper cooperation in the manufacturing and service sectors can also be realized. Competition, however, is likely to happen among ports in Jiangsu, Zhejiang, and Shanghai as well with the rapid development of Yangshan Ports, unless there is a policy to optimize the inter-port relationship.

Globally, Shanghai will demonstrate its image and strength to the world and bring its potential into full play through these mega projects. Shanghai is already a popular location for foreign investment, which has been involved in these mega projects. For example, both the Disneyland and Dream Center become two magnets to land over a dozen of other theme parks to Shanghai and other YRD cities, like the Legoland Discovery Center opened in Shanghai in April 2016, the Hello Kitty Park opened in Huzhou, Zhejiang province in 2015, and the first Discovery Adventures park in the world opened in Moganshan, Huzhou in April 2016. The city expects to further expand its global networking and international relationship, which can attract more

[14]MICE refers to meetings, incentives, conferences, and exhibitions.

investment and raise productivity, in particularly financial and shipping sectors, as well as exchanges in various domains besides economic activities.

5.5 Discussion and Conclusion

About four decades ago, the YRD region centred on Shanghai was already identified as the sixth megalopolitan system in the world (Gottman 1976), reflecting the transcendent status of Shanghai in the YRD region and China. Nowadays, Shanghai is striving to achieve the status of a world city. Indeed, Shanghai is often called an emerging world city. To what extent all the aforementioned mega projects help lift Shanghai's status?

From the perspective of *hardware*, such as urban infrastructure, Shanghai should have more than enough to be called a world city. For examples, Shanghai's metro network is as dense as, if not more complicated than, the metro systems of New York, London, and Tokyo—the three leading cities in the world city hierarchy. The scale and capacity of the Shanghai ports is much greater than any of these three world cities, and so does the Hongqiao comprehensive transportation hub. The airport system is also constantly improving as well. The CBD landscape of Pudong is also maturing. However, its weak soft power—such as in institution and norms, as well as the capacity in tapping into international practices and standards, and the ability in getting information—means that Shanghai is one step behind the top world cities.

Shanghai has yet to become a real commander in the global financial sector and the global maritime industry. For example, it is hard for Shanghai to become an international financial centre if there is no free flow of information and free exchange of the *renminbi*. Its financial services are also not yet sufficiently broad and deep (Z/Yen Group 2010). The recent breakthrough is the innovative financial trials inside the China (Shanghai) Pilot Free Trade Zone. On the other hand, an international shipping centre requires more than increases in freight and container throughput. Can Shanghai obtain the status of a free port like Hong Kong and Singapore? Before the city can compete with London and other major shipping centres, Shanghai needs to further build up its maritime industry and businesses, such as maritime law, arbitration, and legal services; ship finance, insurance, and brokerage; shipping registers and so on, to gain the worldwide recognition and meet (and even exceed) global standards. The establishment of the Shanghai Shipping Exchange indicates that Shanghai is moving in the right direction. Time and the right policies are needed to build up this kind of soft power.

Flow is extremely important to a world city. Besides the flows of capital and information, flows of people and goods also represent opportunities for business and consumption, which can empower Shanghai as a hub of global and regional production. The concepts of the 1-hour circle and the magic 3 hours of travel are important for urban and regional integration (Enright et al. 2003; Yeung 2010; Yeung and Shen 2009; Zhao and Zhang 2007). The mega projects of Hongqiao comprehensive transportation hub and Chongming development, along with the

continuous expansion of railways, metro lines, highways, waterways, and airports and aviation networks (the expansion of domestic and international routes), allow the expansion of local, regional, and global destinations and the reduction of travelling time, stimulating additional local and regional flows.

Additional flows, such as more business and leisure trips, along with other strategies and policies, will help develop stronger agglomeration and dispersion functions regionally and globally for Shanghai. At the same time, closer and better regional coordination and division of labour in the YRD region can be expected. Shanghai is undoubtedly the venue of the high-end parts of the production chain. The prudent management and coordination of different development zones may further attract targeted enterprises and talents. The enlargement of Pudong district with the free trade zone framework should help achieve a better coordination among development zones and infrastructure.

Nevertheless, without user-friendly and high quality services, appropriate operation and management, and other necessary prerequisites, these mega projects and transport infrastructure can never help attract additional flows. Similarly, although the Yangshan deep-water port is regarded as the leading port in the integration of the port operations of the YRD region, without necessary coordination with other seaports and river ports in the region, it could never minimize unnecessarily vicious competition and enlarge the potential market and hinterland to attract further sources of goods and (regional and international) shipping lines. The free exchange of information, cooperative policy implementation, and the development of a common market are important (Luo and Shen 2009).

The theme of Shanghai's 2010 World Expo is "better city, better life". A better life in a livable and sustainable city is always something that people wish for and also the most important criterion for TNCs in selecting the location of their (regional) headquarters. For instance, some TNCs (and their chambers of commerce) have criticized Hong Kong for its poor air quality, stating that some TNCs may move out if there is no improvement in that regard. Some experts have also refused to come to Hong Kong for that reason ("9 Meishanghui qian zhuxi tan zai Gang yingshang" 2007). By holding the 2010 World Expo, especially by setting up the best urban practice area, Shanghai should have learnt many valuable experiences, and can apply the state-of-the-art urban development and management concepts, technologies, and models that were presented there to raise the quality of urban life and create a friendly environment. However, the occurrence of the deadly stampede on 31 December 2014 shows that there is still room for improvement of urban management and crowd control. On the other hand, a city-wide spatial rejuvenation has been accomplished since Shanghai won the bid to host the 2010 World Expo. Urban renewal and spatial restructuring are creating a better urban landscape and environment in Shanghai. Together, the government, experts, and the civil society should be able to realize the best practices in urban planning and development.

While the proposed eco-friendly and green industries in Chongming development may provide Shanghai a new direction of economic development and possibly a sustainable future, the theme park mega projects can improve the non-economic power of Shanghai. As Disney and DreamWorks are cultural and entertainment

giants, having their theme parks and resorts, as well as the peripheral services and products like hotels and TV programmes, in Shanghai can enrich and diversify the cultures of the city, and foster the development of Shanghai's cultural and entertainment industries. Such cultural power can complement Shanghai's sports culture. The city organizes two international sporting events annually: the Formula 1 car races—a 3-day event held in every April in recent years, and the Shanghai Masters—an ATP 1000 series tennis competition just second to the four Grand Slam competitions. At the same time, with the full support of the government, many NGOs and individuals are working hard to nurture different kinds of arts such as film, drama, and dancing in the city (Au 2010; Kong 2009). Shanghai is enriching its non-economic, diversified soft power, which will one day earn a worldwide reputation and make Shanghai's performing arts district famous in the world.

Shanghai's ambition is clear—to become a world city, and possibly one of the top world cities. The implementation of various mega projects is one of many measures of a world city. Definitely, there is no guarantee that any implementation of mega project can lift a city up to a world city as the result and the extent of effectiveness vary. By means of this, Shanghai aims at raising its all-round competitiveness and enhance its regional and global connections. There are risks and challenges, but opportunities for Shanghai too. What is the most important is that the mega projects serve their designated functions and achieve intended goals such as attracting the targeted capital, industries, and talents, by learning lessons of impractical and single-minded goals, poor coordination, and vicious competition from previous experience.

Completed with proper policies, regulations, planning and land use goals, as well as systems that meet global standards and the free flow of factors of production, the mega projects will likely foster Shanghai's urban development and regional integration. The Empire State Building and the Statue of Liberty are the landmarks of New York; the Big Ben and London Bridge are the landmarks of London; and there is Tokyo Tower in Tokyo. The mega projects in Shanghai will provide Shanghai with many new structures. Will the China Pavilion of the World Expo, the Hongqiao comprehensive transportation hub, and the top skyscrapers of Lujiazui be the new landmarks of a Shanghai that is emerging as a new and great world city?

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Chapter 6
Hangzhou: Raising the Urban Competitiveness with New Socio-Economic Strategies and Spatial Roles

6.1 Introduction

In the age of globalization, the economic competition has become stronger and stronger. It is not limited to the competition among countries at the national level. It is even more outstanding at the local level. Cities in both the North and the South are competing for the inflow of footloose capital, the landing of (regional) headquarters of transnational corporations, the enrichment of the talent pool and other resources. Cities aim to become commanders, if not the leader, in a specific sector or attempt to become all-round players on the global economic platform. Place making and marketing, and strategic planning are the prevailing measures. This wave of development changes the mode of city operation and the local governance. The atmosphere of competition makes comparison among countries and cities a popular race nowadays.

Diversified indices have been introduced to measure the competitiveness. For example, US Heritage Foundation's Index of Economic Freedom had ranked Hong Kong the world's freest economy for 22 consecutive years (1995–2016). This index, along with the World Competitiveness Index by IMD (International Institute for Management Development) and the Global Competitiveness Index by the WEF (World Economic Forum), are country-based indicators measuring mainly from the economic and business perspectives. On the other hand, the Global Financial Centres Index by Z/Yen Group (previously by City of London) and the Worldwide Centers of Commerce Index by MasterCard rank the most popular financial and commerce centres and they are city-based. New York, London, Hong Kong, Tokyo, and Singapore are the most competitive economies in the world. The results are very close to the results of the world cities studies by GaWC (Globalization and

J. Shen and G. Kee, *Development and Planning in Seven Major Coastal Cities in Southern and Eastern China*, GeoJournal Library 120,
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World Cities Research Network) and others (Sassen 2001; Scott 2001; Taylor et al. 2010).[1] For Chinese cities, there are at least two regular studies that publish the competitiveness of Chinese cities annually, one by the Center for City and Competitiveness, The Chinese Academy of Social Sciences and another by the China Institute of City Competitiveness as introduced in Chap. 1.

However, as emphasized by Jiang and Shen (2010), urban competitiveness has long been understood in narrow economic terms and the non-economic facets such as urban life and environment are often ignored. Using Hong Kong as an example again, although the city has earned a high reputation for its economic freedom and competitiveness in running businesses, the city suffers from serious air pollution and congested living space, not mentioning the poor development progress of major urban infrastructure due to political dilemma and environmental and social impact concerns. Some foreign investors are saying to retreat from Hong Kong if the air pollution problem is not solved. Jiang and Shen (2010) called for a sustainable development perspective in the examination of urban competitiveness that economic, social, and environmental dimensions should be considered.

Thanks to the opening and economic reform since the late 1970s, and the accession to the World Trade Organization in 2001, China has formally returned to the global economic platform. Chinese cities like Beijing, Shanghai, Guangzhou, and Shenzhen have grown rapidly in economic strength and competitiveness lately, and are gaining reputation and recognition in different competitiveness indices, although the general capacity is still far behind New York, London, and Tokyo. There are, however, also dozens of criticism on social inequality and environment degradation, reflecting, assertively, the unsustainable development of these cities. Coastal cities are the bellwethers to experience all these positive and negative transformations of urban development. The central government has also noticed such situation and emphasized the importance of sustainability, especially to those new comers in central and western China.

Besides suffering from the problem of unsustainable development, Chinese cities also suffer from the strong intercity competition in general. As mentioned in other parts of this volume, the deep-rooted vertical hierarchical (central-local) administrative system and the missing horizontal connection among local entities can be considered the major cause of this problem. All mega, large, medium-sized, and small cities ambitiously take part in competition for incoming capital investment and business opportunities, not only for the benefit of the city but also for the good sake of local officials' prospects. Results of vicious competition such as duplication of airports and large-scale convention and exhibition (C&E) construction, and

[1]For details of all these competitiveness studies, please visit the respective websites. Heritage Foundation—Index of Economic Freedom: http://www.heritage.org/index/. IMD—World Competitiveness Index: http://www.imd.org/research/publications/wcy/index.cfm. WEF—Global Competitiveness Index: http://www.weforum.org/issues/global-competitiveness. Z/Yen Group—Global Financial Centres Index: http://www.zyen.com/research/gfci.html. MasterCard—Worldwide Centers of Commerce Index: http://www.mastercard.com/us/company/en/insights/pdfs/2008/MCWW_WCoC-Report_2008.pdf. GaWC: http://www.lboro.ac.uk/gawc/.

emergence of ghost cities (large built-up areas without inhabitants) are not uncommon in the country (Yeung et al. 2010). Joint actions among local entities that are needed to solve cross-boundary problems such as pollution are not worked out effectively. Recent tendency towards bottom-up regional development and cooperation such as the regionalization of Greater Pearl River Delta (GPRD), Pan Pearl River Delta (PPRD) and Yangtze River Delta (YRD), as well as the top-down regionalism strategy in forms of a dozen of regional development plans might be a way out with much expectation (Enright et al. 2005; Yang 2009; Yeh and Xu 2011; Yeung and Shen 2008; Yeung et al. 2010). The goals of regional cooperation are to minimize the negative externalities and create synergy through regional interaction at the same time. Therefore, coordination and cooperation among cities are of ultimate importance in the (upcoming) development strategy.

Hangzhou, the capital of Zhejiang province, is a historic city and one of the seven ancient capitals of China with a history of over 2200 years since the Qin dynasty (221–207 BC) (Hangzhou Municipal Government 2010; Fig. 6.1). History and the heaven-like natural landscape are the most famous brands of the city. Like the fellow Chinese cities, Hangzhou is now experiencing a period of rapid economic and social development, which can be reflected in a series of statistical indicators and the comparison with other YRD cities (Tong and Chen 2009).

There is also a need for further transformation in the city after years of opening and development. There are local problems on the one hand and challenges at the regional level on the other hand. On the former, for example, Wei and Li (2002), from a socio-economic perspective, identified the factors leading to the rapid growth of Hangzhou and the problems that challenged the planning of the city. They argued that urban planning "has been falling behind growth and restructuring" and demanded that "plans must be revised" (Wei and Li 2002, p. 473). This is about

Fig. 6.1 Qinghefang was already a busy downtown area in the past; it has been renovated and busy as usual (taken by the authors in April 2011)

the local adaptability and sustainability. On the latter, for example, the study by Yeung and Mok (2006) on the parallel trade in Coca-Cola revealed the inter-regional competition between Shanghai and Hangzhou (bottlers). This kind of regional competition goes beyond individual industry to different industrial sectors and even urban economic strategies. This is about Hangzhou's regional relationship with other YRD cities that has changed subtly over years.

Facing both local weaknesses and external challenges, the only way that Hangzhou can go is to "change". Without doubt, the ultimate goal of development is to raise the competitiveness of Hangzhou. If we see the city as a carrier of economic production activities, urban landscape and functions must be upgraded accordingly to match up the transforming global and regional economy and the local socio-economic condition. This means that a city should adjust and play its best roles and functions in the local and regional development in order to increase its urban competitiveness. Building a highly livable Hangzhou is another goal of development.

In this chapter, we do not intend to quantify or elaborate the urban competitiveness of Hangzhou in details. Instead, we try to introduce a concept that appropriate socio-economic and environmental strategies of development are important contributing factors to Hangzhou's urban competitiveness, and they should be considered along with those economic indicators comprehensively. Moreover, with the prevalence of regionalism, regional development is crucial to Hangzhou's urban competitiveness. Appropriate strategies may provide synergy to the development of the city. Last but not least, compared with Shanghai, Guangzhou, and Shenzhen, Hangzhou has received less attention in previous studies on urban and regional development, especially in the English literature. We are going to fill this gap by examining the changing socio-economic strategies and spatial roles of Hangzhou and analyzing how such transformation can contribute to the urban competitiveness of the city.

The rest of this chapter is organized as follows. We will first review the socio-economic development of Hangzhou since the opening of China in Sect. 6.2. We then examine the current development advantages and challenges of Hangzhou, and the major development strategies and plans in Sects. 6.3 and 6.4, respectively. Section 6.5 analyzes and discusses how the socio-economic strategies and spatial roles of Hangzhou have been changed and how such changes and new roles can help Hangzhou uplift the urban competitiveness. Some conclusions are reached in Sect. 6.6 of the chapter.

6.2 Characteristics and Dynamics of Hangzhou and the Spatial Relationship

Hangzhou is the capital of Zhejiang province with a vice-provincial city status. The city is located in the northeast of the province and west to Hangzhou Bay. Qiantang River divides the city into two parts and its urban core lies to the north of the river. The total land area of Hangzhou municipality is 16,596 sq km and it is the second

largest prefecture-level unit of Zhejiang. While the urban area is composed of nine districts with an area of 4876 sq km, the remaining 11,720 sq km belongs to two county-level cities and two counties that are under the administration of Hangzhou on behalf of Zhejiang province (Fig. 6.2; Hangzhou Municipal Statistics Bureau 2014).[2]

Two major characteristics of Hangzhou's development can be revealed. The first one is the strong agglomeration of factors of production and strong socio-economic strength in the province. Human resource is an example. Permanent residents of the city increased from about 3 million in 1953 to 5.26 million in 1982 and 8.84 million in 2013, while the registered (*hukou*) population in 2013 year-end was 7.06 million (Hangzhou Municipal Statistical Bureau 2014). This indicates that a temporary population of 1.78 million was living and working in the city in 2013, an increase of 0.5 million from 2009. Such population growth and migration among districts, similar to some foreign cities, have resulted in a process of suburbanization that more and more people are moving out from the urban core to suburb areas in Hangzhou. At the same time, the city, the inner suburb areas in particularly, receives increasing number of migrants (Feng and Zhou 2002, 2005). The floating population is the major source of population growth and provides ample labour force to various economic sectors of the city (Feng and Zhou 2002, 2005; Wei and Li 2002).

Although Hangzhou only accounted for about 16 % of the permanent residents in Zhejiang, over a quarter of both Zhejiang's trained labour force and professional technician was concentrated in the city in 2009. It was more significant within the urban area. The eight urban districts (district numbers 1–8 of Fig. 6.2) were the home to over 60 % of registered population in Hangzhou and over 95 % of people in the six old districts (district numbers 1–6 of Fig. 6.2) were non-agricultural population. Over 85 % of trained labour force and professional technician of Hangzhou were in urban districts (Hangzhou Municipal Statistics Bureau 2010; Zhejiang Provincial Bureau of Statistics 2010). This illustrates not only the pulling effects of Hangzhou with its economic opportunities and the attractiveness as a provincial capital to other people, but also considerable spatial concentration of advanced economic activities in Hangzhou, urban districts in particular.

Hangzhou has achieved successful economic and social development, especially since the early 1990s (Table 6.1). In 1980, Hangzhou was only an economy with the local GDP (Gross domestic product) at about RMB 4.07 billion and per capita GDP at RMB 791 (on *hukou* population basis). The economy was dominated by the secondary sector and the shares of the three sectors were 20.05:62.37:17.57. By 2013, Hangzhou was already in the national forefront with GDP at RMB 834.35 billion, per capita GDP at RMB 94,566 on permanent residence basis and an economic structure of 3.2:43.9:52.9. The tertiary sector has been rising and gaining dominance in Hangzhou's economy. Hangzhou is the largest prefecture-level

[2]In February 2015, Fuyang district was officially established and replaced the former Fuyang county-level city. It is the ninth district of Hangzhou.

Fig. 6.2 Administrative division of Hangzhou, *circa* 2015

economy and has the strongest tertiary sector in Zhejiang province. After a slow start in the 1980s, the municipality experienced an astonishing economic growth in the 1990s and a booming period in the 2000s. For example, the value of GOVI in 1990 was RMB 29.23 billion, but the figure climbed up to RMB 154.36 billion and RMB 1241.80 billion in 2000 and 2013, respectively. This course of development is highly related to the development strategy of the central government in the early stages of the open door policy that emphasized Southern China. Only in the early 1990s, municipal governments in the YRD region, including Hangzhou, were granted more administrative power in developing foreign-related economic activities, which allowed the skyrocketing rise of some indicators such as GOVI and the total value of imports and exports of YRD cities.

Before the financial tsunami and economic downturn of the American and European markets in the late 2008, the growth of many Chinese cities relied heavily on industrial and trading activities with these markets. The crisis, however, punched the Chinese export sector heavily and Hangzhou suffered without exception. The total value of import and export of the city dropped by US$ 7.65 billion to reach US $ 27.18 billion only in 2009. Although it bounced back in 2010, it was already a warning to the economy that was sensitive to the external conditions. On the contrary, the retail sales of consumer goods and the investment in fixed assets of the city increased stably, matching the latest national strategy of expanding the investment and domestic consumption market. This was supported by the rising per capita annual disposable income of urban households and per capita net income of

Table 6.1 Major social and economic indicators of Hangzhou, 1980–2013 (Reproduced from Hangzhou Municipal Statistics Bureau 2014; Zhejiang Province Statistics Bureau 2010)

Indicator	1980	1990	2000	2013
GDP at current price (RMB billion)	4.07	18.96	156.80	834.35
Shares of three industrial sectors (%; Primary:Secondary:Tertiary)	20.05:62.37:17.57	16.32:50.72:32.97	7.52:51.31:41.18	3.2:43.9:52.9
Per capita GDP at current price (RMB; based on registered population)	791	3310	22,342	118,589
Per capita GDP at current price (RMB; based on permanent residents)	n.a.	n.a.	n.a.	94,566
Year-end registered *hukou* population (million)	5.16	5.75	6.22	7.06
Permanent residents (including population without *hukou*, million)	n.a.	5.83	6.88	8.84
Total investment in fixed assets (RMB million)	709.36	3662.96	51,549.23	426,387.32
Local government revenue (RMB billion)	1.19	2.53	14.29	173.50
Local government expenditure (RMB billion; based on the budget)	0.22	1.12	7.34	85.57
Urban households per capita annual disposable income (RMB)[a]	521	1985	9668	39,310
Per capita net income of rural households (RMB)	250	1171	4894	18,923
Gross output value of agriculture, forestry, animal husbandry and fishery (RMB billion)[b]	1.12	4.21	15.27	39.94
GOVI above designated scale (RMB billion)[c]	6.18	29.23	154.36	1241.80
Retail sales of consumer goods (RMB billion)	2.05	9.82	51.47	353.12
Total value of exports (US$ billion)	n.a.	0.10	6.97	44.77
Utilized foreign direct investment (US$ million)[d]	n.a.	7.51	430.93	5276.33

Notes [a]Since 2001, all urban figures have included Xiaoshan district and Yuhang district. Since 2013, all county-level cities and counties have been included
[b]The figure has included the relevant service sectors since 2003
[c]The figures in and before 1997 included only those industries at town or above level; the figures since 1998 have included all state-owned and non-stated owned industries with annual sale revenue of RMB 5 million or above
[d]New scale of FDI was adopted since 2002

rural households in Hangzhou that were well above the national and Zhejiang averages, at RMB 39,310 and RMB 18,923 in 2013 respectively (Table 6.1). This was also supported by the measures of sales promotion in both urban and rural areas such as *jiadian xiaxiang*, i.e. home appliances sales with government subsidy in rural areas (Cai 2010).

The second characteristic is a series of spatial expansion, compression, and changing spatial relationship. Since the establishment of the People's Republic of China in 1949, the urban development and land-use structure of Hangzhou have undergone unprecedented transformation. With the increase of population, the city expanded in all directions in stages and formed a polycentric urban morphology. The administrative means of planning efforts is definitely a key factor in shaping the Hangzhou city, but the market forces like the FDI are also irreplaceable factors in the reform period (Yue et al. 2010). In addition, socio-economic development and the agglomeration/dispersal of economic activities are considered the drivers of spatio-temporal evolution of the city, such as the partial degradation in educational and virescent land use, as well as the improved overall urban form and land-use structure (Feng 2003; Feng and Chen 2010). The establishment of different designated zones for various industrial activities is also a common spatial feature.

Annexation is a popular way used by a local authority to seize additional resources and opportunities of development for its own territory in contemporary China in the context of urban entrepreneurialism and under current political and administrative system. One milestone and the most aggressive step taken by the Hangzhou authority was the annexation of two adjoining county-level cities, Yuhang and Xiaoshan (district numbers 7 and 8 of Fig. 6.2), as two new districts of Hangzhou in 2001. Such annexation repeated in 2015 (district number 9 of Fig. 6.2).[3] These two moves have provided extra resources and spacious land for Hangzhou's development. The land territories of the three new districts (district numbers 7–9, about 4193 sq km) is 6.1 times of the size of the six old districts (district numbers 1–6, about 683 sq km). Both the government and private investors have great input in the infrastructure and other fixed assets to build up the new areas and connect among districts. The total investment in fixed assets rose by folds from RMB 0.71 billion in 1980 to RMB 426.39 billion in 2013 in Hangzhou.

Transportation infrastructure investment is one of the major investments. Both domestic and regional transportation infrastructure have been improved significantly. The regional high-speed railway and highway networks connecting with Shanghai and other YRD cities allow considerable time-space compression and frequent regional flows of people and goods (Fig. 6.3; *see also* Fig. 5.5). The flourishing economic activities contributed to a prominent urban landscape after the planning and construction of different kinds of development zones within the municipal boundary (Wei et al. 2008; Wu and Zhang 2007). Many of them lie in the peri-urban areas outside the urban core and similar constructions have been repeated to further attract investment.

[3]See footnote 2.

Fig. 6.3 Hangzhou railway station—high speed railway connects Hangzhou to other YRD cities (taken by the authors in April 2011)

The frequent changes of the administrative units reflect a changing regional relationship under intensive market reforms among Chinese cities (Wei and Li 2002), i.e. Hangzhou's regional relationship with other YRD cities in this case. The importance of Hangzhou in the YRD region—the strongest powerhouse in China—is crystal clear. While Shanghai is inarguably the core of the YRD region, Hangzhou is one of the second-tier centres. Table 5.3 (*see* Chap. 5) provides a basic comparison between Hangzhou and other YRD cities. Hangzhou was ranked very high in most indicators, such as GDP (third), gross industrial output (sixth), and so on (Table 5.3; Tong and Chen 2009). Spatially, within Zhejiang province, an economic corridor from Hangzhou to Shaoxing and Ningbo is taking shape, supporting the development of the whole province. The GDP of these three prefecture-level cities made up over half of the total in the province in 2013 (Zhejiang Provincial Bureau of Statistics 2014). In the YRD region, this economic corridor forms part of a "Z" corridor from Nanjing to Ningbo via the nodes of Shanghai and Hangzhou. This corridor is also the socio-economic and political core of the region, and has also been considered as an extended metropolitan region (*see* Fig. 5.4; Sit 2005). Integration in economic activities and civil affairs among YRD cities is taking place, and higher accessibility (such as 1-hour transportation) of urban nodes along the "Z" corridor becomes possible (Zhang and Lu 2010).

Benefited from prominent economic strength, as well as favourable social and environmental conditions, Hangzhou has favourable urban competitiveness among all cities in China. The economic competitiveness of Hangzhou was ranked 22nd among 294 Chinese cities in 2014 (Ni et al. 2015). The ranking was not better than

previous years indeed, and one argument may offer an explanation to certain extent. Some scholars have criticized the inclination of the measurement of the urban competitiveness to the economic dimension and proposed to balance economic, social, and environmental dimensions (Begg 1999; Jensen-Butler 1997; Jiang and Shen 2010; Lever and Turok 1999). A pioneering study by Jiang and Shen (2010) showed that Hangzhou was ranked first in the overall urban competitiveness in 2000, although the ranking in economic, social, and environmental sub-fields were only sixth, third, and second respectively. Similarly, although Hangzhou was ranked 22nd in economic competitiveness in the study by Ni et al. (2015), it was ranked 7th in sustainable competitiveness, which took into account six non-economic indicators of the city including ecology, culture, urban–rural integration, social harmony, information, and knowledge city (*see* Table 1.4). These two studies, indeed, implied the significance of social and environmental dimensions to the comprehensive development of Hangzhou.

6.3 Advantages and Challenges

It is a consensus that Hangzhou must continue to raise the urban competitiveness or will be left behind in the highly competitive regional environment. Before introducing the socio-economic strategies and spatial plans of development of Hangzhou, this section is going to present the advantages of the city and the challenges to its competitiveness.

First, Hangzhou is relatively strong within the province but is facing severe competition in the YRD region. There is no doubt that Hangzhou is one of the strongest provincial capitals in China in terms of socio-economic, technological, and cultural development.[4] The relatively strong agglomeration of production factors like capital, talents, and advanced industries is also an advantage within the province. In addition to its outstanding political status, the leadership of Hangzhou in Zhejiang's development is rather secured.

Although Hangzhou is a key city of the YRD region, it is another matter at the regional scale. The scale of the secondary sector, the amount of utilized FDI, and the general development of Hangzhou were behind Shanghai and Suzhou. The pace of development of these two cities outstripped that of Hangzhou indeed, which should be an important reason for its slower growth rate of GDP compared with Suzhou throughout the years. The GDP of Hangzhou and Suzhou were once very close from 1978 to 1991, but the gap had kept expanding since 1992 from the early

[4]For example, Hangzhou was ranked only after Shenzhen among all vice-provincial cities in China in terms of the number of patents granted (5559) in 2014 (State Intellectual Property Office 2015b); Zhejiang University was ranked top among all Chinese universities in terms of the number of patent granted (1413) in 2014 (State Intellectual Property Office 2015a).

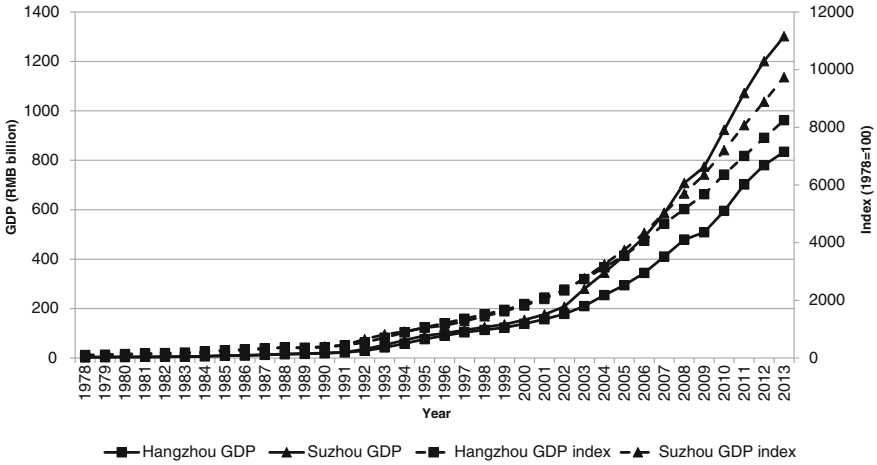

Fig. 6.4 Comparison of GDP between Hangzhou and Suzhou, 1978–2013 (Reproduced from Hangzhou Municipal Statistical Bureau 2014; Suzhou Municipal Statistical Bureau 2014)

period of YRD development (Fig. 6.4).[5] If Hangzhou considers the tertiary sector the pillar of its economy, the scale of the tertiary sector must be further expanded as well. This sector contributed slightly over half (52.9 %) of the GDP in 2009, while the ones of Shanghai (the YRD dragonhead) and Nanjing (another sub-centre) were 62.2 and 54.4 %, respectively, although the absolute value of the tertiary sector of Hangzhou was slightly larger than that of Nanjing. Moreover, the expansion of the tertiary sector and the development of modern services are now the common goals of the YRD cities, if not all Chinese cities. Standing out from the competition will not be easy and Hangzhou must avoid the problem of the development of service sectors highly similar to other cities. Again, input and output of R&D and education are being called into question for the disadvantage in regional comparison. In 2013, the R&D expenditure accounted for 2.98 % of Hangzhou's GDP, which was 0.61 percentage points behind Shanghai (Hangzhou Municipal Statistics Bureau 2014; Shanghai Municipal Statistics Bureau 2014). In short, while the gaps to Shanghai and Suzhou and in certain sectors are enlarging, the development of some other cities like Ningbo and Wuxi can be considered a challenge to Hangzhou, and Hangzhou needs to put extra effort to nurture the tertiary sector.

Second, within the municipality, the old districts are strong but the remaining units of the municipality are relatively weak. It is the fact that different parts of the municipality have unequivocal strengths for a better development, providing there is a comprehensive plan. For instance, Qiandao Islands and other natural landscapes

[5]The gap of GDP between Hangzhou and Suzhou was never more than RMB 1.3 billion in the period of 1978–1991. As the gap had been enlarged, the GDP of Hangzhou was RMB 467.22 billion lower than that of Suzhou in 2013 (Fig. 6.4; Hangzhou Municipal Statistics Bureau 2014; Suzhou Municipal Statistical Bureau 2014).

in Chun'an County are definitely the valuable resources for developing the county into a popular tourism destination. On the other hand, the areas close to Hangzhou Airport and Qiantang River in Xiaoshan District are the most suitable places for building the transportation hub and developing (export-oriented) manufacturing activities. Nevertheless, there are large gaps in development and inadequate coordination (such as industrial strategies and division of labour) among the six old districts, the three new districts, and the four counties and county-level cities. The urban proper is still the major GDP contributor (about 80 % of GDP of the Hangzhou municipality) and the talent pool, the potential power of the remaining area (81.5 % of the territory of Hangzhou municipality) is yet to bring into full play. The correlated issues such as population growth, migration, urban sprawl, and the flows of factors of production, which are the dilemmas of growth and control policies, or simply sustainability, need to be tackled wisely for proper urban development and management (Wei and Li 2002).

There are three more challenges. In terms of socio-economic development, the transition to a modern and sustainable economy is full of challenges. Hangzhou passed the per capita GDP benchmark of US$ 15,000 and reached a later stage of industrialization in 2013 with per capita GDP of US$ 15,269 (*see* Fig. 7.5; Liang et al. 2008). Although the city has a rising tertiary sector which has had a double-digit annual GDP growth rate since 1991 (slowed down to 9 % in 2013) and contributed over half of the Hangzhou GDP since 2012, Hangzhou's economic development is yet to be truly dominated by service industry, especially production services. The development level of the service industry is not high enough and also yet to further nurture new and technology-intensive industries (Hangzhou Municipal Government 2011). Similarly, social development and service standard lag behind the rapid economic development and the rising demand. Ways to better meet the housing demands, to expand the supply of medical services, and to attract both public and private investment in these domains should be figured out properly.

In terms of regional development, the changing spatial relationship is a challenging factor. Hangzhou is the economic core of Zhejiang and a key node in the YRD region. On the one hand, successful regional development will depend on the coordination and integration with the neighbouring cities of Jiaxing, Huzhou, and Shaoxing. The traditional vertical administrative structure in China, however, could not provide effective channel of horizontal linkage among local units at the same level (such as prefecture-level cities), while the decentralization, marketization, and globalization characteristics of regional development in China indeed caused severe competition among them (Harvey 2005; Shen 2007; Wei 2001). All are about benefits and cost. Therefore, it is a challenge to Hangzhou to successfully implement an appropriate regional development plan with the full support and cooperation from the aforementioned cities providing that local interest of all players can be entertained properly. On the other hand, at the YRD level, besides closer social and economic integration, spatial compression is a significant facet of regional development. The construction of highways and high-speed railways connecting Hangzhou to Nanjing and Shanghai have certainly shortened the travelling time and consolidated Hangzhou's role as the sub-centre of the YRD region. However,

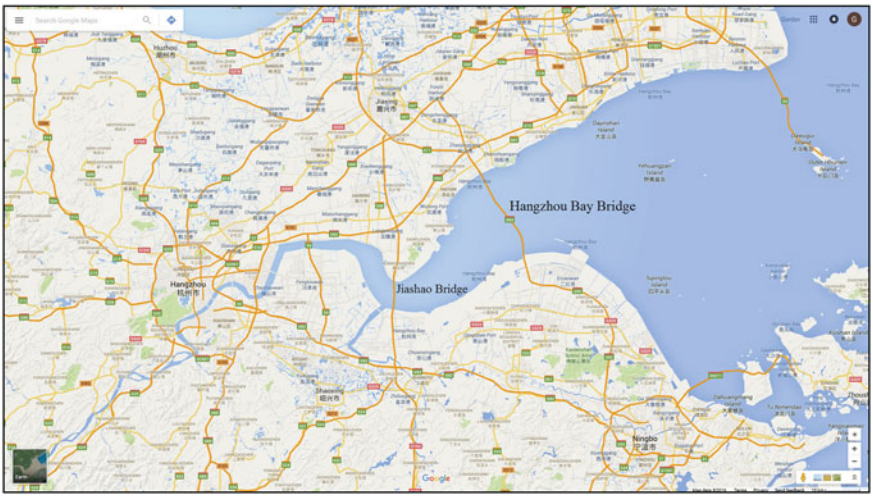

Fig. 6.5 The location of Hangzhou Bay Bridge and Jiashao Bridge—road transport between Jiaxing (north to Hangzhou Bay) and Shaoxing and Ningbo (south to Hangzhou Bay) can bypass Hangzhou (Reproduced from Google Maps base map)

projects like the Hangzhou Bay Bridge that opened in 2008 linking Ningbo and Jiaxing, and the Jiashao Bridge (Fig. 6.5) that opened in 2013 linking Jiaxing and Shaoxing may have both positive and negative effects on the provincial capital. It is believed that the bridges can help relief the serious highway congestion in Shanghai-Hangzhou and Hangzhou-Ningbo sections, and enhance regional integration. But at the same time many logistics activities can now bypass Hangzhou and may bring loss to the city. Thus such projects are double-edged swords to the related industries and the city.

In terms of city branding and marketing, an appropriate brand fully presenting the uniqueness, the strength, and the competitiveness of Hangzhou is needed. Hangzhou is well known for its leisurely and carefree life-style, and the West Lake is no doubt the most illustrious brand of the city (Fig. 6.6). In a city-branding activity, indeed, the ten shortlisted brands all encircled the core of living quality and lifestyle, such as the "Heaven in the Earth".[6] There is, however, a possibility that such stereotyped image can hardly reflect the multiple advantages of Hangzhou. Social, environmental, and historical assets are no doubt important and favourable selling points of Hangzhou (Jiang and Shen 2010), but the economic competitiveness of Hangzhou should not be neglected in branding the city. Hangzhou's economy is more than tourism and cultural industries. Anyway, the possible environmental degradation and damage to cultural and historical assets under the rapid progress of industrialization and urbanization should be avoided. It is a

[6]See http://www.hangzhou.com.cn/hzcspp/index.htm.

Fig. 6.6 West Lake (*Xihu*) is the name card of Hangzhou; it is also a world heritage (taken by the authors in April 2011)

challenge to create a proper brand to better unfold an all-round Hangzhou and tie in with the strategies and plans introduced below.

In short, although Hangzhou is a strong economy in Zhejiang and has strong agglomeration of various factors of production within the old districts, the city is facing various challenges such as the severe competition from YRD counterparts, the relatively large gap of development within the municipality, the need of faster economic transformation and social development, the changing spatial relationship in the YRD region, and a proper brand to market the city, in order to raise the urban competitiveness.

6.4 Major Development Strategies and Plans

Raising urban competitiveness is clearly an important agenda for all cities although it may be not stated explicitly in the development and planning documents. In this section, we are going to examine the *Twelfth Socio-economic Development Five-year Plans of Zhejiang Province* and *Hangzhou Municipality* (12th FYPs), the *Hangzhou Municipality Master Urban Planning 2001–2020*, and the *Yangtze River Delta Regional Planning* (the *Regional Planning*) to reveal the socio-economic, urban, and regional development strategies and plans that can contribute to the rise of urban competitiveness of Hangzhou.

6.4.1 Socio-Economic Development

Hangzhou is following strictly the nationwide principle of "ensuring the growth, expanding domestic demand, and transforming the economic structure".[7] The transformation and optimization of the economic structure has been considered crucially to sustain the economic development and in turn raise the competitiveness of the city. The Hangzhou authority advocates a "3 + 1" industrial sector system, where "3" are modern agriculture, modern industry, and modern services sectors while "1" refers to the cultural and innovative industry (Hangzhou Municipal Government 2011). In order to speed up the development of modern services sector, extra efforts have been paid in the 12th FYP period (2011–2015) to consolidate its growth. Cultural and tourism industries, along with finance, IT and software services, logistics, and professional services, will be the major industries in the advanced services sector. The export of business services is emerging as a new focal point, especially the development of service sourcing. The government aims at establishing the city a "world office" (Hangzhou Municipal Government 2011). The government has also loosened investment policies, issued aggressive policies in capitalization, loan, land use and taxation, and provided better public infrastructure and services to support such development. The city expects to have the added-value of services sector up to 54 % of GDP and form an economic structure led by the service sector (Hangzhou Municipal Government 2011). For the secondary sector, instead of the traditional manufacturing, biotech, new energy, and new materials have been chosen as the constituents of the advanced manufacturing sector.

Innovation will be the axis supporting the development of all three modern economic sectors, in which the quadrilateral interaction among government, academics, research, and manufacturing sides is emphasized. Strategies have also been formed to exhibit the excellence of Hangzhou culture and develop the cultural industry. One key step is to create an environment, with appropriate institutional and policy support, to nurture sectors like drama, cartoon, broadcasting, and publication, aiming at higher presence and influence at provincial and national levels. Training of professional and skilled labour, R&D, along with the optimization of the education system, will be the key tasks of building Hangzhou a cultural and innovation centre. Innovation and education/training can lead the city to a knowledge-based economy although the authority did not use this term. Similar trial of transformation can be found in the source of investment in the market. The authority tries to build Hangzhou as an open and international city to attract more private and diversified investment fund. Therefore, private investment is encouraged. The authority expects to have a larger inflow of domestic and foreign capital, and high-end, high-tech, and high value-added investment projects are preferred.

Besides profit-making activities, both public and private investments to the social services are also encouraged. The authority has identified areas such as social security (like social welfare and employment), medical services, and public services

[7]This principle in Chinese is *bao zengzhang, kuo neixu, tiao jiegou.*

that need additional input (investment and instant response). The goal is to benefit the people by raising the income level and living standard in order to build a harmonious society. It is true that there is a positive correlation between higher income and higher purchasing power. To raise the domestic demand, policies for both demand side and supply side will be formulated to stimulate the development of consumer market. How to enlarge the business of the local market, increase the influence and attractiveness of Hangzhou consumer market, and further attract investment to this market are the main concerns from the supply side. On the demand side, it is critical to raise both urban and rural income stably, and to encourage spending for the sustainable development of the local consumer market.

6.4.2 Urban Development

The economic development of the city has led to the transformation of the economic role and enhanced capability of the urban core (Shao et al. 2010). Nevertheless, the original capacity of the urban core, both the size of the built-up area and the provision of public facilities, services and their spatial distribution, was unable to match the radical changes due to the increasing population and the rising needs of basic necessities. Therefore, it is necessary to make a strategic and visionary plan, with flexibility in land use and spatial distribution, although it is sometimes "more or less a mission of statement of the local political leaders" (Wu and Zhang 2007).

The Hangzhou Concept Plan was initiated in the early twenty-first century. Though it is not a statutory plan, the comprehensive strategic actions recommended in the plan do have strong impact on the subsequent statutory plans and socio-economic plans, which can be seen below.

To overcome problems and adapt to the new conditions of development, the Hangzhou authority proposed in 2008 to build a total of 20 new towns (Table 6.2). While ten new towns will be built around the urban core, another ten will scatter over Yuhang district and other counties and county-level cities. These 20 new towns will function as urban CBDs, transportation hubs, sites for R&D and universities, and so on (Shao et al. 2010). This plan is going to guide a rational redistribution of population and reduce the population density of the urban core. The planned population of these 20 towns varies from 35,000 to 700,000 each, with an estimated total population of 3.52 million (Shao et al. 2010). The projected population of Hangzhou would reach 9.3 million in 2020 (Hangzhou Urban Planning Bureau 2007). Therefore, these 20 new towns will be the home of over one-third of the population then. The realization of this plan should be able to relax the pressure of the urban core, as well as provide better housing, employment opportunities, public health services, and other social infrastructure and services to the people. This is no doubt a very ambitious and large-scale plan. To ensure its success and avoid any emergence of "ghost city" and wastage of valuable resources, flexible planning and execution, government's effective steering, and proper participation of private sectors and civil society are important. One essential

Table 6.2 Planned population and major functions of Hangzhou's 20 new towns (Reproduced from Hangzhou Municipal Government 2008; Hangzhou Net 2008; Shao et al. 2010)

New town	Planned population	Major functions
Binjiang	300,000	CBD
Qianjiang	250,000	CBD
Qiangjiang century	160,000	CBD
Xiasha	700,000 in 2020	Urban sub-centre
Lianping	100,000	Urban sub-centre
Chengdong	170,000	Transportation hub
Konggang (airport)	50,000 in 2015	Transportation hub
Jiangdong	150,000	Advanced industry
Lianjiang	560,000	Advanced industry
Fengchuan-Jiangnan	204,500	Advanced industry
Jinnan	35,000	Advanced industry
Xianghu	150,000	Tourism
Zhijiang	180,000	Tourism
Nanhu	60,000	Tourism
Tangxi	80,000	Tourism
Pingshan	78,600	Tourism
Yangan	25,000	Tourism
Dongzhou	n.a.	Tourism
Creative industry	210,000	R&D and university
Qingshanhu innovation	60,000	R&D and university

is to make a fine balance between the supply-led development and the rise of subsequent demand.

The latest strategy of urban development is "to expand the urban area eastward, to develop tourism industry westward, and to develop along the two sides of Qiantang River", which matched the planned pattern of "one core, three sub-centres, and six clusters"[8] (Fig. 6.7; Hangzhou Municipal Government 2011; Hangzhou Urban Planning Bureau 2007). Xiasha new town is an example of eastward expansion of Hangzhou. Hangzhou CBD and Qianjiang Century CBD straddling the Qiantang River will be built together as the new CBD. The twin CBDs have similar patterns of development and are going to attract similar industrial sectors such as financial service, business and trade, C&E, R&D, professional services, and leisure and cultural activities (Figs. 6.8, 6.9).[9] The authority

[8]The urban development strategy in Chinese is *chengshi dongkuo, lüyou xijin, yanjing kaifa, kuajing fazhan*. One core means the CBD and old urban district of Hangzhou, three sub-centres are Jiangnan, Linping, and Xiasha, and six clusters are Yuhang, Liangzhu, Tangqi, Yipeng, Guali, and Linpu.

[9]Hangzhou CBD and Qianjiang Century CBD in Chinese are Qianjiang new town and Qianjiang Shiji Cheng respectively. For details of development, please visit websites http://www.hzcbd.com and http://www.qjcbd.com respectively.

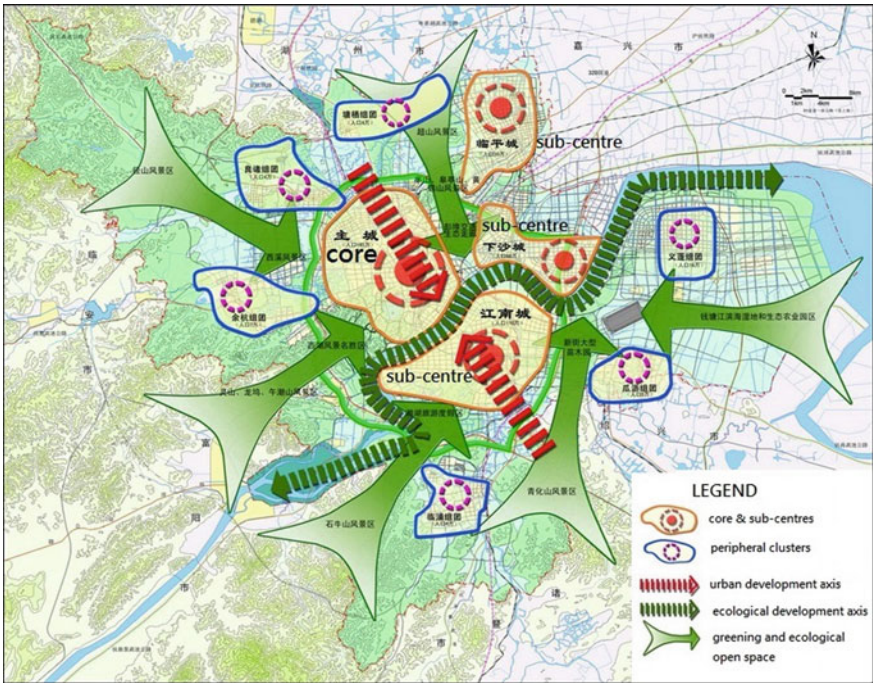

Fig. 6.7 The pattern of "one core, three sub-centres and six clusters" of Hangzhou's Master Urban Planning (Reproduced from Hangzhou Urban Planning Bureau 2007)

Fig. 6.8 Hangzhou CBD model (taken by the authors in April 2011)

Fig. 6.9 The new exhibition centre in CBD (taken by the authors in April 2011)

also endeavours to optimize the functions of the urban core and the old CBD, to relocate unfavourable industrial activities, as well as to control its urban land-use growth strictly, avoiding any uncontrolled urban sprawl and the loss of natural landscape and agricultural land (Hangzhou Municipal Government 2011; Hangzhou Urban Planning Bureau 2007; National Development and Reform Commission 2010).

Along with the indirect way of controlling any loss of natural and cultural assets, the proactive protection and usage of these valuable assets are also important. Hangzhou's *Master Urban Planning 2001–2020* has paid attention to these areas. On heritage protection, a multi-dimensional and comprehensive approach has been adopted, with the emphasis of control, improvement, and usage, as well as brand making of both tangible and intangible cultural and historical heritage. West Lake is the most important asset in Hangzhou. Besides the works on cultural and historical heritage protection, a larger scale of work targeting the surrounding developments has been proposed, which will control the height, scale, colour, and pattern of those new constructions. In addition, inappropriate constructions and high pollution factories within this protection area will be moved away. On the overall urban landscape, the authority proposed to integrate it into the natural landscape in order to better present the image and brand of famous historical, cultural, and tourism city. Major urban constructions should follow the spatial structure of river (Qiantang River), lake (West Lake), and mountains of Hangzhou.

6.4.3 Regional Development

Hangzhou's connections to the adjoining areas are increasing in both frequency and importance. Therefore, the significance of formulating regional development strategies has been emphasized in the 12th FYP and other planning documents, as shown in the aforementioned socio-economic and urban development. The city has identified three scales of regional development and they are (1) connecting Shanghai, (2) integrating with the YRD region, and (3) building the Hangzhou metropolitan circle (Hangzhou Municipal Development and Reform Committee 2010; Hangzhou Municipal Government 2011).[10] While the first two scales are the means to further integrate the city to the YRD region, the last one reveals the ambition of Hangzhou to consolidate its leadership in northern Zhejiang.

The first two scales of regional development are undoubtedly the constructive responses to the tendency of regional integration. Although YRD integration has been full of obstacles throughout the years, some recent encouraging signs are useful boosters for a pragmatic regional integration. For example, the cooperation in the World Expo among YRD cities (*see* Chap. 5), and the promulgation of the *Regional Planning* in 2010 represent the collective efforts of bottom-up initiatives and top-down support. The *Regional Planning* states clearly that Shanghai is the dragonhead while Hangzhou and Nanjing are the regional sub-centres, and better coordination and interaction are expected. Physically, the improving physical linkages such as high-speed railways, highways, and canals can greatly facilitate the flows of people and factors of production between Hangzhou and other cities. The regionalization initiative in infrastructure development such as energy and water supply and in environmental protection can help achieve the economy of scale, the effective use of scarce resources, and better environment. Furthermore, a closer cooperation and division of labour in industrial activities of various manufacturing and services with other cities such as Shanghai may also avoid or reduce direct and vicious competition (Hangzhou Municipal Government 2011; National Development and Reform Commission 2010).

Hangzhou metropolitan circle is an all-round cooperation project among the four prefecture-level cities of Hanghzou, Jiaxing, Huzhou, and Shaoxing in Zhejiang. The *Hangzhou Metropolitan Circle Economic Development Plan* (the *Metropolitan Plan*) and the 12th FYP document recommended making an integrated plan and establishing common markets in public transportation, medical services, labour pool, education, and industrial activities in the metropolitan circle ("Hangzhou dushi jingjiquan huzhiyuchu" 2010; Hangzhou Municipal Government 2011). It is believed the *Regional Planning* will benefit and support the development of Hangzhou metropolitan circle. No matter for which scale of regional development, however, it is crucial to establish appropriate institutional setting for execution to facilitate the successful implementation of plans.

[10]The Hangzhou metropolitan circle in Chinese is *Hangzhou dushi jingjiquan*.

6.5 Discussion: The New Socio-Economic Strategies and Spatial Roles of Hangzhou

Hangzhou has experienced a new round of transformation in the 12th FYP period continuing the effort of the 11th FYP. Facing the ever changing economy, external challenges, and local difficulties, as well as opportunities, previous strategies are no longer fully fit for the current circumstances and it may no longer be beneficial to the city to stick to the tradition roles of Hangzhou in the region. New strategies and roles are needed, and those aforementioned plans are the signs. New strategies and roles can be generalized in threefold. First, history, culture, and environment continue to be valuable assets of Hangzhou. However, they should not be the only focus of the branding activity, and innovative approach is needed to make use of these assets more effectively. Second, the Hangzhou economy is heading towards high-tech, advanced manufacturing, and modern services, in an expanding urban area. It is necessary to apply strategies to pave a unique path so that the city's economic (production) activities can stand out in the severe competition. Third, Hangzhou is going to play new roles in regional development, and innovative approaches and determination are needed. These new strategies and roles should be able to raise the comprehensive strength and competitiveness of the city.

"A famous historic city" with rich culture is still an important brand name of Hangzhou, and the strategies making use of its culture, history, high quality of living environment should be still useful. However, they should be used not only for attracting tourists and outsiders, but also for the Hangzhou inhabitants. Moreover, these scattered works will not effectively help build up Hangzhou's competitiveness. Therefore, the strategies and plans that can integrate prevailing fragmented policies and plans are needed to raise the social and environment competitiveness. On the one hand, it is necessary to come up with a strategic plan overseeing and integrating all the protection and utilization of cultural and historical heritage and environment as soon as possible, although these works have been mentioned in the *Master Urban Planning 2001–2020*. The West Lake is a cultural-cum-historical-cum-natural asset and should be one focus, and the old urban area is another. The aforementioned works to move industrial activities away from the West Lake and control the constructions encircling the West Lake should be appreciated. Complementary works on emission control, industrial and domestic sewage discharge control, and green space provision, both in the West Lake area and the whole urban area are needed to complete this comprehensive and strategic work. On the other hand, another strategic plan overseeing and integrating socio-economic development works is as important as the previous one. This strategic plan should mainly make use of the prevailing advantages on labour force, living standard, and urbanization level of Hangzhou, and complement all the current relevant development policies to further raise the education level and labour skills, quality of life, and level of urban development for higher social competitiveness.

Hangzhou is the economic powerhouse of Zhejiang and we believe that it will continue to be so. This leading role must be in both scale and quality, and the latter can be presented in its ability in economic upgrading and innovation. The emphasis of the development of advanced service industries such as C&E, tourism and cultural industry, and the application of technology reflects the determination of the city to adjust the economic structure at a faster pace to realize high value-added, high-tech, innovative, and green way of economic development, i.e. the economic upgrading. The successful economic upgrading, however, relies on a holistic approach and strategy. Many examples have shown that the development of many Chinese cities generally suffers from high quality infrastructure but poor or sub-standard service provision (soft power). Hangzhou tries to establish itself a "world office" and the provision of infrastructure such as office space should not be a problem. Nevertheless, the provision of auxiliary and professional services such as financial, accounting, and legal services, free flow of information without censorship, and the provision of a favourable market may be the challenges and the pullback to the authority. Moreover, innovative and creative approaches will help.

Today, many Chinese (coastal) cities, if not all, are emphasizing the development of tertiary sector and service industries. Then, how can Hangzhou stand out? Hangzhou's comparative advantage is in its ample historical, cultural, and natural assets, and therefore breakthroughs and innovations can be started from these elements. West Lake and rich culture atmosphere of the city are valuable advantages for developing tourism and cultural industries that cannot be easily replaced and imitated. As cultural and innovative industry is advocated by the government, peripheral and crossover activities of cultural economy can be explored on this basis. For example, presenting the traditional Chinese dance and song using high-tech stage effects, *Yinxiangxihu* (West Lake Image) is a show mixing and presenting the natural landscape of West Lake and old legends and culture of Hangzhou. It is a famous lake-side show directed by the renowned director Zhang Yimou and was the theme show of the 2016 G20 Summit.[11] By the same token, Chinese element is mixing with the modern trendy culture. Hangzhou has been the host of the China International Cartoon and Animation Festival since 2005 and was the theme show of the 2016 G20 Summit.[12] It is a leading industrial exhibition in China that attracts the attendance of worldwide stakeholders such as Disney ("Hangzhou dongmanjie luomu qianzi 128 yi" 2011; "Hangzhou moshi yijun tuqi, lingjun Zhongguo dongman chanye" 2011). This annual festival turns Hangzhou into a platform of cultural exchange and brings the city thousands of tourists every year. Cartoon and animation is a rising industry in China with much support from both the central and local governments. For example, it is an industry recommended in both the national and Hangzhou's 12th FYPs. Although similar festivals or industrial bases can also be found in Shenzhen, Guangzhou, and Shanghai, the better experience and the established brand name allow Hangzhou to play a key role

[11]For details, please see http://www.hzyxxh.com/.

[12]For details, please see http://www.cicaf.com.

in this industry. A complete industrial chain has been established and diversified cartoon and animation products can now be found in the city. The employment opportunities and the cultural products are highly related to the daily life of Hangzhou people. In short, Hangzhou can be a platform of new economic activities in China.

In addition, a strong base of local (small and medium) enterprises is another advantage of Hangzhou. Different from other cities such as Suzhou, Shanghai, and Shenzhen with a strong FDI base, domestic capital is the pillar of Hangzhou's economy (Xie and Zhuo 2007). Among all, the most successful and famous one should be Alibaba—the Internet-based business platform that established in 1999, listed in Hong Kong stock exchange during 2007–2012 and in New York Stock Exchange from 2014 onwards. Unlike the footloose FDI, domestic enterprises have a strong embeddedness to the city (Xie and Zhuo 2007) and a stronger sense of belonging, which can support rather stable economic development in the city even under turmoil such as the global financial crisis in 2008. It is the tradition of Hangzhou to nurture the growth of non-governmental sector. Through creating a more favourable business environment such as the endeavour in education and training, R&D, and innovation, it will not be a myth to bring up more new Ma Yun (founder, former CEO and current Executive Chairman of Alibaba Group) for Hangzhou (Zhao 2008). Starting businesses and innovation are encouraged by the central government indeed. Hangzhou can function as the incubator of domestic private enterprises and innovation industries that competes in not only the local market but also the national and global markets.

Regionally, Hangzhou should highly value the new spatial roles that the city is about to play. Within the municipality and in terms of the development of industrial activities, the old districts should play the role of a commander of the networked economy by having closer interaction with the remaining parts of the municipality, as well as the neighbouring cities and other cities in the YRD region. With comprehensive plans and proper implementation, the eastward expansion of the city will increase the capacity of the urban core to attract high-end factors of production, and develop the centre of scientific innovation, cultural industries, and comprehensive services (Hangzhou Municipal Government 2011). In addition, the connections between the urban core and the 20 new towns can make networked economic development possible, which can facilitate the flows of people, goods, and better division of labour within the municipality. Such coordinated network with close interaction can provide a strong support for the successful development of Hangzhou CBD and Qianjiang Century CBD.

Various plans show Hangzhou's sub-centre role in the YRD region and a Greater Hangzhou concept, which affirmed the absolute leadership of Hangzhou in northern Zhejiang and provided a favourable environment for the (regional) economic development. Among all, Hangzhou must lead the process of formulating concrete regional policies and eliminating the local barriers (such as protectionism) based on a win–win approach. It is important to make good use of the advantages of each member and balance their cost and benefit, aiming to provide synergy of regional cooperation, minimize the regional difference and negative externalities, and

ultimately strengthen the overall competitiveness of the Greater Hangzhou. Then there will be virtuous competition between Hangzhou and other sub-regions in YRD.

In terms of urban and regional development, as a regional sub-centre designated by the central government along with bottom-up initiatives, full cooperation, and coordination among Hangzhou and Shanghai (dragonhead), Nanjing (sub-centre), and other YRD cities can be anticipated. Integration of infrastructure and public service provision, pollution treatment, and so on are the expected projects in the future that Hangzhou should initiate and participate. Such development can complement the Greater Hangzhou move to allow Hangzhou to further extend its influence over an even larger area. In short, the rise of Hangzhou's status and role, and the emphasis of coordinated development and further physical connection in the YRD region will scale-up Hangzhou's economy and political status, and raise the urban competitiveness. These have an inseparable relationship with the decisive development strategies, socio-economic, and urban planning particularly the pattern of land-use conversion (Lin 2009) that can easily be found in Hangzhou, in the context of the changing socialist political economy under economic globalization.

6.6 Conclusion

Hangzhou is a historic city with rich cultural background. It is also the provincial capital and the economic powerhouse of Zhejiang, and a sub-centre of the YRD region. As a global and regional economic contender, Hangzhou has to seek ways to raise its urban competitiveness. Meanwhile, it faces the ever changing regional circumstances and the economic restructuring in China. Hangzhou must adapt to the new environment by applying new socio-economic strategies and playing new spatial roles.

A few local and regional socio-economic plans and urban planning have been studied in this chapter. Advanced manufacturing and modern service industries such as C&E, cultural and innovative industries will be the pillars of Hangzhou economy. Spatially, new towns with different designated functions will be built that will significantly change the spatial pattern of the municipality. In addition, Hangzhou promotes regional integration in different scales, including within the municipality, at prefecture level, and in the YRD region. Hangzhou is going to play a leading role to execute these regional development plans such as the *Metropolitan Plan*. Regional infrastructure, division of labour, allocation of resources, and some other social and environmental issues are the priority domains in regional development.

Fragmented strategies with limited effective area as well as traditional approaches and roles will not help. It is necessary to adopt new strategies and roles. A comprehensive approach is also suggested. In branding and marketing Hangzhou, the valuable assets of history, culture, and environment are no doubt the key selling points. Tourists and investors are the targeted "customers" but

Hangzhou inhabitants should also be taken care of. One strategic plan overseeing and integrating the protection and utilization of cultural and historical heritage and natural environment centering on the West Lake and the old urban area, complemented by other auxiliary environmental works, have been proposed. Another similar strategic plan on socio-economic development to raise the quality of life and education level has also been proposed.

On the other hand, Hangzhou's economic development must focus on both scale and quality. This means that Hangzhou should pursue economic upgrading and innovation by building such capacity to do so. A holistic approach of taking care of every aspect of a development goal, such as the better provision of both hardware and software of the "world office" goal, may help Hangzhou to stand out in the severe competition. Innovative and creative approaches like mixing traditional culture, history, and nature landscape with modern culture and technologies is also useful. In addition, Hangzhou will take new roles in the regional development. Hangzhou can play the new roles well if the authority has a strong determination to try innovative policies and is aware of the balance of the interests of itself, other cities, and the involved stakeholders (such as an industry or a group of people) to create a win–win situation. Meanwhile, the proper implementation of these regional development plans should be able to build networks in the region to facilitate the flows of people, capital, and factors of production, and to provide synergy to raise the strength of the whole region. It is expected that the aforementioned comprehensive strategies and innovation will improve Hangzhou's economic, social, and environmental competitiveness.

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Chapter 7
Nanjing: City Positioning and Development Strategies in the Twenty-First Century

7.1 Introduction

As introduced in the previous chapters, globalization leads to intense economic competition among cities in the world. Cities are competing for footloose capital, talents, tourists, and different resources worldwide (Ni et al. 2007). Cities also contend for the leadership of various industrial sectors, no matter at the regional scale or at the global scale. All these moves are for the goal of acquiring a world city or a national central city status. Cities take different pragmatic measures, such as organizing mega international events, devising strategic planning, and nurturing appropriate urban functions, to promote the comprehensive strength and increase urban competitiveness. Private sectors also play significant roles in this process.

Such prominent city status, however, is not something easy to achieve. The same policy can yield completely different results in two cities with different geographical, historical, social, economic, and political backgrounds and endowments. Therefore, simply duplicating others' successful goals and plans without considering individuality will not help. Cities must have unequivocal goals of development, distinctive positioning and sound city brands to be realized through appropriate strategies and measures in both short term and long term. On the other hand, regionalization is now a prevailing trend that is often regarded as an institutional fix for necessary regional cooperation, regional building, and implementation of strategies and plans in order to sustain the development of city (Luo et al. 2010; Yeh and Xu 2011). Some cities have recognized that city-region is an appropriate scale to gain advantages through collaboration rather than competition (Kearns and Paddison 2000). In short, many cities are making appropriate positioning at different scales of economies, followed by the implementation of appropriate strategies to maximize gain.

In this chapter, the word *positioning* has two meanings. Economically, it refers to how Nanjing positions itself in various industrial sectors and production chains, i.e. to establish brand names for its industrial activities to attract (and for the)

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"consumers". Spatially, we investigate how Nanjing positions itself in different regional settings in order to enhance the local and regional strength and development.

Positioning is an important measure of the city branding project, and city branding is a key way to raise urban competitiveness (Ni et al. 2007). Unlike branding a product or an enterprise, some scholars were doubtful about city branding. They believed that a city was more complicated than a product or an enterprise, and their natures were different. However, some other scholars argued that branding a city was possible and necessary. Scale of a city is definitely an influential factor, and the understanding toward city's nature in the modern world is another crucial factor leading to the opposite views. The nature of a city in the globalizing world, indeed, is getting closer to a product that it needs to promote itself to the (potential) "customers", such as investors (Kavaratzis and Ashworth 2005; Ni et al. 2007), i.e. to promote the city as the best or the most appropriate carrier for investors' economic activities from the economic approach. As long as this argument is valid, then the concept of positioning is transferable from a product to a city. A good positioning emphasizes individuality that displays the indigenous value and spirit of the city that are easy to understand, and hard to be replaced (Gilmore 2002; Ni et al. 2007). A city, through appropriate branding and positioning, presents its characters, gives a promise to "customers", and builds an image among them. A city must position itself according to its own advantages and characteristics such as its unique historical background and culture endowment, and integrate them to the global market, but not simply to modify them to satisfy the need of the market and customers (Jiang 2010; Kavaratzis and Ashworth 2005; Meng 2010).

China now is the second largest economy in the world, which is a brand representing ample business opportunities even though the global economy is now on the downturn side. Transforming from a socialist planned economy to a market economy with Chinese characteristics, most local states have been playing as the agents or entrepreneurial states that welcome rather than reject economic reforms and entrepreneurial changes, like what many other cities worldwide have done to enhance urban competitiveness (Shen 2004). Such development has been concluded as Chinese state entrepreneurialism, both horizontally and vertically of the political hierarchy (Duckett 1998; Wu and Phelps 2011; Yu and Zhu 2009). Hence, city branding and positioning have become a common practice in China.

Nevertheless, problems can also be identified. Positioning of Chinese cities have been criticized for indefinite and aimlessness, and lacking uniqueness and individuality (Meng 2010). For example, both Jiang (2010) and Meng (2010) criticized that about 180 out of some 660 Chinese cities proposed to build themselves as international cities, which is crazy and an unrealistic positioning for many of them. Some positioning and brands are too general so that people will never be able or will be hard to link that positioning or brand to a specific city. This is the result of the poor understanding of the cities' background and characteristics, as well as the nature of city branding. It is also an inevitable result of inadequate communication and coordination between cities within a specific region. These cities have simply

followed one after another the idea of city branding and the aggressive goals blindly.

Nanjing is not free from such problems. Zhang (2011) criticized that Nanjing suffered from the common paradigm of positioning in China, such as striving for the development of almost identical industrial sectors. These sectors may not have a symbiotic relationship with the city individuality and can lead to unnecessary competition with other cities. Nanjing's previous shilly-shally and unclear positioning, and fragmented city image wasted not only opportunities but also the rich history and characteristics of the city. Such unscientific way of development made it difficult to achieve its long-term goals.

Nanjing is celebrated for its 2500 years and above of history and the status as the ancient capital of the Ming Dynasty and the Republic of China (Nanjing Municipal Government 2009). The city is at the intersection of the lower course of the Yangtze River (the east-west corridor) and the Beijing-Shanghai railway (a north-south transport artery). It is also the economic, political, and cultural centres of Jiangsu province and one of the two sub-centres of the Yangtze River Delta (YRD) region. All are favourable elements for making unique and long-lasting city positioning.

This chapter aims to examine the city positioning and development strategies of Nanjing. After this brief introduction, we review the general socio-economic and urban development of Nanjing in Sect. 7.2. Then, we examine various strategic development plans of Nanjing applied in the twenty-first century in Sect. 7.3. Section 7.4 presents a SWOT analysis of Nanjing. A clear understanding of the Strengths and Weaknesses of Nanjing, and the external Opportunities and Threats (SWOT) to the city help making appropriate and unique positioning of Nanjing. Section 7.5 compares Nanjing's SWOT with the aforementioned development plans, and identifies the ways to center on the core assets of the city. Finally, the conclusion reaffirms the unique positioning with Nanjing's individuality.

7.2 Characteristics and Dynamics of Nanjing's Development

Nanjing, one of the famous ancient capitals, is the provincial capital of Jiangsu (Figs. 7.1 and 7.2). It enjoys the status of sub-provincial city in arranging socio-economic development plans and policies. While Jiangsu is the last province of the Yangtze River Basin before the River enters Shanghai, Nanjing is the firstprefecture-level city[1] of the River's Jiangsu section. The city is divided into two parts by the River. Locating in the southwest corner of the province, Nanjing borders Yangzhou, Zhenjiang, and Changzhou cities of Jiangsu (*see* Fig. 5.4) and Chuzhou, Ma'anshan, and Xuancheng cities of Anhui province. The city covers an

[1]Since there is no county-level city or county under the administration of Nanjing, the word *city* simply refers to the whole prefecture-level municipality in this chapter, unless specified.

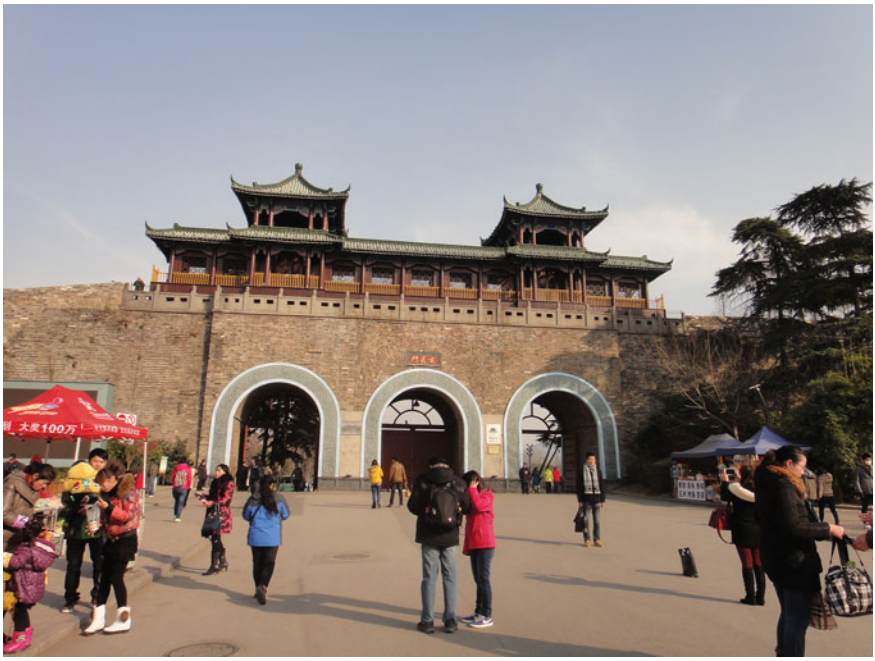

Fig. 7.1 The Xuanwu Gate, one of the gates of the city wall (taken by authors in December 2013)

Fig. 7.2 The gate of the former presidential hall of the Republic of China (taken by authors in December 2013)

area of 6587.02 sq km and is composed of four urban districts (Xuanwu, Qinhuai, Jianye, and Gulou) with an area of 260.50 sq km, and seven suburb districts (Pukou, Qixia, Yuhuatai, Jiangning, Luhe, Lishui, and Gaochun) occupying the remaining area of 6326.52 sq km (Fig. 7.3; Nanjing Municipal Statistics Bureau 2014).

Table 7.1 presents the major socio-economic development indicators of Nanjing. The year-end *hukou* (household registration) population increased from 4.36 million in 1980 to 6.43 million in 2013. The number of permanent residents in 2013 was 8.19 million, including a temporary population of 1.76 million. Nanjing's urban population accounted for 80.5 % of the total permanent population and the city was the most urbanized among all prefecture-level cities in Jiangsu (Jiangsu Provincial Bureau of Statistics 2014). However, its temporary population was less than that of Suzhou and equal to that of Wuxi (4.04 million and 1.76 million, respectively), reflecting that the provincial capital was attractive, but not the most attractive in Jiangsu to temporary population in terms of economic opportunities.

The GDP of Nanjing increased from RMB 8.03 billion in 1985 to RMB 801.18 billion in 2013,[2] almost a 100 times increase of nominal value in 28 years (Nanjing Municipal Statistics Bureau 2014). Nanjing, however, was not the principal powerhouse of Jiangsu's economy. In 2013, Jiangsu had the second largest GDP (RMB 5916.17 billion) among all provinces, only after Guangdong. Nanjing accounted for about 13.5 % of Jiangsu's GDP while Suzhou accounted for about 22 % and Wuxi accounted for about 13.6 % (Jiangsu Provincial Bureau of Statistics 2014; National Bureau of Statistics of China 2014). Similarly, Nanjing's per capita GDP (permanent residents-based) was RMB 98,011, and the shares of three industrial sectors were 2.55:43.07:54.38 in 2013. Nanjing's per capita GDP was ranked third in the province after Wuxi and Suzhou, and the gap between Wuxi and Nanjing was RMB 26,629. The share of the tertiary sector in GDP was the largest (54.4 %) in Nanjing among all Jiangsu's prefecture-level cities, but the share of the secondary sector was the smallest (43.1 %). Its primary sector was neither the largest nor the smallest, but the share (2.6 %) was higher than that of Suzhou (1.6 %) and Wuxi (1.8 %).

Nevertheless, we should not overlook the considerable economic development of Nanjing in the past three decades. The primary sector still plays a role in Nanjing's economy. The agriculture, forestry, animal husbandry, and fishery are the key industries and the gross output value increased from RMB 0.78 billion in 1980 to RMB 35.13 billion in 2013 (Table 7.1). Benefiting from the implementation of *san nong* (agriculture, villages, and farmers) policies, the rural economy has been experiencing a rapid development, such as the gross output value and production efficiency. For example, the proportion of the farmland for grain plantation to that of cash crops changed from 77:23 in 1978 to 47:53 in 2007, suggesting that the farmers enjoy a better output from the more profitable cash crops like vegetables and flowers. Similarly in the animal husbandry industry, besides pig and other

[2]The GDP figures before 1985 were not available.

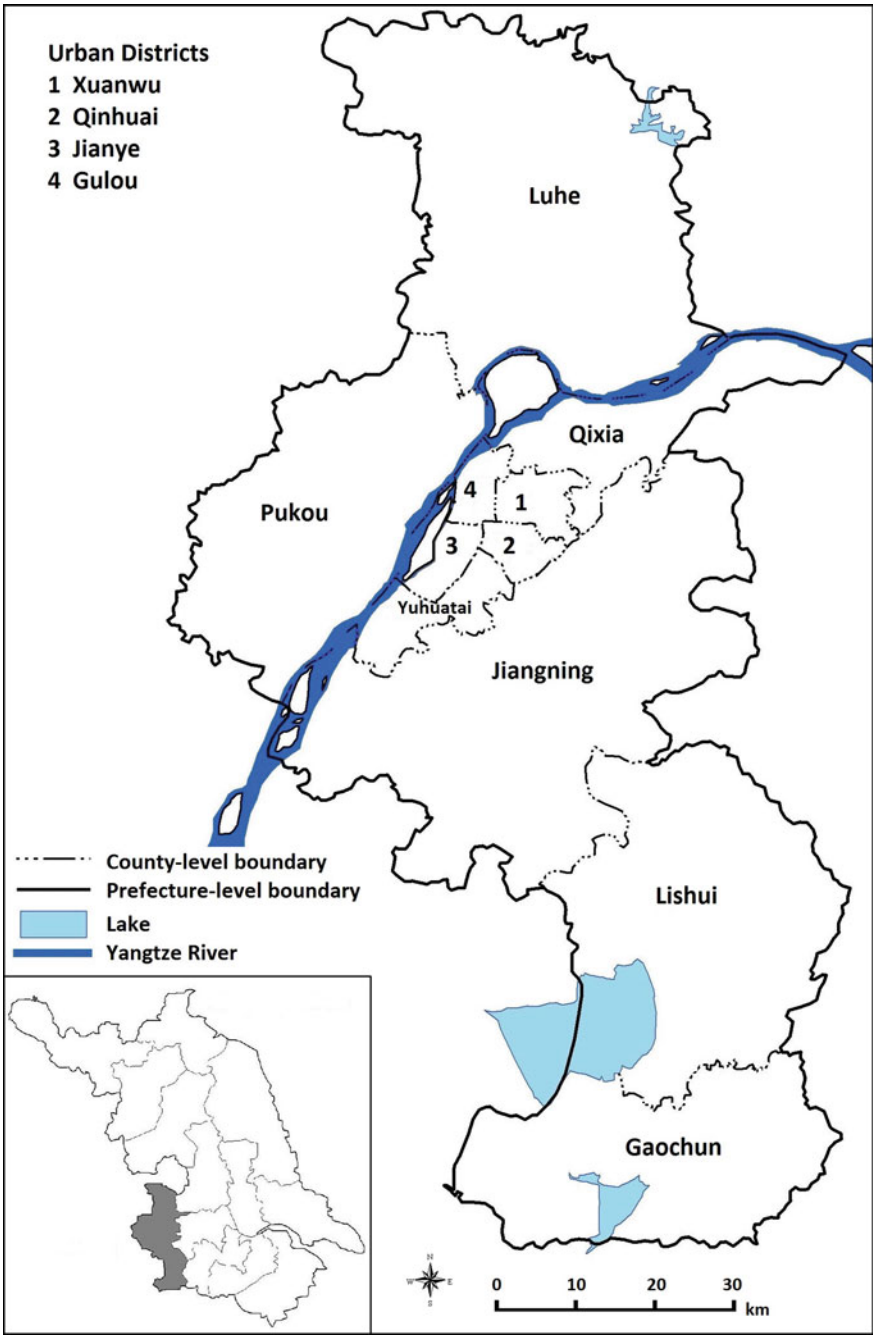

Fig. 7.3 Administrative division of Nanjing, *circa* 2013

Table 7.1 Major social and economic indicators of Nanjing, 1980–2013 (Reproduced from Nanjing Municipal Statistics Bureau 1981, 1986, 1991, 2001, 2014)

Indicator	1980	1990	2000	2013
GDP at current price (RMB billion)	8.03[a]	17.65	107.35	801.18
Shares of three industrial sectors (%; primary: secondary:tertiary)	n.a.	9.78:54.40:35.82	5.36:45.82:48.82	2.55:43.07:54.38
Per capita GDP at current price (RMB; based on *hukou* population)	n.a.	3538	19,838	125,031
Per capita GDP at current price (RMB; based on permanent population)	n.a.	n.a.	n.a.	98,011
Year-end hukou population (million)	4.36	5.02	5.45	6.43
Permanent residents (including population without *hukou*, million)	n.a.	n.a.	n.a.	8.19
Total investment in fixed assets (RMB billion)	0.782	4.27	41.22	526.56
Per capita annual disposable income of urban households (RMB)	487	1591	8233	39,881
Per capita net income of rural households (RMB)	n.a.	970	4062	16,531
Gross output value of agriculture, forestry, animal husbandry and fishery (RMB billion)[b]	0.777	3.08	10.63	35.13
Gross output value of industry (RMB billion)[c]				
– all	7.07	29.54	184.31	1311.57
– above designated scale	n.a.	27.57[d]	160.28	1256.31
Retail sales of consumer goods (RMB billion)	1.584	7.28	50.94	350.42
Total value of exports (US$ billion)	n.a.	0.16	5.37	32.27
Utilized foreign direct investment (US$ billion)	n.a.	0.07	0.81	4.03

Notes [a]There was no GDP figure available before 1985
[b]The 2013 figure include the related service sector
[c]New calculation method applied after 1995
[d]Excluded the industrial activities of and below the village level

common livestock, breeders are willing to raise more cattle, sheep, and rabbit for higher income. Moreover, the development of agriculture shows trends of enlarging scale, standardization, regionalization, and industrialization, with extra technological application and infrastructure provision (Du 2009).

The secondary sector used to lead the economic development of Nanjing. The GOVI rose sharply from RMB 7.07 billion in 1980 to RMB 1311.57 billion in 2013, with a big leap after the mid-2000s (Nanjing Municipal Statistics Bureau 2014). The city leans heavily on heavy industries. For example, heavy industries contributed almost 80 % of the GOVI in 2013 (Table 7.2). Telecommunication and computer manufacturing (17.03 % of the GOVI in 2013), processing of petrochemical (22.91 %), and automobile manufacturing (12.73 %) are the pillar industries.[3] The secondary sector is now experiencing the industrial restructuring such as industrial upgrading and replacement of backward industries (Tang 2011). Spatially, following the policies of economic transformation, many industries have moved from the urban core to the suburbs, contributing to the industrialization of suburb areas. However, the high similarity of industrial activities and structure between Nanjing and the peripheral cities is a critical problem (Table 7.2). It have caused unnecessary competition and hindered regional integration (Yang and Pan 2010; Zhang 2011).

The tertiary sector is now the largest sector in Nanjing's economy. Financial services, wholesale and retail, transportation and logistics, and tourism are the key industries. Among all industries of the tertiary sector, wholesale and retail is the second largest contributor, accounting for 10.3 % of GDP in 2013. The retail sales of consumer goods rose from merely RMB 1.58 billion in 1980 to RMB 350.42 billion in 2013. The financial industry, on the other hand, accounted for 10.6 % of GDP in 2013 and was the largest service industry. People's willingness to spend, the rise of financial industry, as well as the national supporting policies to the domestic consumption market, real estate market, and logistics industry etc. have been considered the major contributing factors to the rise of tertiary sector (Liu and Cai 2009). Nevertheless, Nanjing must figure out the ways to maintain a healthy and stable development of this sector, and the measures to mitigate possible externalities, such as the bubble of the real estate market, before the sector can become mature.

Nanjing has a brilliant performance in technological progress, facilitated by its eminent education and scientific research sectors. The government spent RMB 16.6 billion in these two areas in 2013, which accounted for 19.51 % of the general budgetary expenditure (Nanjing Municipal Statistics Bureau 2014). Compared with other prefecture-level cities in Jiangsu, Nanjing got the largest number of students (1.41 million in 2013),[4] 57.22 % of them were post-secondary school students, which was the largest in Jiangsu (the share of post-secondary school students in

[3]The figure of petrochemical here is the sum of "raw chemical materials and chemical products" and "processing of petroleum, coking and processing of nuclear fuel".

[4]The figure excluded the students of adult and secondary technical schools and kindergartens.

Table 7.2 GOVI of selected prefecture-level cities in Jiangsu, 2013 (Reproduced from Statistical Bureau of respective cities 2014)

City	Nanjing	Yangzhou	Zhenjiang	Suzhou	Wuxi	Changzhou
Total GOVI (RMB billion)	1256.31	849.94	717.88	3027.63	1487.63	1006.79
Light industry (%)	20.35	22.92	17.34	26.06	23.75	21.01
Heavy industry (%)	79.65	77.08	82.66	73.94	76.25	78.99
By scale of enterprises						
Large (%)	47.63	33.06	29.36	54.45	44.02	36.03
Medium (%)	22.58	31.88	35.63	19.75	23.13	22.96
Small (%)	29.79[a]	34.91	34.70	24.96	32.37	40.64
Mini (%)		0.15	0.31	0.84	0.49	0.37
Five largest industries						
1st	Telecom and computer	Electrical equipment	Raw chem	Telecom and computer	Electrical equipment	Electrical equipment
Share (%)	17.03	18.94	18.43	32.59	14.16	19.15
2nd	Raw chem	Raw chem	Electrical equipment	Ferrous metals	Ferrous metals	Ferrous metals
Share (%)	14.28	12.14	17.94	9.45	13.57	15.60
3rd	Automobile	Automobile	General equipment	Electrical equipment	Telecom and computer	Raw chem
Share (%)	12.73	8.56	5.30	8.12	10.84	14.83
4th	Petroleum	Measuring instruments	Non-metal	General equipment	Raw chem	Special equipment
Share (%)	8.63	6.01	4.96	6.13	8.54	5.89
5th	Ferrous metals	Transport	Telecom and computer	Raw chem	Non-ferrous metals	Metal products
Share (%)	6.20	5.83	4.75	5.63	8.37	5.37

Abbreviations: *Automobile* automobile manufacturing, *Electrical equipment* Electrical equipment and machinery manufacturing, *Ferrous metals* Smelting and pressing of ferrous metals, *General equipment* General equipment manufacturing, *Measuring instruments* Measuring instruments manufacturing, *Non-ferrous metals* Smelting and pressing of non-ferrous metals, *Non-metal* Non-metallic mineral products manufacturing, *Petroleum* Processing of petroleum, coking and processing of nuclear fuel, *Raw chem* Raw chemical materials and chemical products, *Special equipment* Special purposes equipment manufacturing, *Telecom and computer* Telecommunications equipment, computer and other electronic equipment manufacturing, *Transport* Railways, ships, aerospace and other transportation equipment manufacturing

Note [a]The value includes mini-enterprises

other cities ranged from 2.54 to 24.45 %), reflecting well developed higher education in Nanjing (Jiangsu Provincial Bureau of Statistics 2014). There are 61 higher education institutes in Nanjing (Nanjing Municipal Statistics Bureau 2014) and Nanjing University is among the top 10 universities in mainland China, according to four different rankings.[5] Concerning R&D, Nanjing was ranked third, only after Shenzhen and Hangzhou among all cities in China in terms of the number of patents granted in 2014, while Jiangsu was ranked third among all provinces (State Intellectual Property Office 2015a, b).

The increases in population and economic activities have led to urban expansion. The urbanized area increased from 128 sq km in 1979 to 460 sq km in 2003, and 2000–2003 was the period with the largest average annual increase of 48 sq km/year (Xu et al. 2007). The urbanized area further increased to 708 sq km in 2013, accounted for 10.75 % of the land territory of the city (Organization of Urban Socio-Economic Survey 2014). Unlike other fast growing cities, Nanjing's urban growth takes a compact form and the traditional urban core remains the dominant, which can be explained by the positive correlation of the distance to major city centre and the density of land conversion (Luo and Wei 2009). According to Xu and his colleagues' observation, infilling, edge-expansion, and spontaneous growth are the three major types of urban growth in Nanjing, and edge-expansion is the primary type (Xu et al. 2007). These two studies also identified the following patterns of urban expansion. The closer to the urban fringe, the larger the area of development is (Xu et al. 2007) and "the larger and more concentrated development is related to development zones" such as Jiangning Economic and Technological Development Zone (ETDZ), Nanjing ETDZ, and Nanjing High-tech District (Luo and Wei 2009, p. 55). However, Nanjing is not free from land use and spatial problems such as chaotic land use, large spatial variation of urban development level between the urban core and other districts, and the destructive construction at the cost of the cultural and historical assets of the city (Xu et al. 2007; Zhang 2011).

7.3 Major Development Strategies and Plans

This section introduces the major socio-economic and urban and regional development strategies and measures of Nanjing based on five key development plans. They are the *Nanjing Metropolitan Circle Planning* proposed in 2002, the *Public Consultation of Nanjing Urban Master Planning (2007–2030) (Draft)* released in 2009, the *Yangtze River Delta Regional Planning* promulgated in 2010, the *Twelfth Socio-economic Development Five-year Plan of Jiangsu Province* and the *Twelfth Socio-economic Development Five-year Plan of Nanjing Municipality* that went public in 2011.

[5]For the details of these four different rankings, please see http://www.education18.com/ranking/world_ranking_china.html (in Chinese).

7.3.1 City Positioning and Goals of Development

Among all city brands of Nanjing, "a famous historic and cultural city" and "a universal care city" (*boai zhidu*) are the two most well-known and acknowledged. The former brand infallibly states the history and culture of the ancient capital for ten dynasties. The latter one, on the other hand, reveals the characteristics of Nanjing people explicitly. It is usually associated with Dr. Sun Yat-sen and the word *boai* on the entrance gate of his mausoleum in Nanjing (Fig. 7.4). In the *YRD Regional Planning*, the city has been designated as a sub-centre along with Hangzhou (National Development and Reform Commission 2010), and the city is going to position itself as a national comprehensive transport hub, a national innovation base, a regional modern service centre, a YRD advanced manufacturing base, and a river-side eco-livable city (Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009).

Two major goals of development can be summarized in terms of spatial and industrial development. Geographically, the city aims to expand the hinterland by playing a leading role in the regional development on the one hand, and help spread the influence of the YRD region to central and western China by performing as an YRD gateway on the other hand. Economically, the city endeavours to upgrade its industry and is nurturing the modern services and high-tech manufacturing as the key sectors (Jiangsu Provincial Government 2011; National Development and Reform Commission 2010). Policies in land use, R&D, education, and so on will help realize above goals. Table 7.3 presents the projected figures of selected socio-economic indicators. The table also shows the expected change of the economic structure and the estimated contribution of science and technology to Nanjing's economy.

7.3.2 Economic Development

After years of development, Nanjing now has a relatively mature economy in China. The level of industrialization is evolving from the middle stage to the later stage (Fig. 7.5).[6] The city continues to place high value on modern services and tries to foster the development of producer services like financial services, logistics, creative culture and business services, consumer services like tourism and real estate, and personal services like medical service, health and gymnasium (Jiangsu Provincial Government 2011; Nanjing Municipal Government 2011; National Development and Reform Commission 2010). Nanjing emphasizes regional, even

[6]Nanjing's per capita GDP in 2013 was about US$ 15,825 (average exchange rate was US$ 1 = RMB 6.1932), which was above the US$ 15,000 threshold indicating the stepping into the later stage of industrialization with the shift of dominating industrial activities from manufacturing and service industries to service industries (Liang et al. 2008, p. 277).

Fig. 7.4 The word "*boai*" in the entrance gate of Dr. Sun's mausoleum (taken by the authors in 2007)

national, leadership and regional cooperation in the development of these industries.

For both the secondary and primary sectors, the emphases are on high-end and large-scale development. The former one refers to the emphases on R&D, the application of high technology, and the high value-added industries. The latter one reveals the intention of developing mega manufacturing projects and the industrialization of agriculture activities. Nanjing has very strong heavy industries, which can support the advancement of manufacturing in following three categories of industries: the rising industries of the new materials and railway; the pillar industries of petrochemical, steel, and car manufacturing; and the traditional industries of shipping. Innovation is the core of advancement. The establishment of IT, equipment manufacturing and petrochemical R&D centres can help knowledge transfer. Indeed, the achievement of Nanjing has been recognized. The Ministry of Industry and Information Technology granted Nanjing the title of "a famous software city in China" in 2010. Nanjing was the first city to receive this honour. The city also values the growth of the Nanjing market and supports the development of private enterprises, small and medium enterprises in particular, and further opening the local market to attract inward investment and international cooperation (Nanjing Municipal Government 2011; National Development and Reform Commission 2010).

Table 7.3 Selected major socio-economic indicators of Nanjing's 12th FYP (Reproduced from Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009; Nanjing Municipal Government 2011)

Category	Indicators	Year 2010 estimated	Year 2015 projected
Economic development	GDP (RMB billion)	501	>1000
	Per capital GDP (based on permanent residents, RMB thousand)	64	About 110
	Share of the value-added of services sector in GDP (%)	50.7	>56
	Share of high-tech sector value in GOVI above designated scale (%)	38.2	50
	Urbanization level (%)	77.6	83
	Shares of three industrial sectors	2.8:46.5:50.7	1.9:47.1:51.0
Technology and innovation	Share of R&D expenditure in GDP in the whole city (%)	Around 3	4.5
	Share of human resource investment in GDP (%)	14.4	16.8
	Number of patent applications granted per 10 billion GDP (piece)	183	350
	Contribution rate of technical progress (%)	55	60
Public services	Share of urban and rural public services expenditure in total budgetary expenditure (%)	65	68
	Coverage rate of urban and rural general social security (%)	98.5	>99
	Information technology index (score)	81	86
	New floor area of low-incoming housing (10,000 sq m)	300	(2000)
Livelihood	Urban households per capita annual disposable income (RMB)	28,312	>50,000
	Per capita net income of rural households (RMB)	11,128	>22,000
	Urban unemployment rate (%)	2.58	<4
Population, resources and environment	Natural population growth rate (‰)	Around 2	<3
	Decrease of energy consumption per unit GDP (%)	>(20)	(20)
	Decrease of CO_2 emission per unit GDP (%)	–	Provincial assigned target
	Overall environmental quality index (score)	Around 84	>88
	The area of cultivated land (hectare)	241,604	Provincial target

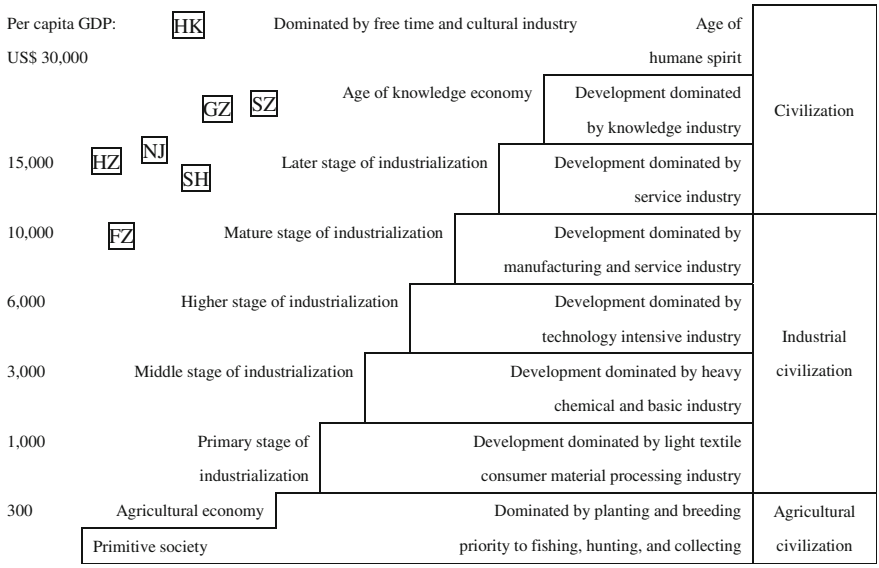

Fig. 7.5 Stages of economic and social development of Nanjing and other coastal cities in 2013 (Reproduced based on Liang et al. 2008, p.277). *Note* per capita GDP of each city in 2013. HK: Hong Kong US$ 38,136; SZ: Shenzhen US$ 22,112; GZ: Guangzhou US$ 19,264; NJ: Nanjing US$ 15,825; HZ: Hangzhou US$ 15,269; SH: Shanghai US$ 14,547; FZ: Fuzhou US$ 10,341

7.3.3 Land Use and Transportation Infrastructure

Nanjing uses two major strategies of functional zoning and urban–rural integrated development to tackle the problems of disordered land use, urban–rural gap of development, and so on. First, the whole city will be divided into three functional zones for optimization, key developments, and ecological protection, respectively. Second, the comprehensive planning and integrated infrastructure development in both the urban and rural areas are emphasized. New towns and communities will also be built on this basis (Nanjing Municipal Government 2011).

Development zones and industrial parks are and will be the key economic land use pattern in Nanjing, aiming for better spatial concentration of different industries in scale and in quality. For the service sector, the city will build the West River Financial Centre, a new CBD for its financial industries. There are also development zones and industrial parks in each district for manufacturing industries such as petrochemical and software (Jiangsu Provincial Government 2011; Nanjing Municipal Government 2011). The Qilin Science, Technology and Innovation Park in Jiangning District, started the construction in early 2011, will be the "cloud valley" leading the knowledge economy development of Nanjing; while the software valley in Yuhuatai District has already attracted major IT enterprises like IBM, Dell, and Huawei ("Dakai Zhongguo (Nanjing) Ruanjiangu de 'caifu mima'" 2011; "Qilin keji chuangxinyuan hengkong chushi" 2011). The Nanjing Eco-tech Island

on Jiangxinzhou Island is a Sino-Singaporean collaboration project. They will build a livable and smart community integrating conservation, ecological education, leisure, and eco-related modern services (Nanjing Urban Planning Bureau 2011).

All development zones will be served with improving transportation networks. Nanjing emphasizes the interchange of different local and regional transportation modes in the infrastructure building in order to consolidate its national comprehensive transportation hub status. There are different expansion projects for each individual mode. For example, a giant Nanjing South Railway Station with 28 platforms has been built for serving eight national high-speed railway lines ("Nanjing huiju bada gaotiexian, jiangcheng Changsanjiao menhu" 2011), with interchange to local road transport. Since 2005 when the first urban metro line came into operation, five more lines and extension of the first line were completed and in use from 2010 to 2015 and more are coming. Nanjing Lukou International Airport was expanded to a capacity of 25 million passenger times by 2015, and the Nanjing Port will be upgraded to the seaport level (Jiangsu Provincial Government 2011; Nanjing Municipal Government 2011). All these projects should provide Nanjing good infrastructure to help establish the city as a modern and comprehensive logistics centre to better serve the northern YRD region and nearby areas (National Development and Reform Commission 2010).

7.3.4 Regional Development

All the development plans, especially the *YRD Regional Planning*, stress the importance of regional cooperation in industrial and urban development. The leading role of Nanjing, such as being the modern services centre in northern YRD, has been clearly recognized, and tourism is a pioneering industry to initiate regional cooperation. According to the *YRD Regional Planning*, Nanjing, along with Suzhou, Wuxi, Hangzhou, and Ningbo have been specified as the five nodes of regional tourism with different suggested modes of tourism such as industrial tourism, leisure tourism, and cultural tourism. The corridor from Nanjing to Shanghai (*see* Fig. 5.4) has also been identified as a Yangtze River tourism corridor (National Development and Reform Commission 2010). In addition, to facilitate the development of logistics and manufacturing industries, and to encourage industrial upgrading, Nanjing is going to strengthen the connection to Shanghai in every sector and segment, and to provide the regional customs services (National Development and Reform Commission 2010).

Regional integration is a way to raise Nanjing's city status and expand its hinterland. Nanjing-Zhenjiang-Yangzhou Science and Innovation Cooperation Region, Nanjing Metropolitan Circle (Fig. 7.6) and the YRD region are the main carriers (Nanjing Municipal Government 2011). The fields of cooperation of the Nanjing-Zhenjiang-Yangzhou region include transportation, land development, social and public management, joint innovation, and science and technology development. Moreover, with Nanjing as the core, three circles of regional

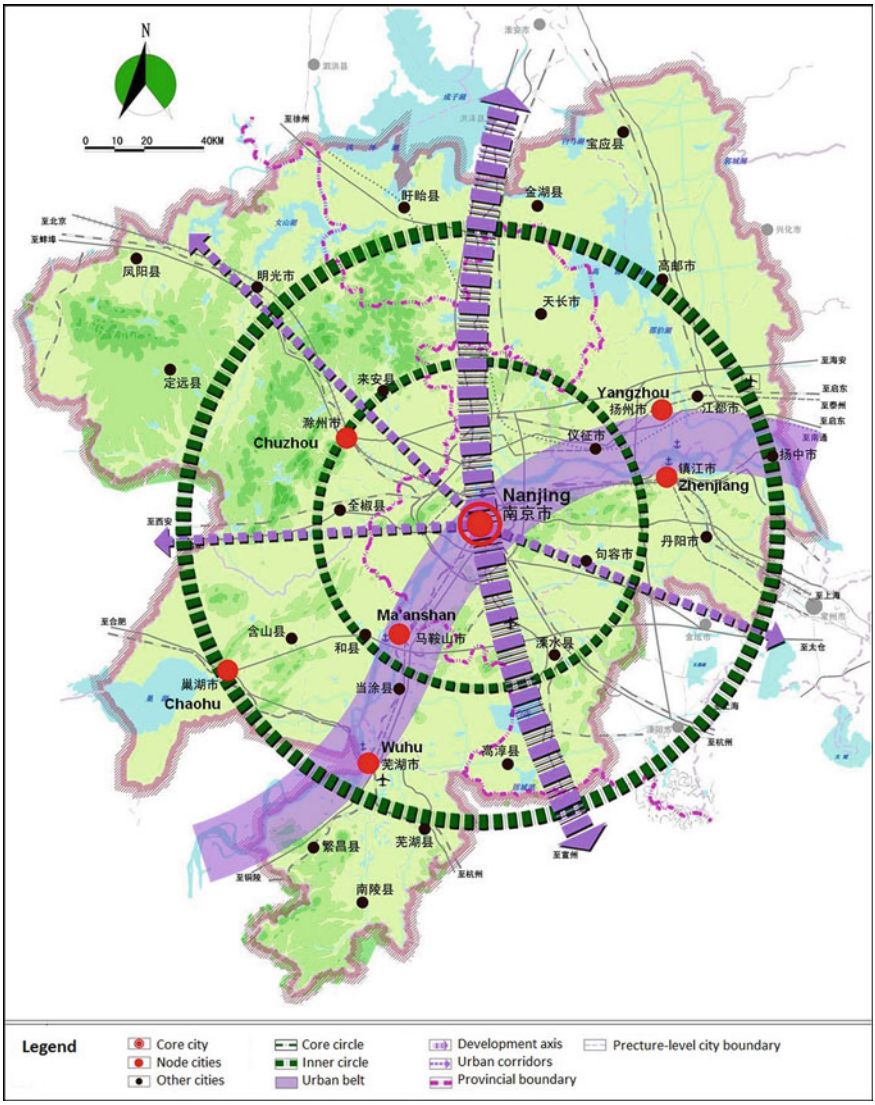

Fig. 7.6 Nanjing Metropolitan Circle (Reproduced based on Nanjing Municipal Government 2002). *Remarks* The map indicates that Nanjing is the core city while Yangzhou, Zhenjiang, Chuzhou, Ma'anshan, Wuhu, and Chaohu are the node cities. This Nanjing Metropolitan Circle (2002) is similar to the Nanjing Metropolitan Inner Circle (2009)

cooperation have been and will be established. From the smallest to the largest, they are Nanjing Metropolitan Inner Circle (about 21,000 sq km in size), Nanjing Metropolitan Circle (55,000 sq km), and Nanjing-Hefei-Nanchang Alliance Circle (231,000 sq km). Nanjing Metropolitan Inner Circle is a concept released in 2009,

which is close to the original Nanjing Metropolitan Circle development in 2002. A one-hour transportation circle is expected to be built for the Nanjing Metropolitan Inner Circle, in order to facilitate the realization of city integration. For the (new) Nanjing Metropolitan Circle, the emphases are on the integration and coordinated development of various industrial sectors, urban system, infrastructure, and the ecological environment (Nanjing Municipal Government 2002, 2011; Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009).

Another key measure that has been used by Nanjing is the organization of mega international events, which is a way to spotlight the city, help gain potential benefits, and open up to further trade and liberalization (Rose and Spiegel 2010; Zimbalist 2010). It is not uncommon in China. Many international sports events (Beijing's Olympics 2008; Guangzhou's Asian Games 2010; Shenzhen's Universiade 2011), general exposition (Shanghai's World Expo 2010), flora exposition (Kunming 1999) and conferences (Boao Forum in Hainan and Nanning's China-ASEAN Expo) were already organized. Nanjing was the host of the 2013 Asian Youth Games and the 2014 Youth Olympics Games. Not only the city can promote itself to get a worldwide recognition through these chances, but also these two Games can speed up the development of Nanjing as a modernized international city.

7.3.5 Heritage and Culture Conservation

For the time being, the urban landscape of Nanjing cannot demonstrate its brand of a famous historical and cultural city very well. The development plans attempt to coordinate conservation and sustainable use of heritages to contribute to Nanjing's development (Figs. 7.7 and 7.8). Nanjing emphasizes the importance of scientific conservation. Advanced technologies will be adopted to protect the heritage. The authority will carry out the work systematically, from counting and gathering the details of assets to classifying and selecting specific ways of protection. Another change of the approach is about the scale of conservation. Instead of an individual construction, integrity is now emphasized. Conservation covers a whole piece of land including the heritage itself and the surrounding natural landscape. The principal task is to revitalize the ancient urban landscape, texture and pattern, and the original culture.

The mindset of handling the heritage has also been changed. Rather than freezing them, making good use of the rich resources is the best way of protection. The authority has already turned some heritage sites to museums and relic parks. Through all these measures, the authority tries to re-produce a historical and cultural Nanjing, and positions the city as a key Chinese culture hub with significant global impact (Nanjing Municipal Government, 2011; Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009).

Fig. 7.7 The scenic belt of old Nanjing along the Qinhuai River (taken by authors in December 2013)

Fig. 7.8 The 1912 district with buildings in the era of the Republic of China in Nanjing (taken by authors in December 2013)

7.4 SWOT of Nanjing

SWOT analysis is a popular method used by enterprises to evaluate the strengths, weaknesses, opportunities, and threats involved in a business venture and identify suitable marketing strategies to follow (Hollensen 2010, p. 238). Similar to the case of positioning, SWOT analysis is adoptable to a city for carrying out a comprehensive analysis before making or modifying any strategic planning. The previous sections have already introduced the present status, the goals of development and city positioning of Nanjing, this section is going to evaluate the SWOT of the city under such background.

7.4.1 Strengths

Nanjing possesses a favourable political–economic foundation. Compared with other provincial capitals and prefecture-level cities, Nanjing has a relatively high level of development in terms of the stage of industrialization, economic productivity, the livelihood of people, and so on. The higher political status is also an advantage to obtain extra preferential policies from the central or provincial governments for its socio-economic and spatial development, and the power to tailor-make own strategies. The recent regional development plans are great treats for Nanjing. Accordingly, it can play the role of a core city and a sub-centre of the YRD region to enhance its links to the neighbouring cities and the agglomeration capacity of production factors.

The city has rich historical assets and cultural base. Although Nanjing's previous efforts and result in conserving the heritage and drawing development plans have been doubted, the city can try again to make good use of the physical heritage and intangible culture to carry out innovation and conservation, with the introduction of latest relevant policies. Nanjing is also a strong base of (tertiary) education and R&D, the aggressive strategies should be able to help advance the level of science and technology and establish itself unique branding and position to further attract talents and capital. It is also possible to combine the unique historical and cultural assets, modern culture and innovation, and advanced technologies to create Nanjing's own soft power. The rising level of science and technology can then further boost the development of its manufacturing activities (heavy industry).

Nanjing's favourable location is also an advantage. The city is the intersection of both the north-south corridor and the east-west corridor, at both the Pan-YRD and national scales. It already has a strong foundation of transportation infrastructure. There are comprehensive development plans in the railway services (the new railway station), aviation services (the busiest airport in Jiangsu in terms of both the passenger and goods throughputs, and only after Shanghai and Hangzhou in the YRD region; Civil Aviation Administration of China 2011), road, and river transport services (a major node in Jiangsu and the YRD region), which makes

Nanjing a major gateway to accommodate larger flows of people and other factors of production.

7.4.2 Weaknesses

Nanjing is yet to function maturely as a provincial capital. Its level of economic development does not match its primate political status (Zhang 2011). Internally, the city suffers from the problems of fragmented and extensive land use for various economic activities, poor zoning and land use planning, and duplication of functions or economic activities among urban districts. These problems lead to low land use efficiency and productivity, and the large urban–rural gap of development level (He 2009; Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009; Zhang 2011).[7] Externally, the gaps (such as absolute value in GDP) with Shanghai and Suzhou are enlarging (Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009).[8] Its urban competitiveness in China was ranked 13th overall, behind YRD cities of Shanghai, Suzhou, and Wuxi in 2014 (Ni et al. 2015).

Nanjing has also missed some opportunities to position itself well. The previous shilly-shally positioning failed to establish a clear and strong city image. The inconstant industrial development strategies failed to provide Nanjing a significant or irreplaceable role in the Chinese and global production chains (Zhang 2011). In addition, the city has wasted its spatial advantage. The Nanjing Port is an example. Its advantageous location once led to the rise of the port. But the failure in responding to the changing circumstances and re-positioning the port, and uncompetitive strategies cost the prestige status of the port and resulted in the decline in the late 1990s (Liu 2011; Shao 2009). From the perspective of running the city as an enterprise, Nanjing was unable to make itself the most attractive city within Jiangsu, especially to those manufacturing and export-oriented foreign investors.[9]

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[7]For example, economic activities are over-concentrated in the CBD—south of the Yangtze River, leave north of the River (*Jiangbei*) under-developed. As a result, there is a large gap of development level between the north and the south. Such large differences of development between urban and rural, among districts, and between north and south (of the River) are detrimental to the comprehensive development of the city (Nanjing Municipal Government 2011; Office of the Nanjing Municipal Government Urban Master Planning Work Group 2009).

[8]For example, the difference to Suzhou expanded from about RMB 47 billion in 2000 to about RMB 500 billion in 2013, *see* Table 5.3 (Nanjing Municipal Statistics Bureau, 2014; Suzhou Municipal Statistical Bureau, 2014).

[9]Nanjing's utilized FDI accounted for about 12 % of Jiangsu only in 2013. Over 52 % of FDI to Jiangsu invested in manufacturing industries, but it is opposite in Nanjing. The secondary sector got a share of about 36 % only, while the tertiary sector occupied the remaining 64 % of FDI to Nanjing (Jiangsu Provincial Bureau of Statistics, 2014; Nanjing Municipal Statistics Bureau, 2014).

7.4.3 Opportunities

There is an opportunity to lift the economy. Although the global economy is fluctuating, the trend of industrial shift from advanced economies to developing economies continues. China has an expanding and huge market. There is increasing attractiveness to foreign enterprises to invest their capital and technologies to this market, which can create ample opportunities for Nanjing to gain a share. Moreover, the domestic consumption market is getting bigger and the central and western China is an emerging market. They can provide extra opportunities to Nanjing.

There is also an opportunity for better regional integration and the development of network economy. A series of strategic planning works allow Nanjing to play a greater role and position the city better in Jiangsu, the YRD region, and the Nanjing Metropolitan Circle. Nanjing should capitalize on these regional frameworks to strengthen the regional transportation and other social infrastructure, and more importantly, to realize the optimal regional division of labour. Nanjing's economic strategies on selected high-end manufacturing and modern services sectors, along with regional coordination, may allow the city to play a clear role and position in the global and national production chains.

Beijing's support and the two international sports games are two welcoming external forces. The approval of the *YRD Regional Planning* can be considered as an indirect support of the central government to cities in YRD including Nanjing. The regional economic and political status of Nanjing can be reaffirmed if there is national support for the Nanjing Metropolitan Circle. Meanwhile, hosting the Asian Youth Games in 2013 and the Youth Olympic Games in 2014 were a useful catalyst to regional interaction and coordination similar to the case of Shanghai's World Expo, as well as improving the urban landscape, raising the urban management level, and building a better international image.

7.4.4 Threats

There is increasing competition for the high-end factors of production and resources. Other coastal (YRD) cities have even stronger competitiveness while the rising central and western Chinese cities have better comparative cost advantage over Nanjing. If Nanjing fails to identify significant comparative advantage, and fails to get rid of the undifferentiated mentality in positioning the city and choosing pillar industries (Zhang 2011), the problem of unnecessary and vicious competitions in the region is unavoidable. This is not a sustainable manner of development for Nanjing and is a major threat to the city.

A giant Shanghai can be a threat to Nanjing. The improving regional transportation infrastructure and the networking economy allow Shanghai, the dragonhead of YRD, to have stronger influence over the YRD and Yangtze River Basin

region, including Nanjing and its hinterland, if Nanjing fails to respond effectively. Moreover, although Nanjing has been granted the role of a leading city in different regional development frameworks, one key step is to enhance the interaction with the highly autonomous prefecture-level cities involved. These cities do show their willingness in regional infrastructure development. However, there are many hurdles to overcome to integrate factors of production and allocate resources under the leadership of Nanjing, which involve enormous local interests and the (cross-boundary) administrative barriers.

Threats also come from the city itself. The most critical challenge is the brand of "famous historic and cultural city". Although there are still age-old temples, city walls and other historical constructions of the Ming dynasty in Nanjing, many more have disappeared already. Compared with the European historical cities that are full of historical buildings and cultural heritage, it is extremely hard to find a complete set of constructions with over 1000 years of history in Nanjing, not to say to experience the ancient capital of ten dynasties from the present urban landscape. The tragedy of city devastation in the war times is no doubt a reason, but the obsession about destruction for construction is a critical factor. It is about the approach of urban development. A reciprocal relationship between such approach and the plans of heritage conservation is not easy to reach (Cui 2007; Hu 2008; Zhang 2011; *see also* "Nanjing laochengnan chaigai zhi zheng" 2009).

7.5 Discussion: To Nurture Real Strengths for Unique Positioning

Table 7.4 summarized the positioning, development strategies, and SWOT of Nanjing. Further to above studies, we should pay extra attention to the linkages among the positioning, development strategies, and SWOT of Nanjing. For example, "historic and cultural city" is still the most solid brand of Nanjing. The strategies of present plans, such as the *Urban Master Plan (2007–2030)*, do emphasize different ways of heritage conservation. However, concrete ways are needed to integrate heritage conservation with the economic and urban development. Similarly, the brand of "a universal care city" is not substantial and is no more than a slogan at present although it has the traditional value and deep Chinese culture. Practical works must be carried out to let people experience the spirit of "a universal care city" and know well about the linkage between this brand and Nanjing.

Nanjing has positioned to be *the centre of this* or *the hub of that*. However, China is riddled with *regional centres* and *national hubs*. A relevant example is that Beijing and Shenzhen are also the major centres of innovation and high-tech development, Nanjing has no absolute advantage in this area. The uniqueness of *centre* and *hub* is not significant and Nanjing is just an insignificant one in the *centre/ hub* sea. On the other hand, *livable city* is an ideal concept that everyone

Table 7.4 Summary of Nanjing's positioning, development strategies and SWOT

Brand and positioning	• A famous historic and cultural city, and a universal care city • Regional/national status: national comprehensive transport hub, national innovation base, regional modern service centre, YRD advanced manufacturing base, national class innovative city, regional centre of science and innovation, and YRD gateway to middle and western China • River-side eco-livable city
Goals of development	• Hinterland expansion • Industrial and economic advancement
Socio-economic plans	• Economy: nurturing the advanced manufacturing and modern services • Secondary and primary sectors: high-end (high technology, R&D, high value-added) and large scale (mega manufacturing projects, industrialization of agriculture)
Spatial and regional development plans	• Functional zones, urban–rural integrated development • Development zones and industrial parks for different industrial activities • Comprehensive transportation infrastructure development • Regional development: Nanjing-Zhenjiang-Yangzhou, Nanjing Metropolitan Circle, YRD; regional cooperation and coordination in the international sports events • Heritage conservation

	Strengths	Weaknesses	Opportunities	Threats
SWOT	• Relatively higher level of development and capacity; higher stage of industrialization; higher political status • Rich historical and cultural assets • Strong base of tertiary education and R&D • Intersection of corridors • Improving regional transportation infrastructure	• Short on agglomeration capacity • Various land use problems • Large urban–rural development gap • Unclear city image and lack of irreplaceable role in the production chain • Waste of spatial advantage	• Opportunities from the global economic development and industrial shift, the rise of Chinese domestic market • Implementation of regional integration plans and network economy • Assigned core role of regional development • Organization of two mega sports events	• Increasing competition for high-end factors of production and resources • Undifferentiated mentality in positioning the city and choosing industrial activities • Stronger influence of Shanghai • The willingness of other cities in integrating factors of production • The administrative barriers • Internal threats such as the approach of urban development

yearns for, but it is absolutely not a brand that can make one city to stand out sharply in China. According to the planning documents of Nanjing's neighbours such as Zhenjiang, Yangzhou, Ma'anshan, and Chuzhou, their city positioning, characters, and functions can be generalized as *the central city of a region or an industry*, *an eco-city*, *a mountain-water-garden city*, *a river-side or historic and cultural city*, and so on. They are highly similar to that of Nanjing. It is clear that there is room and common ground for cooperation, but also direct competition. Nanjing does not stand out as a *livable city*.

Then, what is the real strength of Nanjing? The number of patents or the construction of mega infrastructure is never a long-lasting strength. Among others, Nanjing has rich, unique, and valuable history and culture. The city also has a strong foundation of education and innovation. These two are the irreplaceable factors supporting the city brand and the sustainable development of the city. The only concern is to make good use of them. Culture and knowledge are therefore the real strengths of Nanjing. In brief, Nanjing's history and its "universal care" have established its long-lasting culture, which can interact with the contemporary culture and knowledge. Both traditional and modern culture and knowledge are the advantages that support the development and advancement of certain manufacturing and service sectors in Nanjing.

How to consolidate the foundations of these advantages? A suitable institutional environment is needed. For culture, the major framework should be to conserve, to make systematic arrangements, and to make good use of both the traditional and modern cultures. For knowledge, effective ways of developing and delivering knowledge are needed. There should be ample input of resources and a favourable environment such as research funding and academic freedom to build up the academic and R&D atmosphere before establishing an even stronger base of knowledge and talents.

It is therefore not just the science subjects, arts, history, philosophy, and so forth are also key subjects to constitute an all-round knowledge-based society. Knowledge transfer is another crucial factor, in which the involvement and collaboration of the government, business sectors, academic sectors, and the civil society are important. The software industry, biomedical industry, transportation equipment industry, and financial industry are the examples that can benefit much from the joint R&D and innovation achievement. These two frames can help Nanjing consolidate the brand of "historic and cultural city" with a unique positioning of the "hub of culture and wisdom", which can demonstrate the individuality of Nanjing and facilitate the economic and regional development.

The positioning of "hub of culture and wisdom" implies that Nanjing should forgo the traditional industrial activities and the old ways of development, and adopt the sustainable ways. For industrial development, Nanjing should head straight to high-tech, advanced manufacturing, and modern services, which must make good use of its rich historical and cultural assets and the achievements of R&D. It is also the way to advance the level and quality of different factors of production, and further attract capital, state-of-the-art technologies and knowledge, in order to allow Nanjing to gain a higher comparative advantage. Such moves need

the support of appropriate spatial arrangements. The smaller scale is the local land use planning and other policies. The larger scale will be the currently weak regional integration of factors of production and division of labour, and the adjustment of (key) industrial activities, through both the Shanghai-Nanjing interaction and the Nanjing Metropolitan Circle development. It is a way to achieve economies of scale and increase agglomeration regionally. Then Nanjing can climb up to a higher end of the production chain in the region and consolidate its regional leadership through stronger agglomeration and playing as a mediator of factors of production in the region. However, before such vision is achieved, there must be a real breakthrough in cross-boundary planning and administrative policies among all governments involved. Nanjing government must also dare to make changes such as phasing out the low-end and polluting manufacturing industries. Pollution and the sizable heavy industry bring no benefit to a green and livable city.

7.6 Conclusion

City positioning is now a popular strategic measure to raise the competitiveness of a city in the globalizing economy, and there is no exception for Chinese cities including Nanjing. A successful positioning should be an unequivocal one displaying the individuality of a city, and easy to remember. Some Chinese cities, however, have proposed unreasonable and unrealistic positioning due to their poor understanding of the background and characteristics of the city. Their endeavours are unable to raise the urban competitiveness to the expected level but have led to vicious competition.

Nanjing is an economic and political centre in Jiangsu and the YRD region. It has rich history and culture, and an outstanding level of education and R&D in the region. However, Nanjing once suffered from the common problems of branding and positioning like many Chinese cities. The shilly-shally positioning led to the slow urban and economic development. In recent years, the central, provincial, and municipal governments have launched different development strategies. Five major plans have been studied in this chapter and they are compared with the strengths and weaknesses of, and opportunities and threats to Nanjing. Nanjing is going to make greater effort on high-tech and advanced manufacturing, and modern service sectors. The city is going to become a comprehensive transportation hub in the Nanjing Metropolitan Circle and the YRD region. However, there is no short of weaknesses and challenges, such as the weak agglomeration capacity, possible regional competition in similar industries, and low level of regional leadership and regional integration of factors of production, although significant progress can be found such as infrastructure development.

The real strengths of Nanjing are culture and wisdom. Systematic and scientific frames are needed to help empower Nanjing's culture and wisdom. The key is to find ways to better inject these strengths into the economic and geographical development. The R&D and application of knowledge in industrial activities can

help gain a higher comparative advantage in factors of production and attract further inflow of investment, technologies, and knowledge, while the better regional division of labour and integration of factors of production can make Nanjing a mediator to consolidate its regional leadership. It is the same to the conservation, the innovation, the application in various industries, and the regional strategies of Nanjing's valuable history and culture. "The hub of culture and wisdom" can then be a unique positioning of Nanjing with high individuality. It can display the indigenous value of the city, which is easy to understand and hardly to be replaced. The "customers" will also feel attractive to this positioning and Nanjing's culture, history, and knowledge. An image will be created so that, if any related high-end activities (manufacturing or service) will take place in the region, it will take place in Nanjing.

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Chapter 8
Hong Kong: Challenges and Responses of Logistics Industry

8.1 The Rise and Transformation of the Hong Kong Economy

Even though Hong Kong was a British colony before 1997, as an economically advanced city located in South China coastal area, it has been playing a crucial and irreplaceable role in helping the economic development and modernization processes of the Pearl River Delta (PRD) region and subsequently the whole China since the late 1970s. Hong Kong has acted well as a gateway and a middleman for the emerging Chinese market which is supported by Hong Kong's logistics industry and the port. Regionally, Hong Kong has established a close socio-economic relationship with PRD cities in the process of economic integration in the region. Locally, Hong Kong has transformed its economic structure from an industrial-based economy to a service-based economy by moving its manufacturing activities to the PRD region and offering financial, professional management, and other services. Hong Kong has successfully transformed into a major international financial centre (Figs. 8.1 and 8.2) and maritime centre. As a result, both the logistics industry and the container port in Hong Kong have experienced a period of rapid growth. However, there are also hidden challenges.

The close connection with mainland China in Hong Kong's development can be understood in multiple dimensions. Population is one example. Hong Kong is a densely populated city. Its population rose from about five million in the 1980s to over seven million in the 2010s (Table 8.1). There are two major contributing

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Fig. 8.1 Victoria Harbour and the CBD of Hong Kong—the skyline of the international financial centre at night with the show "A Symphony of Lights" (taken by the authors in January 2014)

factors of population growth, which are new born babies and migrants. Hong Kong had a declining trend of births from the 1980s to the early 2000s which was replaced by an upward trend until 2012. Most of the additional births in this uprising period were believed to be delivered by non-local (mainly from mainland China) pregnant women whose husbands were also not Hong Kong permanent residents. The key catalyst of this affair was the decision of Hong Kong Court of Final Appeal in 2001 which clarified that Chinese citizens born in Hong Kong had the right of abode even if their parents were not Hong Kong permanent residents. This encouraged mainland Chinese parents to come to Hong Kong to give birth so that their babies would become the Hong Kong permanent residents. They were further facilitated by the arrangement of the individual visitor scheme for mainland Chinese in 2003 to come to Hong Kong in an easier way. This caused much instant pressure on the hospitals in Hong Kong, and the subsequent demands of schooling, medical services, social security, and so on.

The situation started to change in 2012 when the Hong Kong Special Administrative Region (SAR) Chief Executive-elect Mr. C.Y. Leung announced the "zero quota policy" that was enforced from 1 January 2013 onwards. As an immediate result, the annual number of births dropped significantly from 82,000 to 95,000 in 2009–2012 to around 60,000 in 2013–2014 (Table 8.1).

Fig. 8.2 Victoria Harbour and the CBD of Hong Kong—view from the Peak during the day (taken by the authors in August 2007)

Table 8.1 Population change in Hong Kong, 1983–2014 (Reproduced from CSD 1993, 2003, 2015)

Indicator	1983	1990	2000	2010	2013	2014
Mid-year population	5,345,100	5,704,500	6,665,000	7,024,200	7,187,500	7,241,700
No. of births	83,293	67,731	28,273	88,584	57,084	62,305
Migrants from mainland China	n/a	n/a	57,530	42,624	45,031	40,496

As a migrant city, many Hong Kong residents have their origins in mainland China. There is a quota system limiting the daily number of migrants from mainland China. In the past few years, about 40,000–50,000 new mainland Chinese migrants came to Hong Kong annually. There are also other immigration schemes and arrangements for mainland professionals and students. On the one hand, they brought skills and capital to enrich the labour pool and investment pool of the city. On the other hand, conflicts between permanent residents and new mainland migrants have also emerged.

Besides population, Hong Kong also has intensive exchanges with mainland China in investment. Table 8.2 shows the direct inward and outward investment of

Table 8.2 Direct outward and inward investment of Hong Kong (Reproduced from CSD 2003, 2015)

Indicator	Direct outward investment			Direct inward investment		
	HK$ billion			HK$ billion		
	2000	2010	2013	2000	2010	2013
Mainland China (% of total)	361.2 (78.1 %)	289.5 (43.2 %)	396.9 (63.4 %)	110.7 (22.9 %)	288.2 (52.6 %)	46.6 (8.1 %)
Total of all countries/territories	462.6	670.1	626.5	482.6	548.0	576.2
DI assets (for outflow)/DI liabilities (for inflow)	n/a	764.6	646.3	n/a	642.6	596.1

Hong Kong. Although the direct investment inflow from mainland China was only HK$46.6 billion in 2013, which was a big drop from 2010, the figures in 2011 and 2012 were HK$318.1 billion and HK$232.7 billion, respectively indeed. In contrast, the inflow from British Virgin Islands (BVI) from 2010 to 2013 were HK $236.9 billion, HK$151.5 billion, HK$191.9 billion and HK$341.9 billion, respectively. BVI and mainland China are the two largest sources of Hong Kong's inward direct investment. BVI is well known as a tax haven and it is possible that the real investors behind are from mainland China and even Hong Kong. Moreover, Hong Kong is also a famous place for mainland Chinese investors to register new companies and raise capital. For direct outward investment, undoubtedly, mainland China is the key destination, and BVI is the second. Among all Chinese destinations, PRD is the most popular destination for Hong Kong investors and has received the largest amount of investment from Hong Kong.

While the inward direct investment contributed to the domestic economy, the outward direct investment, manufacturing activities in particular, to mainland China led to a direct structural change of Hong Kong's economy. Table 8.3 shows the GDP and economic structure of Hong Kong. Hong Kong's GDP rose from 1980 to 1997, and then experienced a period of ups and downs from 1998 to 2004 due to the financial crisis in Asia and other challenges. It was followed by another period of growth from 2005 onwards, except the drop in 2009 due to the global financial tsunami. Secondary industry and tertiary industry, however, did not grow at the same pace in the observational period. Secondary industry accounted for about one third of GDP in the early 1980s. Its contribution, however, dropped to about one fourth in the 1990s, one seventh in the 2000s, and one fourteenth in the 2010s. This reflects the strong dominance of tertiary industry and the severe shrinkage of secondary sector, especially the once vigorous manufacturing industry that most of them have moved to the PRD region. Trading, financial, and real estate services are the largest sectors in tertiary industry. This structure, however, is a fragile structure that is highly sensitive to the ever-changing global and regional environment and is a challenge to the Hong Kong economy and society.

Similar to the change of three industries' contribution to GDP, the employment ratios of three industries also changed substantially from the majority of the

Table 8.3 GDP by economic activity at current market prices and per capita GDP, 1983–2013 (Reproduced from CSD 1993, 2003, 2015, 2016)

Indicator	1983	1990	2000	2010	2013
Primary (HK$ million)[a]	1558 (0.8 %)	1642 (0.3 %)	1161 (0.1 %)	948 (0.1 %)	1225 (0.1 %)
Secondary (HK$ million)[a]	61,149 (31.5 %)	134,689 (25.1 %)	174,534 (14.2 %)	121,427 (7.1 %)	148,563 (7.1 %)
Tertiary (HK$ million)[a]	131,272 (67.7 %)	400,539 (74.6 %)	1,053,202 (85.7 %)	1,614,922 (93.0 %)	1,947,670 (92.9 %)
-trading (HK$ million)[b]	n/a	n/a	246,600 (19.22 %)	357,100 (20.55 %)	432,600 (20.62 %)
-logistics (HK$ million)[b]	n/a	n/a	56,100 (4.37 %)	82,500 (4.75 %)	67,900 (3.24 %)
Taxes on products (HK$ million)	8103	29,614	57,908	68,707	75,314
Statistical discrepancy	−2.0 %	1.4 %	0.1 %	−1.7 %	−1.6 %
GDP total	202,082	499,869	1,288,338	1,776,332	2,138,660
Per capita GDP (HK$)[b]	40,651	105,050	200,675	252,887	297,462

Notes [a]The three industrial sectors are based on the categorization of economic activities listed on the source and compiled by the authors

[b]GDP of the trading and logistics industry and Per capita GDP are from the latest online dataset; the figures may have been updated and different from the Annual Digest of respective year

secondary sector in the early 1980s to the majority and then dominance of the tertiary sector in the 2010s (Table 8.4). One interesting feature is the increase of labour force in the secondary industry from 2010 to 2014, both in absolute number and proportion. The detailed figures show clearly that such increase was contributed solely by the expansion of construction sector, while the labour force of the manufacturing sector decreased. This is due to the increasing number of mega construction projects like the Hong Kong-Zhuhai-Macao Bridge, the Hong Kong section of high speed railway, other domestic railway expansion projects, and housing construction.

As an export-oriented economy, Hong Kong benefits greatly from the trading industry. This has also brought up a new relationship in the region. The frequent investment and trading activities between Hong Kong and PRD allowed PRD to become Hong Kong's hinterland over time and Hong Kong-PRD established a "front-shop, back-factory" relationship (Sit and Yang 1997). This model of two-way flows has made the trading-cum-logistics industry to become one of the four key industries in Hong Kong. It contributes significantly to Hong Kong's economy and employment (Tables 8.3 and 8.4). However, one fatal challenge is that the withered domestic manufacturing activities can no longer provide stable and enough volume of goods for exports and support the operation of the port and logistics industries. In 1980, the value of domestic export was higher than the

Table 8.4 Employed persons by industry, 1981–2014 (Reproduced from CSD 1981, 1991, 2003, 2015, 2016)

Sector	1981 census[b]	1990[b]	2000[b]	2010[b]	2013[b]	2014[b]
	(thousands)					
Secondary[a]	1237.4 (49.42 %)	1009.2 (36.72 %)	635.4 (19.81 %)	397.7 (11.45 %)	434.5 (11.66 %)	437.4 (11.67 %)
Tertiary[a]	1164.9 (46.53 %)	1710.4 (62.24 %)	2545.7 (79.37 %)	3053.0 (87.88 %)	3270.1 (87.72 %)	3289.3 (87.73 %)
-trading[c]	n/a	n/a	575.3 (17.91 %)	587.5 (16.89 %)	579.4 (15.54 %)	578.8 (15.44 %)
-logistics[c]	n/a	n/a	189.5 (5.90 %)	190.7 (5.48 %)	187.8 (5.04 %)	186.1 (4.96 %)
Others[a]	101.4 (4.05 %)	28.5 (1.04 %)	26.2 (0.82 %)	23.4 (0.67 %)	23.5 (0.63 %)	22.5 (0.60 %)
Total	2503.8	2748.1	3207.3	3474.1	3728.0	3749.2

Notes [a]The two industrial sectors are based on the categorization of economic activities listed on the source and compiled by the authors

[b]Since the standard of industrial classification was updated twice, therefore, figures before 1993, 1993–2007, and from 2007 onwards are not strictly comparable

[c]GDP of the trading and logistics industry are from the latest online dataset; the figures may have been updated and different from the Annual Digest of respective year

re-export one, and accounted for 32.48 % of the total trading value. Since then the situation has reversed and the value of domestic export has dropped severely. In 2014, it accounted for a mere 0.7 % while the re-export value accounted for 45.84 % of the total trading value (Table 8.5). The trading industry can only rely more on offshore trades, which is highly sensitive to the fluctuations of the global economy and has less embeddedness in using Hong Kong's port and logistics services. The logistics industry has increasingly relied on re-export and the goods to and from PRD. Moreover, although trading-cum-logistics accounts for about one fifth of Hong Kong's GDP, the contribution of the logistics industry alone is relatively small. Its contribution was in the range of HK$53.6 billion (2001)–HK

Table 8.5 Imports and exports in Hong Kong, 1980–2014 (Reproduced from CSD 1983, 1993, 2003, 2015)

Indicator	1980	1990	2000	2010	2013	2014
	(HK$ million)					
Imports	111,651 (53.19 %)	642,530 (50.10 %)	1,657,962 (51.32 %)	3,364,840 (52.61 %)	4,060,717 (53.29 %)	4,219,046 (53.46 %)
Domestic exports	68,171 (32.48 %)	225,875 (17.61 %)	180,967 (5.60 %)	69,512 (1.09 %)	54,364 (0.71 %)	55,283 (0.70 %)
Re-exports	30,072 (14.33 %)	413,999 (32.28 %)	1,391,722 (43.08 %)	2,961,507 (46.30 %)	3,505,322 (46.00 %)	3,617,468 (45.84 %)
Total trade	209,893	1,282,405	3,230,652	6,395,859	7,620,404	7,891,798

$82.5 billion (2010) in the period of 2000–2014. Its proportion in GDP, however, decreased from 4 to 5 % in the 2000s to only about 3 % in the 2010s. Both the absolute number and proportion of employment dropped as well. Of course, the definition of logistics here refers to mainly transportation services instead of both transportation and non-transportation services.

Starting from the early 1960s along with the development of light industries in Hong Kong, the logistics industry and port started to provide services of import of raw materials, export of manufacturing goods, and domestic distribution. Traditionally, road transport and sea transport are the key sectors of the logistics industry in Hong Kong. Air transport is rising and now contributes over one third of the total trading value. In recent decades, the shipment-based services (i.e. first-party and second-party logistics, 1PL and 2PL) are declining. Many logistics service providers (LSPs)—especially those in small scale—have been experiencing difficulties and some have closed. In contrast, third-party logistics (3PL) services and supply chain management (SCM) are rising with much potential in Hong Kong (Federation of Hong Kong Industries 2013). By the same token, Hong Kong container port has enjoyed a glorious time and experienced dramatic changes over the past two decades. Under the efficient private operation and a stable source of goods to and from mainland China, it was once the busiest container port in the world in the periods of 1992–1997 and 1999–2004. Its ranking, however, dropped to No. 5 in 2015 (PDC 2016). The absolute volume of container throughput has also declined gently since 2012.

The advancement of regional economy is responsible for such changes. The emergence of new ports and economic development in Southeast and East Asia, mainland China in particular, are two key external factors that the development of logistics industry in Hong Kong hinges on. On the one hand, the rapid rise of ports in Singapore—a major hub in Southeast Asia, Shanghai—the designated leading Chinese port, and Shenzhen—the neighbouring port of Hong Kong, not only surpassed Hong Kong in container throughput volume,[1] but also forced a change of the role played by Hong Kong port. The flourishing logistics industry in China also affected its Hong Kong counterpart. On the other hand, the unprecedented industrial restructuring and advancement in mainland China and the institutionalized economic integration in the Greater China Circle economies (Yang 2004) are offering Hong Kong's ports and LSPs both challenges and opportunities.

Internally, as the competitive context of business continues to change, LSPs in Hong Kong are getting harder to sustain their traditional shipment-based services. Some LSPs are switching to offer higher value-added logistics services and management, and Hong Kong port is expanding the foreland transhipment services. The fast-changing market needs far more flexible logistics systems and processes.

[1]Shanghai, Singapore and Shenzhen were the top three busiest container ports in the world, respectively in 2013–2015. Hong Kong was No. 4 in 2013–2014. Ningbo-Zhoushan port's container throughput surpassed that of Hong Kong in 2015 (PDC 2016).

The concept of logistics management should be extended to SCM to capture the upstream and downstream relationships across the global supply network (Christopher 2011). Information technology (IT) has substantial impacts on the seamless integration of SCM by smoothening the information flow amongst suppliers, distributors, and customers (Bowersox et al. 2002; Cohen and Roussel 2013). However, even though SCM and IT can help Hong Kong LSPs to transform and mitigate the problem of declining business volume, such transformation is challenging Hong Kong LSPs due to their limited global presence and lack of tactical information of the supply chain (Wang and Cheng 2010).

All in all, Hong Kong port and Hong Kong's LSPs have a symbiotic relationship and their performance represents the ups and downs of the logistics industry. Instead of investigating the development of port and logistics industry from either technical or business approach, this study applies a regional development approach to investigate the relationship between their transformation and regional economic development. Among all, it is useful to study, from the angle of port system how the evolution of port system influences the whole logistics industry and LSPs, and how the factors affect the port system evolution. The aforementioned factors make the development path of Hong Kong port system different from others. Although the models of concentration-deconcentration and port regionalization can be applied to explain the development of Hong Kong port system, some studies have suggested that institutional factors—the Hong Kong-PRD relationship emerged under special spatial and political contexts—have great influence on the hinterland dynamics of Hong Kong (Wang 1998). Moreover, while there are plenty of studies discussing port system evolution and port-hinterland/foreland relationship from the macro-level perspective, little attention has been paid to the influence of such evolution on the business operation of LSPs, and vice versa, from a micro-level perspective in the literature.[2] The responses of LSPs to the changing business environment driven by the evolution of port system and changing market and industrial environment will be a useful perspective to examine above mutual influence.

Facing such evolution of Hong Kong's port system, adaptation is a must to Hong Kong LSPs. This chapter will address following research questions. (1) How does port evolution influence Hong Kong-based LSPs' businesses and, as a result, the whole industry? How does the regional economic development influence Hong Kong port and logistics businesses and their roles? (2) What are the weaknesses and difficulties of Hong Kong LSPs in the process of adaptation? (3) Responding to the changes of the market and industry, what appropriate institutional setting and policies can help the Hong Kong logistics practitioners?

The remainder of this chapter is organized as follows. Section 8.2 presents the theoretical background of port system and research methodology. Section 8.3

[2]For port system evolution, see Ducruet et al. (2009) and Hayuth (1981). For port-hinterland/-foreland relationship, see Fleming and Hayuth (1994) and Notteboom and Rodrigue (2005).

analyses the transformation of Hong Kong port under port deconcentration and regionalization processes, and discusses the responses of logistics stakeholders and the intrinsic difficulties of Hong Kong LSPs in developing SCM services and adopting updated IT. Policy discussion on institution building is made and conclusions are reached in Sect. 8.4.

8.2 Theoretical Background and Research Methodology

8.2.1 Port Concentration and Deconcentration

Port system has been one of the major research themes in transport geography. A number of studies were concerned about the evolution of the port system, investigating how ports competed with each other and how new technology changed the spatial and structural relationship among ports. A number of theoretical models depicted the concentration-deconcentration process resulting from containerization. In general, path dependency of large agglomerations, efficiency, and economies of scale are believed to be the factors fostering port concentration. When the port system reaches its maturity, constraints, such as congestion, lack of space for expansion, restriction of water depth, diseconomies of scale, and distance from shipping lanes trigger the deconcentration process (Hayuth 1988; Kuby and Reid 1992; McCalla 1999).

Bird's "Anyport" model was developed on the basis of the layout of major British ports (Bird 1963, 1971). Port development had three major steps: setting up, expansion, and specialization. Port functions would shift towards deep-sea locations. The final stage would see the obsolete of the original port and concentration of port activities in new sites.

Hayuth (1981) proposed a five-stage model of port system with empirical evidence of United States ports. He recognized that technological improvements and economies of scale contributed to the establishment of load centres, forming a port hierarchy system. Load centres competed with each other for the long-distance cargo shipments at the top level, while small ports competed for the feeder business at the lower level. Eventually, diseconomies of scale and lack of expansion space would give rise to the emergence of secondary ports nearby. They could result in port deconcentration. Aggravated by the emergence of overcapacity of container facilities, the centre versus sub-centre competition intensified, and the hierarchy structure was shifted. The smaller ports tried to attract carriers with favourable terms such as lower prices, supported by their lower land or labour costs. Similarly, Barke (1986) also proposed a five-phase model that illustrated the process of port deconcentration.

8.2.2 Port Regionalization

Another category of port system studies was mainly concerned with the transformation of port-hinterland relationship. Case studies of Taaffe et al. (1963) and Hilling (1977) discussed the gateway function of ports as the interface between the developing hinterland and the developed market overseas. Notteboom and Rodrigue (2005) provided a conceptual approach to port-hinterland relationships in light of containerization, SCM and the setting of inland terminals. They pointed out that studies of Hayuth (1981) and Barke (1986) did not take into account the rise of transshipment and offshore hubs and the role of freight distribution centres in shaping load centre development. Thus, they introduced the concept of the port regionalization. They extended the model of Hayuth and Barke by acknowledging the formation of a regional load centre network, where gateway ports integrated with its inland freight distribution centres and terminals. Factors favouring the emergence of regionalization were local constraints such as the lack of land for expansion, and global changes in production and consumption patterns. A recent study by Rodrigue and Notteboom (2010) extended the concept of regionalization by introducing the foreland-based regionalization where intermediate hubs captured a maritime hinterland.

8.2.3 Asian Perspectives

Case studies in Asian context have sought to explore the possibility of a new port replacing the existing one or the emergence of dual-port centres (Wang 1998). Wang and Oliver (2007) investigated the development of Hong Kong and Shenzhen dual hub port system. Wang and Ducruet (2012) identified the emergence of the Shanghai-Yangshan dual hub port system in the form of the co-development of the main gateway port and the offshore hub.

Literature in Asian context also suggested that institutional factors had a major impact on the port concentration-deconcentration and regionalization processes. A case study of three Asian cities (Hong Kong, Singapore, and Shanghai) showed that institutional factors were amongst the most important factors explaining the deconcentration of the ports (Slack and Wang 2002).

Facing port system evolution, the reaction, capacity to respond and choice of each stakeholder are different, which are based on their role in the system, and the ability to get information and to make change. In Hong Kong, Hong Kong government plays a minimal role of policymaker, while the private sector plays a key role. Different from the condition of Shenzhen port, Hong Kong's nine container terminals are owned and operated by the private sector. Operators include Hongkong International Terminals (HIT), Modern Terminals Ltd. (MTL), Dubai Ports International (Hong Kong) Ltd., COSCO, and Asia Container Terminals Ltd., in the form of either sole operation or joint venture. They are all large scale

Table 8.6 Major indicators of logistics establishments in Hong Kong by clusters in 2011 (Reproduced from Federation of Hong Kong Industries 2013)

Cluster	Number of establishments (unit)			Number of employees (person)			Value-added (billion HK$)		
	SME	Total	%	SME	Total	%	SME	Total	%
Land transport	8342	8399	99	28,854	35,674	81	5.7	7.3	78
Sea transport	654	711	92	6639	16,646	40	7.5	7.3	90
Air transport	72	111	65	1169	35,543	3	4.5	39.5	11
Storage	328	355	92	1776	6525	27	0.5	2.1	23
Courier	437	474	92	3415	13,028	26	0.4	3.1	14
Total	9833	10,050	98	41,853	107,416	39	18.6	60.3	31

enterprises. On the contrary, there were over 10,000 establishments of LSPs in Hong Kong in 2011 and over 98 % were in small and medium scale (Table 8.6; CSD 2012). Compared with large-scale LSPs and terminal operators, small and medium scale LSPs have less capacity, knowledge, and tactic to respond to the changing, if not worsening market. There is no wonder that many practitioners wound up their business or merged with other LSPs in the past few years. Therefore, it is important to understand how LSPs respond to the port system evolution and market changes at the operational level.

8.2.4 Research Methodology

Based on above review, most previous studies have focused on the port system development alone while little study has been done on the response of the whole industry to the changes in the port system. This chapter attempts to fill this research gap. In Hong Kong, logistics industry is a key industry. It is a major component of the whole value chain that closely connects to trading, shipping, financing, and other economic activities in Hong Kong. It is also an industry with close connection to PRD—Hong Kong's hinterland. Therefore, logistics industry is a good case to reveal the status of regional economic integration.

Various methods are used in this study. Statistical data are collected for the macro analysis of port competition and evolution. A series of in-depth interviews with local LSPs has been conducted. Other stakeholders of the logistics industry have also been interviewed to take into account different perspectives. According to the Hong Kong Standard Industrial Classification Version 2.0,[3] various logistics sectors were categorized into eight major logistics sub-industries in this study, such as truckers and freight forwarders, for the purpose of subsequent interview works.

[3]For details of HSIC, please see CSD, *Hong Kong Standard Industrial Classification (HSIC) Version 2.0* (Hong Kong: Hong Kong SAR Government 2009), http://www.statistics.gov.hk/pub/B2XX0004012008XXXXB0300.pdf.

From January to June in 2013, the research team sent out over 700 interview invitations to prospective participants in Hong Kong, based on the non-probability sampling method by using the publicly available databases such as those from the Hong Kong Trade Development Council and the Hong Kong Association of Freight Forwarding Agents. The team conducted 50 interviews successfully capturing the pattern of LSPs' business changes under the impact of the three themes identified below. The interviewees included senior management of large-scale logistics companies, owners, or senior management of small- and medium-scale logistics companies, directors of industrial councils and associations, logistics experts, and government officials.

All interviews were semi-structured and most pre-set questions were open-ended that could be grouped under three themes. The first theme is concerned with LSPs' business operations in relation to the process of port deconcentration and regionalization, attempting to answer the first research question. The second theme is related to the second research question, which explores the difficulties LSPs encounter in developing SCM services and adopting IT. Interviewees have also been asked on the possible directions of future development and responses to the prevailing challenges—what they can do and what the government can do. This is the third theme relating to the third research question. Other questions and issues have also been discussed during the interview. For the analysis purpose, the original eight sub-industries have been re-categorized into 1PL to fourth-party logistics (4PL) according to their business nature in order to better reveal the evolution of the port system and the logistics industry in Hong Kong.

8.3 Transformation of the Port System and Logistics Industry in Hong Kong: Challenges and Limited Responses

8.3.1 The Challenges from Peripheral Ports

Hong Kong has been the gateway to mainland China since the late nineteenth century. This British colony was the only window of China during the time of economic closure and U.N. embargo from the 1950s to 1970s. After the economic opening of China in the late 1970s, thanks to the mushroomed expansion of export-processing industries in PRD, the Kwai Chung container port[4] of Hong

[4]Since the operation of the first three terminals in the early 1970s, Kwai Chung container port became the major container loading and unloading area in Hong Kong. In 2003 when the ninth terminal started to serve in Tsing Yi, the container port renamed as Kwai Tsing Container Terminals reflecting the spatial expansion out of Kwai Chung. There are now nine terminals with a total of 24 berths. The Terminals, along with the River Trade Terminal in Tuen Mun and some mid-steam sites, constitute the Hong Kong port system.

Kong acted as the main gateway and experienced double-digit growth of container throughput from 1986 to 1996 (Wang 1998). It became the world's busiest container port from 1992 to 2004, with the exception of 1998. Likewise, cross-boundary road cargo and river cargo transport experienced a period of rapid growth from the 1980s to 2004 (Fig. 8.3a), mainly transporting finished goods from and sending raw materials to PRD.

When peripheral ports in Shenzhen (including Yantian, Shekou, and Chiwan) began to receive direct calls and established frequent services to major world markets by major shipping lines, the supremacy of Hong Kong was seriously challenged (Slack and Wang 2002). Higher total handling costs and the lack of space for expansion were the major disadvantages of Hong Kong in comparison with Shenzhen (Fig. 8.4; Wang 1998).[5] Figure 8.5 shows that the growth rate of container throughput of the port of Hong Kong slowed down in the last decade. It has not fully recovered from the plummet in 2009 caused by the financial tsunami. In contrast, ports in Shenzhen witnessed a rapid growth over the past couple of years. In 2013, Shenzhen port outperformed Hong Kong. Therefore, the demand for cross-boundary road transport and river transport dropped from the peak in 2004 (Fig. 8.3a). For train cargo, the operator (MTR) terminated the services from 16 June 2010 onwards due to withering of the business and the concern of cost efficiency (Fig. 8.3c).

Ports around the world have demonstrated some level of disparity on their evolution path (Rodrigue and Notteboom 2010). What is unique about Hong Kong in the phase of port deconcentration is that most of the competitive container ports in mainland China are jointly operated by Hong Kong hub operators (Wang 1998). For instance, Hutchison Port Holdings, the parent company of HIT that running Terminals 4, 6, 7, and 9 North solely, and 8 East and 8 West in two joint ventures in Hong Kong, has a joint venture at Yantian, Shenzhen. MTL, while running Terminals 1, 2, 5, and 9 South in Hong Kong, leads the development of Da Chan Bay in Shenzhen. Under such circumstances, peripheral competition has brought no harm to hub operators. The cake is getting bigger for the two ports to share. It is only a relative competition of ports between Hong Kong and Shenzhen (Shen 2010). These port operators gain from the continuous rise of total container throughput in the region. On the contrary, local LSPs, such as those cross-boundary road/water transport companies, and freight forwarders who depend on port related activities in Hong Kong have been suffering the most. The growth of their business is slowing down along with the stagnant of container throughput in Hong Kong.

[5]In fact, not only port operators, but also LSPs are suffering from the same problem. The limited spatial expansion prevents them from offering more businesses in scale and in diversity. At least, the speed and scale of spatial expansion are not as good as Shenzhen.

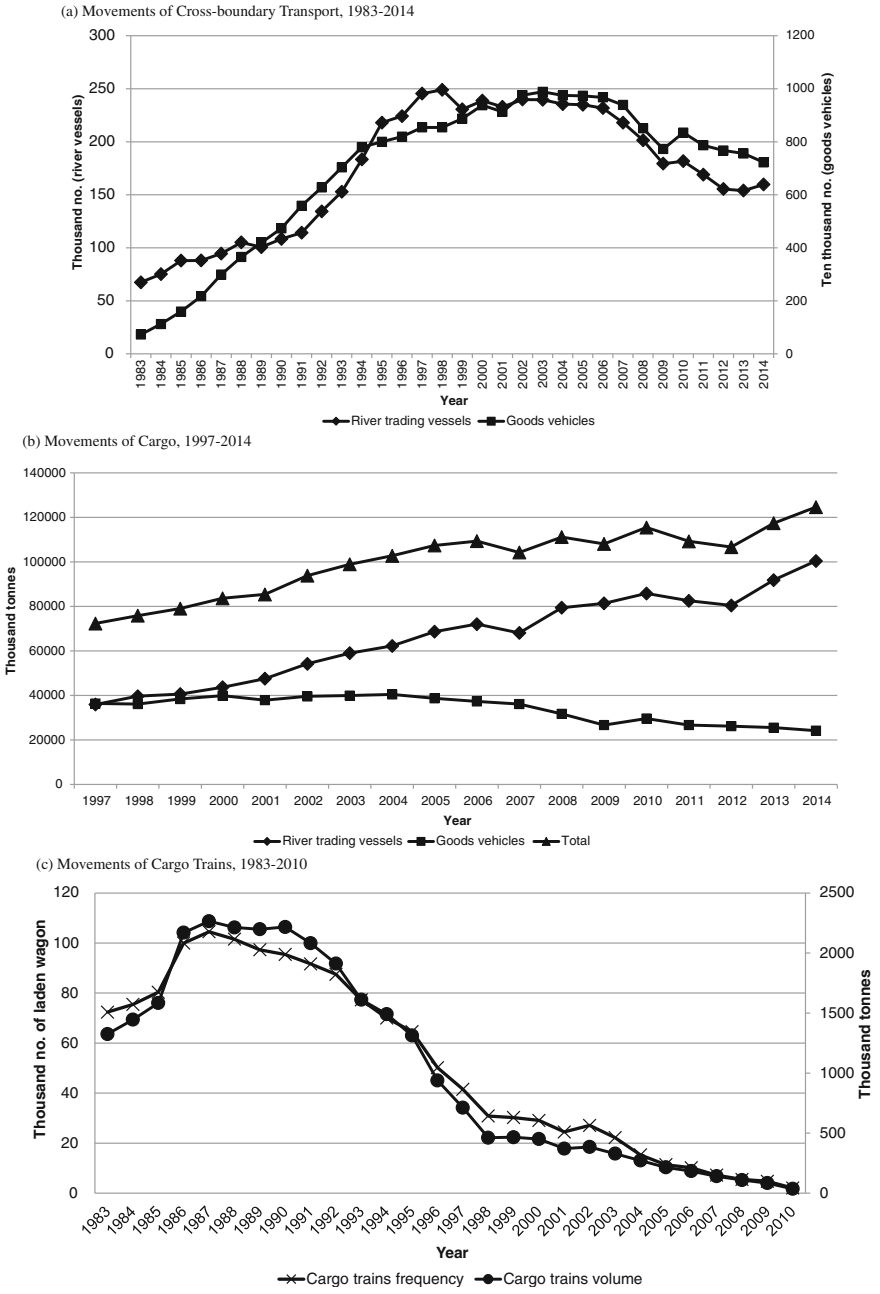

Fig. 8.3 Changes of Hong Kong river, road and train cargo trades with mainland China (Reproduced from CSD 1993, 1998, 2003, 2009, 2015). **a** Movements of Cross-boundary Transport, 1983–2014, **b** Movements of Cargo, 1997–2014. *Note* Due to the change of definition, the figures of river trading before 1993 were not comparable with those figures from 1993 onwards; the same for road cargo before 1997 and those from 1997 onward. **c** Movements of Cargo Trains, 1983–2010. *Note* The cargo train services were terminated from 16 June 2010 onwards

Fig. 8.4 Terminals 1, 2 and 5 of the Kwai Tsing Container Port—limited yard spaces (taken by the authors in November 2007)

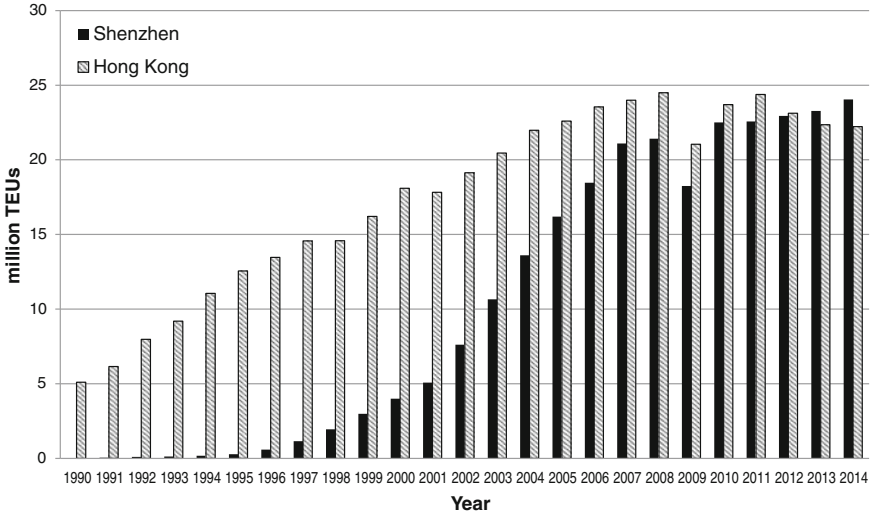

Fig. 8.5 Container throughput in Hong Kong and Shenzhen, 1990–2014 (Reproduced from CSD 1993, 1998, 2003, 2009, 2015, and Statistics Bureau of Shenzhen Municipality 2015)

8.3.2 Port Regionalization

Global changes in consumption and production patterns, including the recessionary economic conditions in the United States and Europe, the industrial upgrading of PRD manufacturing sector and the rise of the Association of Southeast Asian Nations (ASEAN) as the new world factory, have altered the hinterland dynamics of Hong Kong port. Figure 8.3b displays the river trading and road cargo throughput between Hong Kong and PRD from 1997 to 2014. The road cargo throughput has been declining since 2004, and river trading cargo throughput has been rising gently with occasional drops. River trading still has the low cost advantage over other modes. The decrease of Hong Kong's share in the total container throughput in Greater PRD indicates that PRD's reliance on Hong Kong port is declining. The existing "front-shop back-factory" relationship has also been challenged. On the one hand, the rise of international container ports in PRD altered such relationship by reducing the importance of the Hong Kong port. On the other hand, the on-going industrial restructuring process in PRD—the closure or removal of traditional labour intensive and low-end OEM manufacturing—posts also a threat to the demand of logistics and port services in the region.[6] Although it is a challenge to the existing shipment-based services of the cross-boundary logistics and port industries, it may be an opportunity too. The expanding service sector and high-end consumer markets in the PRD cities enhance the business of and create additional demand of re-export to mainland China. This allows Hong Kong logistics industry to play such a role as regional distribution centre by providing value-added logistics services such as storage, labelling, repackaging, and authentication that with advantages over PRD ports.

At the same time, the composition of port activities in Hong Kong is also being transformed. The share of transshipment in the total seaborne cargo traffic increased from below 30 % before 2000 to over 60 % in 2013 (Fig. 8.6); only dropped slightly to below 60 % in 2014. In other words, the share of imports and exports decreased to less than 40 % in 2013. According to the studies of United Nations (1990) and Fleming and Hayuth (1994), the distinction between relay or 'dedicated' ports and load centres is that the locally generated traffic of the former represents a relatively small proportion (e.g. less than half), while the latter carries substantial traffic generated from their own hinterlands. Thus, the port of Hong Kong has been transforming from a load centre to a transshipment hub since 2006, when the proportion of seaborne transhipment first reached the 50 % mark, at 50.3 %. Its recent development is mainly driven by foreland-related dynamics rather than hinterland-related dynamics. This represents a dramatic change in the function of Hong Kong port with significant impact on logistics industries in Hong Kong.

[6]In the past few years, the change of the Hong Kong-PRD relationship became popular topic. For example, some argued that the region is heading to a new "front-shop back-factory" model (Yung 2014; Zhu and Zhang 2004), while some suggested that the region is establishing a shop-cum-factory model (Hong Kong Economic & Trade Association 2013).

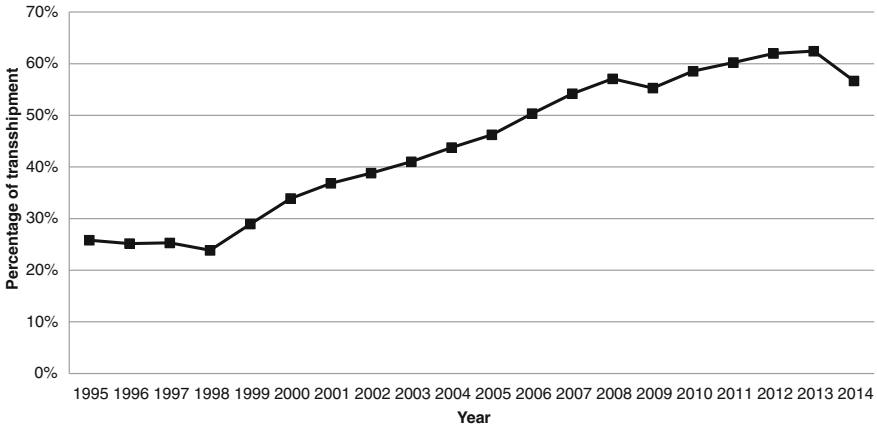

Fig. 8.6 The share of seaborne transshipment cargo in total seaborne cargo in Hong Kong, 1995–2012 (Reproduced from CSD 1998, 2003, 2009, 2015). *Note* Transshipments from or to river ports or coastal ports in PRD are defined as the "River Trade" and are not included here

In order to take a closer look at the foreland-based dynamics of Hong Kong port, the transshipments of Hong Kong with ports in major regions or countries in 2007 and 2012 are compared. The total transshipment with mainland Chinese ports increased by 10.7 % over the 5-year period, while Asian ports increased by a much bigger percentage of 36.5 %, and Vietnam witnessed an outstanding 148.9 % growth. Thus Hong Kong's transshipments with Asian ports increased faster than the traffic with mainland Chinese ports.

Above changes indicate that Hong Kong's role as a relay hub is being transformed, with a smaller role as the gateway of mainland China, and a bigger role as a transshipment point for Southeast Asia. From the perspective of hub operator, the increase of transshipment compensates for the decline of import and export traffic. However, since transshipment does not involve any processing activities in the Hong Kong territory, it brings less business volume for local LSPs, especially those offering traditional shipment-based services.

8.3.3 Responses of LSPs: Upgrading Service Quality and Developing Offshore Logistics Services

The majority of interviewees witnessed the decline of cargo shipment via Hong Kong port. "Business volume and revenue in our Hong Kong branch decreased. Our clients downsized or even closed their offices in Hong Kong," described by interviewee #22, "previously, cargos were mainly exported via Hong Kong port; while nowadays they are directly exported through mainland Chinese ports". Situation is similar for interviewee #3, whose company ships food and beverage

products from European and the United States markets to mainland Chinese markets. "We used to import all the goods to Hong Kong, sold part of them locally, and the rest in mainland China. Now we import directly to mainland China". This change in business operation is common among interviewees. Interviewees recognize the changing role of Hong Kong's port system and understand that their businesses (especially those of truckers and freight forwarders) can no longer simply rely on the growth of local cargo throughput.

Amongst all Chinese ports, Shenzhen port's rapid growth has the biggest impact on Hong Kong. The scale of Shenzhen port and its spatial proximity to Hong Kong are also important (Fig. 8.7). When asked about the possibility of a dual hub system, interviewees agreed that Hong Kong and Shenzhen could cooperate by providing complementary services, where Hong Kong acted as a transshipment hub of Southeast Asia while Shenzhen performed as an exit port in South China. They also believed that Hong Kong still has competitive advantages on handling high value products with high security requirements. "Given that Hong Kong and peripheral ports have similar facilities and technologies, the key of competition is service quality. By providing smooth services, we will be able to retain our

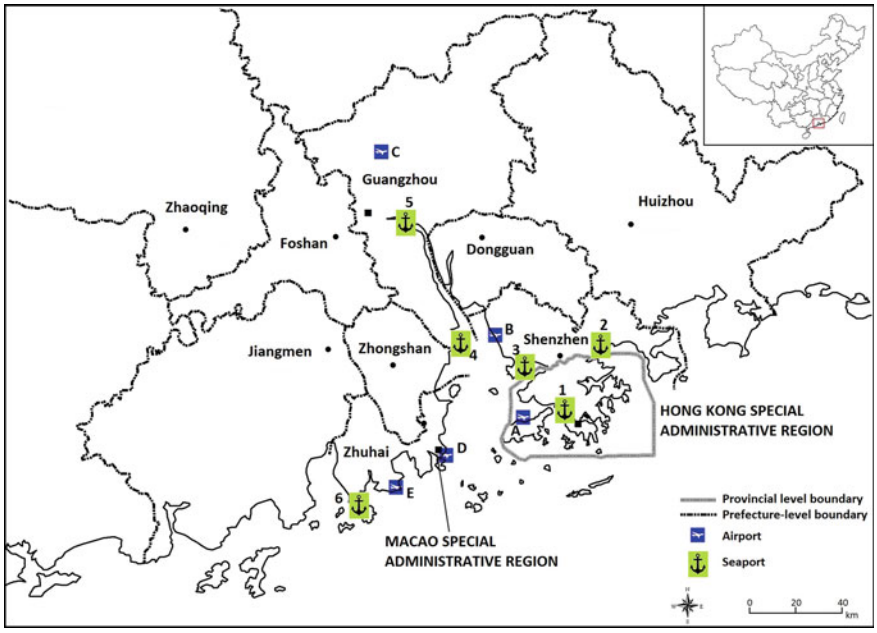

Fig. 8.7 Hong Kong's location in the PRD region and the short distance between Hong Kong and Shenzhen ports. *Note* Ports *1* Kwai Tsing Port (Hong Kong), *2* Yantian Port (Shenzhen), *3* Shekou Port (Shenzhen), *4* Nansha Port (Guangzhou), *5* Huangpu Port (Guangzhou), *6* Gaolan Port (Zhuhai). Airports *A* Hong Kong International Airport, *B* Shenzhen Bao'an International Airport, *C* Guangzhou Baiyun International Airport, *D* Macao International Airport, *E* Zhuhai Airport

customers", as mentioned by interviewee #39, representative of a hub operator in Hong Kong. Thus one key response is to provide quality service in Hong Kong.

Nevertheless, interviewees admitted that a transshipment hub with very limited onshore operations like break and bulk or pick and pack meant very little for local LSPs. In response to this challenge, some local LSPs diversified their business by providing offshore logistics services that do not involve goods passing through Hong Kong. "Most of our revenue is generated from shipment arrangements via Chinese gateways. If fully depend on the Hong Kong port, we shall be closed by now", said interviewee #28, owner of a small scale freight forwarding company, "We remote control the shipment arrangements through our agents in mainland China. The Hong Kong office is mainly responsible for sales and marketing activities".

Other interviewees set up their own branches in mainland Chinese cities to gain control of the physical flow of cargoes. Hong Kong offices often function as the administration and financial control centres. Apart from networks in mainland China, networks in overseas markets are of the same essence for LSPs. By exploiting the extensive global network, LSPs are able to develop highly accountable end-to-end services to meet the ever more demanding customers. LSPs involved in global-network-building confirmed that such kind of global networks and alliances provided them more business opportunities to sustain their daily operation, although there are also risks of unfamiliar markets and fraud. Indeed, as pointed out by interviewee #4, the future of Hong Kong logistics industry is to become "the world logistics service centre", a marketplace where global logistics service demand meets mainland Chinese suppliers. This is an evolved version of middleman role of Hong Kong, not just an entrepot but a sophisticated trading and logistics hub. Along with the horizontal development of offshore logistics services, some local LSPs have also attempted to upgrade the business by embracing the latest development of SCM and IT in order to expand business vertically.

8.3.4 SCM and IT: The Intrinsic Difficulties of Transformation

In the rapidly changing industry, SCM is getting importance and plays a critical role in creating competitive advantage for organizations (Christopher 2011). Fourth-party logistics (4PL) has emerged and 4PL providers are supply chain integrators that offer solution-based or end-to-end SCM services (Lau et al. 2012), by integrating logistics processes across the supply chain (Cooper et al. 1997; Mentzer et al. 2001). Information flow amongst organizations in the supply chain is also essential to the integration of logistics processes and IT plays an important role in it (Bowersox et al. 2002). GS1 Australia (2013) affirmed that the implementation of standards-based technologies such as barcodes and radio frequency identification (RFID) could improve business performance.

Fig. 8.8 Supply chain, logistics and transportation companies' vehicles in Hong Kong—many LSPs are still in shipment-based businesses and yet to advance to solution-based professional services (taken by the authors in April 2016)

4PL development is in its infancy in Hong Kong (Lau et al. 2012). The development of SCM and IT creates new business opportunities for Hong Kong LSPs (Fig. 8.8). Contrasting with shipment-based logistics services, SCM offers solution-based high value-added logistics (VAL) services that depend less on physical cargo shipments via Hong Kong port. Thus, SCM can be a useful strategy to mitigate the negative impact caused by the aforesaid evolution of Hong Kong's port system

Similar to the observation of Wang and Cheng (2010) that large scale LSPs have an advantage in developing SCM services, findings of our study identified the disparity of SCM and IT adoption between large LSPs and small and medium scale LSPs. While large firms are able to develop sophisticated SCM solutions, small- and medium-scale LSPs demonstrate limited understanding of supply chain and IT capability. For instance, a number of interviewees are still entering data manually and using Microsoft Excel files to exchange data with business partners instead of using electronic data interchange (EDI).

Even though our interviewees knew clearly and agreed that developing SCM services and adopting IT can create new opportunities for their businesses, they face a number of obstacles. With the phenomenal growth of container throughput in Hong Kong port over the past three decades, Hong Kong LSPs are used to

practising the simple freight forwarding businesses. These LSPs are locked in their outdated business models and find it extremely difficult to turn around. For example, when asked why his company did not adopt RFID technology that can help tracking the logistics process of the goods, interviewee #16 answered, "What we handle for our customers is a small part of the whole supply chain, maybe only a quarter or a third. Therefore, the appreciation of adopting such technology is very limited. Even if we provide this service for free, our customers may still wonder if the price can be cheaper without it". It is clear that the competition for shipment-based services mainly depends on the price. Some customers still place cost at top priority. Investments on developing technologies capabilities or new services can hardly be justified. Some interviewees did express their concern that Hong Kong LSPs might be outshined by their counterparts in mainland China who are more committed to SCM and IT development. In fact, this possible gap of SCM and IT adoption can weaken the efficiency of cooperation, if not also integration with their PRD counterparts.

In addition, limited expertise constrains the industry's ability to transform and adjust to the fast-changing market environment. Most of the interviewees, especially those from small- and medium-scale logistics firms, have very little knowledge about the SCM or IT concepts and software in the logistics industry although they are the experienced practitioners in road and water transport. They failed to get help easily from newcomers too in Hong Kong. For example, interviewee #4 expressed that his Guangzhou office was able to have plenty of young IT talents and a large market to develop an online platform but not in Hong Kong office due to the shortage of both factors. Logistics industry in Hong Kong used to be a low-tech industry, with overall low-educated employees. The industry has been labelled as a sunset industry that not many young people are willing to devote themselves to the industry, especially those with a higher academic qualification level. Therefore, selecting suitable IT products and IT talent, as well as training staff to use these technologies are challenging.

Other blocking forces include information system integration with partners and reliability of technology products. LSPs are often obliged to adopt the technology prescribed by powerful trading partners, making it senseless to develop their own technological capabilities. On the other hand, smaller partners or partners located in less developed locations might not have the technical expertise to comply with technologies used by LSPs. Reliability of technology products is also a big question mark in the eyes of interviewees, particularly small- and medium-scale LSPs. Indeed, the market of technology products especially the mobile sector is dynamic and highly fragmented, with new products and new vendors emerging every day. Technology products provided by large suppliers are expensive and sometimes not suitable for a small firm. On the other hand, products offered by small suppliers are considered not reliable, as they may go out of business at any time. Therefore, the risk is high for LSPs to depend their daily operations on these technology products.

In short, these difficulties not only posted barrier to business upgrade at company level but also at industrial level in general. Solutions to these difficulties can be divided into internal endeavours and external assistance. Internally, the willingness

of additional investment in IT depends upon the strategy of the LSPs, which is also the decision of the owners, particularly, the small- and medium-scale LSPs. Their decisions, to a certain extent, depend on their understanding towards the prospect of the logistics industry in Hong Kong, as expressed by some interviewees. Externally, interviewees believed that the Hong Kong SAR government, industrial associations, and the academia can work together and offer assistance to them. For example, they should take the initiatives to promote the implementation of advanced IT by developing suitable products in reasonable price, offering training programmes and financial guarantees, and most importantly, creating a sustainable environment for the industry.

8.4 Policy Discussion and Conclusion

In this latest round of port system evolution in Hong Kong, both challenges and opportunities have emerged. To port operators, the changes have brought less negative influences to them than to shipment-based LSPs. To large enterprises, they have more resources and advantages to overcome challenges and grasp opportunities than small- and medium-scale LSPs. Since 98 % of LSPs are in medium scale and below, their three general features summarized here may also be representing the major features of logistics industry in Hong Kong. First, most LSPs engaged in a single business, such as road transport or water transport. It is highly related to the historical trajectory of development of the industry in Hong Kong. Second, their businesses are not very flexible in making changes due to their small business size and low capability. Third, their businesses are embedded in the SAR territory. Therefore, once the port system changed and the demand for the original shipment-based services dropped, like the situation in the 2000s in road transport, there was overcapacity of supply in the market. Since those LSPs engaging in road transport put most of their assets in trucks, it was inflexible for them to sell all fixed assets within a short period and make changes to meet the new market needs. They were also unable to move the physical transport businesses to other mainland Chinese cities and regions but could only stay in the shrinking Hong Kong market due to both the political and market reasons. A certain number of LSPs have been eliminated in this wave of change. Nevertheless, there are some signs that large-scale LSPs and some small- and medium-scale LSPs have adapted to the new environment successfully by heading towards the area of high VAL services, applying advanced technology and expanding new markets. Undoubtedly, Hong Kong LSPs, the industry, and the economy still have some advantages, such as efficiency and free flows of capital and information that have built the traditional industrial foundation.

To grasp new opportunities in the transforming regional economy and evolving port system it is important to clarify the positioning of the Hong Kong port system, the major businesses to develop, and the way to interact and integrate with the hinterland (PRD) and foreland (Southeast Asia) economically, in order to provide

the industry opportunities. Although there are efforts of bottom-up initiation at company and industrial association levels, logistics practitioners are expecting the steering of government strategies and policies. As introduced in the early sections of the chapter, although the Hong Kong government used to play a minimal role in the industry, institutional factors do matter to the evolution of port system and the development of logistics industry in Hong Kong. The Hong Kong SAR government became proactive in promoting the industry (Shen and Luo 2013). In fact, both the national and SAR governments have initiated several strategic policies to support the development of the industry.

Institutional influences stem from several levels. At national level, the National 12th Five-Year Plan (FYP) (2011–2015) of the Chinese government offered a visionary strategy by proposing to consolidate the development of Hong Kong's logistics industry, enhance Hong Kong's status as an international shipping centre, and support Hong Kong to develop into an inventory management and regional distribution centre of high-value goods. At regional level, the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA) signed in 2003 is a functional framework to foster the regional cooperation and industry integration between Hong Kong and PRD. At local level, Hong Kong SAR Government responded to the FYP by promising to support the development of the industry towards providing high VAL services (Hong Kong SAR Government 2011). Nevertheless, the current institutional system limits port regionalization and division of labour. The key challenge is that the current administrative division between Hong Kong SAR and Guangdong province and the constraint of "one-country two-systems" do impede any integration at the operational or strategic level of two port systems except for capital investment and joint ventures.

Most interviewees welcome and demand favourable macro institutional settings that can help their logistics businesses, both onshore and offshore, and both shipment-based and solution-based. However, our study found that not many interviewees are familiar with and can benefit from such as CEPA, even less for the National 12th FYP. The most general comments on these strategic and planning documents are that they are too high level and visionary, not down to earth, and are useless from their viewpoints. For example, interviewees commented on CEPA that "there are fine strategic frameworks but no matching concrete policies". Nevertheless, some interviewees have applied CEPA successfully and expanded their offshore businesses, both shipment-based and solution-based services in mainland China. For example, interviewee #2 and interviewee #44 both have branch offices in Guangzhou to handle shipments via container ports in PRD; interview #32 has a number of branch offices in mainland China and other countries as well.

Indeed, results of this study revealed that interviewees concerned more about local policies and planning regarding land and labour supply, as well as advancement and SME assistance, which were considered to have direct influences on their business sustainability, and be able to meet their urgent needs.

Strategically, the establishment of Innovation and Technology Bureau inside the SAR government structure in late 2015 is an opportunity and a favourable

institutional framework to promote the application of IT and the development of SCM in the industry with both top-down support and bottom-up efforts. As mentioned by some small-scale LSP interviewees on the use of electronic platform, government and industries associations can take the lead to develop a general public platform. The current market has too diversified products that it is impossible and too costly to install software A just for customer A and use software B for customer B. Before the formulation of concrete technology policy on SCM development, the government has announced in the 2016 Policy Address to re-organize the advisory board of the industry, showing the endeavour of government in boosting the port and logistics industries. The government proposes to merge the existing Maritime Industry Council and the Port Development Council to form a new Hong Kong Maritime and Port Board. Responsibility of the new organization is in three aspects. The Board needs to "promote manpower development, marketing and research on all fronts to develop a high value-added maritime services sectors", to "assist the Government to formulate strategies and policies to enhance Hong Kong's status as an international transportation centre", and to "spur further growth of the maritime services cluster" (Hong Kong SAR Government 2016).

Practically, such institutional advancement may help realize the three breakthrough strategies of LSPs (Federation of Hong Kong Industries 2013). First, LSPs can conduct spatial breakthrough to overcome the locally embedded businesses. Second, LSPs can conduct value chain breakthrough to overcome the predicament of single business condition. Third, LSPs can conduct operation model breakthrough to overcome their business inflexibility. CEPA is the first step of institutional advancement by setting up a framework for Hong Kong LSPs to conduct business in PRD, a way of spatial breakthrough. The 10 Supplements signed from 2004 to 2013 further liberalized the trade in services in mainland China. From the institutional viewpoint, the further optimization of relevant strategies (such as by offering concrete policies at city level) can foster Hong Kong LSPs' investment in PRD on the one hand, and expand hinterland out of PRD on the other hand. Similarly, to expand the influence of Hong Kong port system in its foreland, the Hong Kong government should make good use of the Belt and Road Initiative to enhance the trade and economic linkages with the economies along the new Silk Road Economic Belt and twenty-first century Maritime Silk Road, especially the ASEAN countries.[7] The establishment of the Belt and Road Office of the Hong Kong government and the negotiation of the Hong Kong and ASEAN free trade agreement can build an institutional framework for it. Even though some LSPs may choose to stay in the transport sector, they can focus on moving higher value-added products and reverse the traditional direction of logistics flow by importing goods to mainland China, i.e. to develop the niche consumer market of PRD and even whole China, such as high-quality red wine, artwork, and special medical supplies. Of course, the new institutional setting in technology of the Hong Kong government

[7]For details of the Belt and Road Initiative, please visit http://english.gov.cn/beltAndRoad/ and http://beltandroad.hktdc.com/en/index.aspx.

and various kinds of fund supports to enterprises may encourage the development of SCM consultation and management services among LSPs. Hong Kong LSPs may not have relevant experiences and knowledge, as well as enough capital to make such development, and they may not be familiar with the PRD and Belt-and-Road markets. Therefore, instead of running the business solely, they should actively seek integration or cooperation with other LSPs in Hong Kong and other markets through merger and acquisition, different degree of partnership or different kinds of business networks to share risks as well as markets and information. Government's and quasi-government's trade promotion organizations can help as well.

This chapter explores LSPs' responses to the transformation of Hong Kong container port and logistics industry. Due to the changes of global and regional environment, the traditional businesses of Hong Kong's LSPs shrank. The relationships with hinterland—PRD and foreland are transforming as well. Among all, the rise of the periphery Shenzhen port and the changing of Hong Kong and Shenzhen regional port system provide new evidence to the existing port evolution theory that diseconomies of scale and lack of expansion space would give rise to the emergence of secondary ports nearby and port deconcentration (Barke 1986; Bird 1971; Hayuth 1981; Notteboom and Rodrigue 2005). Definitely, Hong Kong port has unique relationship with its hinterland and institutional factors have great impact on Hong Kong port (Shen 2003; Wang 1998). Practically, due to the changes of the external environment and the emergence of intrinsic difficulties, the traditional role of Hong Kong logistics industry and the port system a relay hub, and the traditional role of Hong Kong, a gateway and a middleman for China and PRD in particular, are making less contribution to the local economy, as well as to different stakeholders, especially those small- and medium-scale LSPs.

To overcome challenges and difficulties, as well as create new regional relationship and grasp opportunities from the new relationship, evolution is unavoidable. In general, under the improving framework of new institutional settings, the industry can foster the revival and upgrading of shipment-based services through better hinterland and foreland integration on the one hand, and promote the development of solution-based professional services based on Hong Kong's advantages on the other hand. Specifically, Hong Kong LSPs have three tactics responding to the need of breakthrough. First is to provide quality services to retain customers. Second is to set up branches in Mainland cities to gain control of the physical flow of cargoes. Third is to diversify their business by providing offshore logistics services that do not involve goods passing through Hong Kong. The development of SCM and IT create new opportunities for LSPs to develop high VAL services that depend less on physical shipments through Hong Kong port.

However, 98 % of the logistics establishments in Hong Kong are in small- and medium-scale. They face a number of hurdles in developing new businesses, expanding market, developing SCM services and adopting IT, including path dependence of traditional operations, expertise constraints, difficulty of information system integration, reliability issues, as well as shortage of capital. Institutional advancements in recent years are facilitating the sustainable development of Hong

Kong's LSPs and their adaptation to the new environment, as well as promoting industrial upgrading by joint efforts among governments, logistics industry associations, LSPs, and the academia. Both new strategic policies like CEPA and new government organizations, such as Innovation and Technology Bureau are the new efforts to enhance LSPs' spatial, value chain, and operation model breakthroughs. It is suggested that further optimization of policies and liberalization of the markets are needed not only between Hong Kong and PRD stakeholders but also between Hong Kong and other economies' stakeholders like ASEAN.

All in all, the transformation and development of Hong Kong port and the logistics industry are the one of Hong Kong economy in miniature. As a small export-oriented economy, Hong Kong is affected and challenged by economic globalization and the rise of Chinese economy—PRD in particular. Nevertheless, the rise of China is also an opportunity for Hong Kong. Institutional advancement is needed to overcome the existing institutional barrier between Hong Kong and mainland China for a better economic integration. From the macro point of view, this can help Hong Kong to make new positioning and offer new functions by restructuring the production chain and division of labour with PRD. From the micro point of view, enterprises can initiate the transformation of business model and provision of new services.

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Chapter 9
Prospect of China's Coastal Cities

9.1 Introduction

The past 30 years is the era of Chinese coastal cities literally. The seven coastal cities in question have experienced dramatic economic, social, and urban development. These cities have not only expanded in terms of physical and spatial scale tremendously but also have their roles and functions in economic development and in Chinese economy transformed unprecedentedly. Throughout this process of development, we can see the importance and leadership of cities, the emergence of problems in cities and coming up of solutions. In addition, fundamentally, there are also changes of our understanding of cities and the differences between Chinese coastal cities and their western counterparts. In the forthcoming years, it is the strategy of the six mainland coastal cities to pursue further economic globalization by carrying out economic and industrial restructuring in order to achieve a higher level of economic development and urban competitiveness. While for Hong Kong, a mature economy, its target is to strive hard to maintain its strong competitiveness, by means of both local and regional policies. Unanimously, all seven cities pursue the ultimate goal of sustainable development and the target of better regional cooperation. Many efforts have been made on strategic socio-economic and urban planning, governance and institutional innovation, and exploration of new development dynamics.

In the remaining sections of this chapter, the strategy of economic advancement of these seven cities will be discussed. Attention will be paid then to how both the spatial and nonspatial advantages can be strengthened to complement to the economic advancement strategy. This chapter concludes with a brief theoretical discussion on urban competitiveness, regional relationship and innovation, and the issues for further investigation.

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9.2 The Road of Economic Advancement

Based on the discussion in the previous seven chapters, we can argue that cities have been playing important roles in economic development and in the Chinese economy. For the former, wealth generation and agglomeration are major features; institutional environment and arrangement advancements are major contributing factors. For the latter, cities contributed greatly to the revival of Chinese economy. Productivity capacity and innovation are some substantial indicators revealing the contribution of cities. Therefore, we can argue that cities are representing and steering the Chinese economy. Problems of cities are also problems of the country and paths of economic development of cities are also those of the Chinese economy.

For the cities *per se*, neoclassical location theory cannot fully explain the different development trajectories, speed, and achievement of the seven coastal cities. Historical, regional, cultural, political, and institutional factors, indeed, have a strong explanatory power to explain the differences of development among the six cities and their respective regions of Pearl River Delta (PRD) , Taiwan Strait West, and Yangtze River Delta (YRD), and Hong Kong. The critical roles of both the locational factor and nonlocational factors in future development of these seven cities can be expected. For example, one existing challenging problem is the weakening of locational factor—the advantage of coastal area, due mainly to the worsening investment environment (nonlocational factors), including continuously raising minimum wage level, stricter environment policies, less preferential policies, and so on. Such changes make the coastal location less attractive and investors may fail to cover the increasing cost. Not only the major factories of MNCs have moved out to other regions or other countries, many other factories in the upper or lower parts of the product chain have followed suit or are considering doing so. Government officers incharge in investment, if not also the mayors, need to spend extra effort to retain the existing enterprises and further attract new investments. This picture leads to an argument that urban and regional economies depend not only upon the improving institutional environment and arrangement that can attract investors but also under the influences of the investment decision of private sectors from local to global levels that based on both local and global economic circumstances, as well as business strategies. This is a kind of trans-local dynamics in urban and regional development (Yang 2009).

Another existing problem is that even though export-oriented manufacturing sectors have long been the major industrial activities in the economies of these six mainland cities, helping these six cities' economic growth in the early period of development, the general features of labour intensive, low technology level, low value added, and high pollution of these industrial activities can no longer contribute to the sustainable development of the economy, society, and environment of the city. Moreover, many manufacturing industries and those enterprises involved are still in a rather disadvantage position in the global production chain and value chain. They are at the bottom of the smile curve handling the low value-added

assemblage processes as original equipment manufacturers (OEM), and are yet to build a stronger R&D base in general. Many core technologies are still in the hand of foreign investors and consigners, and their investment has a relatively low embeddedness to the hosting economy. Such situation is not favourable for the economy and the enterprises to increase their competitiveness in the global economy. Thus, both the central and local governments are advocating innovation and have introduced some industrial advancement policies in recent years, with the goals of raising economic sustainability and industrial competitiveness. Further pursuance of such kind of advancement is desirable.

Therefore, the most pressing need for the six mainland cities in question, if not all coastal cities, is to identify the most appropriate path and direction of future economic development, and undergo a major economic and industrial restructuring. They understand that changes and advancements are unavoidable indeed. However, according to the recent paths and goals of economic development of these cities, there is a high degree of similarity of industrial structure and economic activities, such as the pursuance of bio-med, finance, and headquarter economy in the areas of high-end, high-tech, high value-added manufacturing and service sectors. They also have similar goals of development, such as a world city status or a regional dragonhead. While such goals and paths may generate synergy of development with neighbouring cities under proper coordination and division of labour, there are also chances of vicious competition and failure due to the unreasonable, if not impossible, goals. Subsequent problems and vicious competition in city positioning, branding, and seeking resources also occur. They did not understand their cities well and failed to offer the most appropriate plans to their cities.

By generalizing relevant strategies and policies of the six mainland cities, we can identify some crucial features of the road of economic advancement. First, economic and industrial restructuring is important for a city to lead to a sustainable future. The *tenglong huanniao* strategy by Guangdong in 2008 is an early example. One key feature is to change the economy from quantitative expansion and extensive growth to qualitative improvement and intensive growth, which is good for urban competitiveness and sustainability. This is also riding on the latest tide of Internet+ and Made in China 2025 advocated by the Chinese government, indeed. This is the Chinese version of Germany's Industry 4.0 and similar to the reindustrialization of the United States and the *sangyo chie* development in Japan. The close coordination of Made in China 2025 and Industry 4.0 can create synergy for both economies and involved enterprises. Chinese enterprises are now grasping the opportunities indeed. It is strongly believed that everything in China will be connected by network (i.e. Internet of Things). We are going to enjoy smart manufacturing and smart life. This depends upon how we master knowledge and innovation capability. Among all mainland cities, it is believed that the six coastal cities in question have great advantages in this process of development. This facilitates them to further build up competitive advantage, to exhibit, and differentiate themselves from the others by grasping a superior market position, obtaining new or key resources, and developing new capabilities, at both city and enterprise levels. This requires the application of technologies and the huge input in R&D,

which can contribute to the rise of production efficiency, product quality and value, revenue, as well as technology level and talent pool of city.

Second, as reiterated, foreign direct investment (FDI) is still a major factor contributing to the growth of Chinese economy. And in the aforementioned industrial restructuring that technology advancement plays an important role, foreign enterprises' involvement is necessary. Nevertheless, in general, Chinese economy should reduce the reliance on export-oriented manufacturing and establish a balanced structure of export, FDI, and domestic consumption, i.e. to foster the growth of domestic market. There are, however, two difficulties. While the less reliance on export and FDI is equal to giving up the most common and familiar way of growth, as well as a punch to the established economy, the growth of domestic consumption relies on the healthy development of the market from the supply side and the confidence building of the demand side, such as consumers are willing to save less and having more confidence on the domestic products.

This is also the issues of the sources of investment capital and the better use of foreign capital. Although the structures of investment sources of the six mainland cities are different, FDI used to be or is still the major source of investment capital. Although the contribution of FDI to Chinese economy is well-recognized, such structure of investment capital is not problem-free. The over-reliance on FDI and export-oriented manufacturing may result in lock-in effect, particularly at the time of economic downturn and the drop of the demand of export goods (Shen 2010). This is unsustainable to the Chinese economy. Another problem is that the Chinese economy and domestic enterprises participated in the global value chain (GVC) usually fail to upgrade or move up the value chain because they are unable to control the core technology of a product that is in the hand of foreign investors or consignors (Liu and Zheng 2013).

Fortunately, after years of economic development and as a world second largest FDI recipient with 30 years of experience of dealing with foreign investors, there are increasing number of enterprises (both SOEs and private ones) that are as competitive as their global counterparts. Therefore, the key concern for the Chinese economy and domestic enterprises should be to identify the ways to make good use of FDI to (1) advance in technology, as well as in operation and management, and (2) nurture own value chain and further develop it into a national value chain or even a GVC. It is a favourable condition that the Chinese economy is rising and the domestic market is emerging. Some local five-year plan strategies show that the local governments are nurturing some dragonhead enterprises to build a new industry, although the use of this visible hand is controversial. One of the easy-understanding examples should be the introduction of Disneyland and Dream Center in Shanghai. This can be regarded as an effort of the Shanghai government to make use of foreign capital (Disney and DreamWorks), under joint venture with Chinese capital, to nurture Shanghai's cultural and service industries, including the transfer of advanced technology in movie making, modern management skill, and so on. It is necessary to make a good balance between government support and business operation, in order to avoid possibility of any unnecessary intervention and other countries' accusation of subsidy and implementation of countervailing duty.

On the other hand, Huawei (an IT enterprise) from Shenzhen and Geely (an automobile manufacturer) from Hangzhou are now a major enterprise in their respective industrial sector and have built their own GVC in the world by developing both the upper stream (such as the establishment of R&D centres in the world) and downstream (acquisition of different world famous brands) of the value chain. They are the examples of the emerging Chinese enterprises in the global platform and their trajectories of development can be references to other enterprises.

Compared with the six mainland cities, Hong Kong is at a higher stage of economic development and has an economic structure different from those of the six mainland cities. Therefore, the problems the city faces are not the same. Internally, Hong Kong has difficulty to maintain a healthy economy and society with the over dominance of the service sectors. The case of logistics industry shows the importance of local production to domestic delivery and cargo-based shipment of the port system It is no wonder that there are voices in the society to propose reindustrialization in Hong Kong in recent years. Regionally, Hong Kong needs to smooth the process of in-depth economic integration with the regional economy. There are now institutional frameworks like Closer Economic Partnership Arrangement (CEPA) and individual visit scheme to foster Hong Kong-mainland China economic integration; while China (Guangdong) Pilot Free Trade Zone and others are specific areas designated for regional economic integration. From setting up factories in the past to setting up retail shops in the last decade, and from single logistics procedure to every stage of movie making, the range and depth of economic participation in China by Hong Kong investors are flourishing. Similarly, from the first Chinese company listed in the Hong Kong Stock Exchange in the mid-1990s, Chinese companies dominate the stock market now, so as the mainland Chinese visitors, made-in-China daily necessities and others. In short, regional economic integration is an irreversible trend and is restructuring Hong Kong's economic and social structures. Nevertheless, there are local problems in the process of regional economic integration, like the adaptability mentioned in Chap. 8 and emotional acceptance and understanding by the Hong Kong people from the social and cultural perspectives.

9.3 The Increase of Capacity: Urban, Social, Regional, and Institutional Development

For the six mainland cities in question, there is no doubt that they are going to build themselves into major cities in China and the world, with different levels of importance in the urban hierarchy and to be an all-round player or a specialist in certain industrial sectors. Meanwhile, Hong Kong strives hard to maintain its international financial centre and world city status. To achieve their respective goals in economic development, they need to increase urban and social development capacity as a strong foundation, i.e. spatially and nonspatially, by applying an

economic geography concept proposed by the World Bank (World Bank 2009; *see* Chap. 2), to raise the *density* and lower the *distance* of a city by the following measures.

Spatially, the planning and provision of well-constructed physical infrastructure, including transport infrastructure in the city is significant. *World Development Report 1994* stated clearly that infrastructure development is the wheel of economic activities of the city (World Bank 1994). The provision of infrastructure in the six mainland cities is not a problem, as there are plenty of, if not more than enough, transport and communication, social infrastructure, new zone development etc. Rather, the concern should be paid to the quality of infrastructure and its assigned functions or roles, such as the daily operation and management of the transport network and the strategic role of a special functional zone and its potential contribution to the local economy. Therefore, it is the most important to have well planned, high quality construction, smooth, user-friendly and safe running, and seamless connections among these transportation networks, and so on, in order to raise the *density* and lower the *distance*, and strengthen the capacity of city in agglomeration, and dispersion of economic activities.

However, it is not hard to find deficits in the physical quality, supporting systems, and service quality. The sufferings of passengers from the long walking distance from check-in counters to boarding gates in the new terminal of Shenzhen Airport, as well as from one metro line to another for interchange, and a new development zone without appropriate ancillary services and many economic activities are the lessons. These problems keep happening indeed. This is also not some technical problems that cannot be solved but the missing of appropriate planning approaches and criteria. Such kind of problems will not enhance the capacity of agglomeration and dispersion of the city concerned but reduce the efficiency and quality of services instead. Modern and flexible planning is of ultimate importance here, which includes (1) appropriate functional zoning and coordinated planning, (2) the development of peri-urban areas (particularly concerning the speed and scale of development to avoid excessive development and damage to the natural environment), (3) the issue of redevelopment including the handling of urban-rural integration and sub-standard urban villages and the protection of heritage, and (4) the efficient and high quality transport connection among zones and clusters, as well as among different transport modes. Similar to the case of economic development, external force can be used to help urban development. The Nanjiang-Singapore, Suzhou-Singapore and Tianjin-Singapore projects, and Hong Kong's MTR Corporation in Shenzhen metro development are the examples. For example, MTR Corporation adopts efficiency and user-friendly approach in planning interchange station in Hong Kong. The Chinese side can make good use of partners' investment capital, skills, knowledge, and experiences.

Hong Kong has a well-developed planning system and world-leading planning standards, and therefore it is not suffering from those aforementioned problems but from complicated procedures and slow speed of development. Hong Kong has high quality infrastructure and thoughtful procedure. However, when compared with its mainland counterpart, Hong Kong is too slow in the development. Moreover, the

anti-mainland and critical atmosphere is growing in Hong Kong in the past decade. Some people and organizations in these blocs make use of every means, both within and outside the current institutional system, to hinder or stop the process of infrastructure development to serve their interest. The Hong Kong-Zhuhai-Macao Bridge (HZMB) linking Zhuhai and Macao on the west bank of Pearl River, the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong High Speed Railway (HSR), and the three-runway system of the Hong Kong International Airport are the three most obvious examples. Due to two different systems in infrastructure development, the development processes of the Hong Kong section of the former two cross-boundary infrastructure projects cannot keep the pace with the mainland sections. For example, the construction of the Guangzhou-Shenzhen section of the HSR completed in late 2011, but the Hong Kong section is far behind the original schedule. The latest target of completion is the third quarter of 2018. This is not the problem indeed. We respect the Hong Kong planning and construction systems with strict requirements that a project aims for minimum negative externalities to the natural environment and society, and maximum benefits to Hong Kong, although there are always rooms for the improvement of the procedures. The real problem is that some anti-mainland and pro-democratic groups in Hong Kong have tried to hold these projects back intentionally by means of judicial review and legislative procedures, giving irresponsible criticism on insufficient basis, and even breaking into the construction site.[1] From the economic geographical perspective, the delay of the use of these three projects cannot help the city to raise its economic *density* and shorten the *distance* to mainland China and the world, and may even lower the *density*. Some experts argue that once an airline chose the airports in Guangzhou and Shenzhen due to shortage of slots for aircraft landing and taking-off in Hong Kong, they will not move back to Hong Kong casually.

In terms of social development, the key is the agglomeration of people—talents and skilled labour, i.e. to create a talent pool in the city, and to nurture their own talents. For the former, it is understandable and unavoidable to have a large number of migrants in the city, both Chinese and non-Chinese. Indeed, it is not an uncommon feature in international cities such as Hong Kong, Shanghai, Guangzhou, and Shenzhen. These cities have been enjoying the so-called population dividend and suffering from relevant problems, simultaneously. Therefore, in order to maximize the contribution of temporary population to the city and minimize possible problems, many cities are offering better ways to handle this issue, including the better provision of welfare, social service and security, housing, leisure, education, and so on. Appropriate schemes are offered to temporary population. Nevertheless, we believe that a bold move in the migration system is

[1]For example, the judicial review on environmental impact assessment (EIA) reports for HZMB in 2011, see http://www.hzmb.hk/eng/media_press.html; Civil Aviation Department and Airport Authority refuted the criticism on airspace problem in insufficient basis; some protesters broke into the HSR construction site in West Kowloon in March 2016; some legislative councillors held the additional funding procedure using the excuse of the unsolved issue of co-location arrangements of immigration and customs facilities at the Hong Kong Station of the HSR.

needed. Also a sound *hukou* system such as green card system may help to attract more worldwide talents to come and make contribution. These talents are particularly important to the education and R&D institutes. The six mainland coastal cities show their advantages in attracting talents but their migration schemes are also probably the most demanding. Hong Kong is an attractive city for both Chinese and non-Chinese migrants. However, the recent anti-mainland Chinese movement in Hong Kong will be a stain on Hong Kong's reputation to attract talents and professionals. Appropriate solutions are needed to resolve such confrontation and keep the city attractive.

A regional strategy is now important to urban development, which is a contributing factor of the work of the third "D"—*division*. The major objectives of regional cooperation and development are to minimize vicious competition, avoid resources wastage, create synergy, and maximize benefit through necessary coordination and specialization. Therefore, regional integration should be a useful policy to achieve specialization through division of labour among cities (administrative units) in a region. The six mainland cities in question understand and recognize the importance of such strategy well. They have made their strategic regional planning respectively in recent years, which fits into their respective comprehensive urban development. There is no doubt that it is impossible (and not necessary) for all cities to become international cities, to develop headquarter economy, and to be major economic engines of China. Therefore, it is necessary to fine-tune the relationship among cities, including the relationship between a core city (such as Shanghai and Guangzhou) and noncore cities (other cities in the YRD and PRD regions). The key tasks should be the building up of the network economy with proper division of labour and necessary integration such as distribution of raw materials and the construction of infrastructure. This requires the change of the development approach and framework of cities (local units). Catalyst may help to achieve regional integration. The interaction of YRD cities in the World Expo 2010 is a good example. As mentioned in Chap. 8, Hong Kong needs an appropriate regional strategy for its sustainable development. The city needs to overcome two hurdles. The first hurdle is the institutional barrier. "One-country, two-systems" is a good institutional framework to protect Hong Kong and maintain its original economic system. But it becomes an institutional barrier as regional economic integration goes deeper. Efforts are made at both national and local levels. For example, CEPA fosters economic integration and an action plan proposes to create a livable bay area in Pearl River estuary—including Hong Kong, Macao, and related cities in Guangdong province.[2] Nevertheless, the existing three individual political and administrative systems (mainland China, Hong Kong, and Macao), and the missing of single institutional setting do fail to smooth and speed up the process of regional integration. Political and administrative systems can either facilitate or hinder the regional economic integration. The second hurdle, as mentioned above, is the anti-mainland China and anti-regionalization forces in Hong

[2]For details, see http://www.prdbay.com/en/home.asp.

Kong. They regard that such kind of regional integration, like the action plan, is damaging the "one-country, two-systems" and is a process of mainlandization in Hong Kong. They strongly believe that such change is unfavourable and moves the city backwards. However, they disregard the fact that environmental protection and many other issues in the Pearl River Delta region are not the sole responsibility of Hong Kong, Macao, or Guangdong. Joint action is a common way to handle regional matters, and there are many successful experiences of inter-regional or international joint efforts in the world.

Nonspatially, the successful attraction of investment and talents also depends upon the factors of high quality natural and social environment. Therefore, the problem of pollution found in those cities is a big challenge for the authority. In fact, both the academia and the society are now gaining a new consensus that the protection and proper use of natural environment and historical heritage are important as they can be valuable assets of the city. The protection and use of *Xihu* (West Lake) in Hangzhou is a good reference. It is about the proper planning and execution of sustainable development—the integrative development approach of the economy, society, and environment. Besides such kind of attraction, proper branding and marketing is also necessary.

Many Chinese cities are now eager to carry out mega construction projects and to bid for the organization of mega international events. However, numerous examples have already shown that positive contribution to the economy and social development is not guaranteed. The authority must well consider the balance between benefit and burden. In fact, two examples provided a warning signal. First, the extremely poor progress of the construction works of the 2014 FIFA World Cup and the 2016 Rio de Janeiro Olympics in Brazil not only demonstrated the low ability of the government and the possible financial and political burden to the country but also led to a series of opposition and strikes in the society. Second, Vietnam withdrew from hosting the 2019 Asian Games because of the domestic economic problems, showing again that the organization of such kind of mega events can create a huge financial burden. There are more examples of cancelling bids of Olympics and FIFA World Cup. There were voices in China suggesting not to take over the Asian Games from Vietnam[3] and the money should be used in other more meaningful areas such as social welfare. The relationship among mega events and constructions, cost and benefit, and urban capacity is not only a crucial and practical issue in the society but also a hot topic in research. Hong Kong also co-hosted the equestrian competitions at the Beijing 2008 Summer Olympics and held the 2009 East Asian Games. Nevertheless, Hong Kong is more famous for its convention and exhibition (C&E) business. Numerous C&E in different fields and scales are held in Hong Kong every year. However, this brand is losing its shine due to the shortage of venue and the emerging competition from neighbours in the region like Macao and Guangzhou. Therefore, both internal planning and regional coordination are necessary to keep the brand name.

[3]Indonesia took over the right to host the Asian Games and rescheduled the event to 2018.

Appropriate changes of the institutional environment can complement the effective implementation of economic, urban, social, and regional development. We believe that appropriate local and regional policies can help to raise the *density*, lower the economic *distance*, and enhance regional cooperation to strengthen the *division* among cities. Some policies have been carried out to improve the institutional environment and arrangement in these six mainland cities, such as the increasing role of the market, the changing role of government, and so on. Based on the development experiences of these six mainland cities, we believe three issues are particularly important.

First is the necessary adjustment of the concept of city-region or region and subsequent strategies and institutional settings. We can see clearly that previous urban or regional development is highly constrained by administrative boundaries such as the county-level boundary, prefecture-level boundary, and provincial boundary. Although adjustment of administrative boundary by annexing other entities is a common solution, it should be more effective, in the coming future, for development to take place in the form of economic region, beyond the administrative boundary, basing on the characteristics of the economic activity, the resources and raw materials, and the advantages of each city (unit), i.e. a functional, open, and porous economic region. The development of Yangshan Port can be considered as a pioneering example although there are still conflicts and disputes. But common goals can be reached with mutual understanding and cooperation among different administrative units. This is applicable to Hong Kong too. Previously, especially before 1997, plans in Hong Kong seldom made consideration beyond the boundary. But the development of PRD nowadays is so influential that a regional concept is highly necessary for Hong Kong's urban, economic, social, and environmental plans. Appropriate consideration of regional circumstances can allow Hong Kong to make the best responses and bring maximum benefits to the city.

Second is about the matter of power distribution. We can see clearly the vicious local competition in PRD in previous years because of the over decentralization and lack of appropriate framework for horizontal cooperation among local entities. Therefore, in the latest interaction between top-down support and bottom-up initiatives in regional and intercity development, proper solution of power distribution is of crucial importance to facilitate local development and interaction. Central or provincial government may lead and steer the making of plans and policy implementation but a formal platform is needed for negotiation among local entities. Moreover, latest urban and regional development involves also the participation and engagement of private sector and civil society. Shenzhen 2040 planning is an example. Since the private sector and civil society do have resources in hand and are able to provide services to society, even to government in a more effective and efficient manner; their roles are rising. They have expressed their eagerness in playing a role in governance. This also leads to another issue—the orientation of planning, development, and urbanization, which is now a key theme of works of the central leadership. Is quality more important than quantity? Should the development be "people-oriented" and for the people? Moreover, as Shanghai, Guangzhou, and

Shenzhen are international cities, there should be freedom and openness of capital, money exchanges, information, regulation, and so on. The establishment of China (Shanghai) Pilot Free Trade Zone (FTZ), China (Guangdong) Pilot FTZ, and China (Fujian) Pilot FTZ are the important and pioneering trials. These zones enjoy no preferential policies like cheap land and tax holiday, they are only given authority to modify the existing institutional systems such as commercial and financial regulations in order to better attract foreign investment and other commercial activities. The horizontal coordination mechanism is an issue for Hong Kong in regional cooperation too. Although there are coordination mechanisms between Hong Kong and Guangdong province, the participation and decision of the central government in the mechanism have happened for a long period, especially in taking care of the interest of Hong Kong. Instead of the degree of decentralization, the approach of both Hong Kong and Guangdong in regional cooperation is the key problem. There are improvements in the past few years, and there are now more macro institutional frameworks to guide the regional cooperation. Fine-tune at the micro level is needed to facilitate the coordination between departments of the two governments.

Third, as argued, cities are leaders and pioneers in the Chinese economy. Therefore, besides a new understanding of the concept of urban and regional development, and a better distribution of power and intercity interaction, it is important for the six mainland coastal cities and Hong Kong to play a key role in the national economic restructuring and innovation, including the related institutional reforms. The Chinese economy is now encouraging innovation and R&D, and Internet+ and Made in China 2025 are two concrete strategies. The seven cities in question have the advantages in economic strength, technological level, and human resources. Therefore, in this incubation period, it is crucial for these seven cities to carry out reforms in the institutional environment to nurture the development of such kind of activities. One is in the financial aspect, including taxation, subsidy, funding, and so on as the tools to encourage conduction of new business start-up and R&D that have very high failure rate. Another is in business systems and protection system, such as one-stop business registration and stronger intellectual property protection to create a more favourable environment to start new businesses.

9.4 The Prospect

Chinese economy is a socialist market economy, which is highly different in essence from those capitalist economies in Europe and America (they are different among themselves as well). Nevertheless, the Chinese cities are playing more and more important roles in the global market in the era of globalization. Therefore, as many Asian and Chinese scholars wonder, we are interested in the applicability of western-based theories in the Chinese context. In the remaining paragraphs, we are going to discuss a few theoretical and conceptual issues briefly.

First, the popularity of urban competitiveness is gaining ground in China without any doubt. For example, the Center for City and Competitiveness, The Chinese Academy of Social Sciences (CASS) has been issuing the annual Chinese urban competitiveness reports since 2003. The research team compiles the comprehensive economic competitiveness index to rank 294 mainland, Hong Kong, Macao, and Taiwan cities. It applies a same set of indicators to measure these cities, no matter it is in coastal region or inland area, and rank their overall economic, growth, and efficiency competitiveness. Most cities and city leaders, if not all, do pay special attention to this authoritative CASS study and are doing their best to raise the competitiveness of their cities. They believe that the ranking is useful to help the city to strengthen the economy, to develop in a suitable direction, to attract more investment, and so on, like their western counterparts. It is not our intention to challenge the compilation of such kind of ranking and the selection of indicators. But we wonder the necessity of ranking almost 300 prefecture-level cities in different scales and at different stages of development, and challenge the mindset and approach of economic development of some cities.

Regarding the seven coastal cities in this volume that are ranked in the forefront of the list of urban competitiveness, they are already active players in the global market. Therefore, this index is an important indicator to them, showing their strengths and weaknesses in the country and among worldwide counterparts in the global economic platform. The study result allows them to make necessary improvement. For most of the remaining coastal cities in China, they also have a higher stage of economic and social development, as well as frequent trading and investment exchanges with foreign economies. Therefore, economic competitiveness is a useful indicator for these cities to measure their advantages and insufficiency. On the other hand, at the bottom of the table of urban competitiveness, we can find some inland cities like Dingxi, Longnan, and Jinchang from Gansu province and Guyuan from Ningxia that are deep in the heart of the Chinese territory (Fig. 9.1). They are definitely neither key economic players in China nor in the world. Dingxi and Longnan are even two of the poorest cities in China. Then, what is the purpose to rank them? In other words, is such kind of indicators appropriate in measuring the performance of these cities or this group of cities? It is unnecessary and unreasonable to compare these cities with Shanghai and Guangzhou. It is not necessary and no way for them to develop as the second "Shenzhen" in Gansu and Ningxia provinces. It is more important for them to solve the problems of poverty and environmental degradation, as well as to find a way of sustainable development.

As mentioned in previous chapters, scholars have started to improve the measurement that put too much focus on the economic realm by applying a sustainability concept and adding social and environmental indicators. It is a critical change that both the academia and society recognize the importance of social and environmental factors, and their contribution to economic development. For example, in its recent three editions in 2013–2015, along with the economic competitiveness index, CASS also compiled the sustainable competitiveness index including the indicators of livability, business friendliness, social harmony,

Fig. 9.1 The location of the four inland cities—they have completely different geographical, social, environment, and economic circumstances and are not necessarily comparable with coastal and well-developed cities (Reproduced from Google Maps base map)

ecology, culture, urban–rural integration, and so on, providing a comprehensive outlook of the city. Similarly, the International Organization for Standardization (ISO) has launched an index of ISO 37120:2014 to measure a city's performance in 17 areas of economy, education, environment, finance, governance, health, urban planning and so on (ISO 2014). Currently many Chinese cities are suffering from the environment degradation, social disorder, and poor governance. Therefore, good governance, good ecological condition, proper urban planning, and high livability are important not only to inland cities like Dingxi and Guyuan but also to coastal cities. Thus, they should also be the major components of measuring competitiveness and sustainability of coastal cities.

Second, the rapid economic growth, the rising dominance, controlling power and accumulation of wealth of world cities like New York, London, and Tokyo allow the formation of global city-centric capitalism (Brenner 1998). The development in China is very much in the same vein as the world, such as the rise, rapid economic development and dominance of national cities like Shanghai and Guangzhou. Their performance in wealth creation (GDP), trading (export), and consumption, as well as in social quality, education, and so on is leading not only their respective regions but also the country. Nevertheless, this also indicates, to a certain extent, that their economic and social gaps with some other cities are enlarging.

In the cases of New York, London, and Tokyo, each has a very large hinterland. Indeed they are a key part of their respective megalopolitan systems, allowing them to accumulate high-end factors of production, to play important functions, and to have division of labour with other cities in the region. On the contrary, although regional development starts to gain ground in China and we can see both the top-down support and bottom-up effort of regional development in (Greater) PRD, YRD, and Taiwan Strait West regions, we are yet to see the proper settlement of vicious competition and protectionism, as well as appropriate ways of regional integration. This is largely due to the immature institutional arrangement. Therefore, we believe that innovation in the institutional arrangement is urgently needed, which will be discussed in the next paragraph. It is also necessary to change the understanding of the role(s) of (national) central city. Instead of being the national or regional economic, political, cultural, and financial centres, the seven cities in this volume should put the focus on its ability and authority (such as the dragonhead role of Shanghai in the YRD region designated in the *YRD Regional Planning* with the consent of the central government) in steering and coordinating regional development and integration in the (Greater) PRD, YRD, and Taiwan Strait West regions, respectively. This is a crucial way to build these regions as a highly competitive megalopolitan system or city-region in the world. They are the world cities of their respective regions. No matter how, the current situation in China demonstrates a strong tie between local economies and the national economy. While the economic development of cities and regions depends upon aggressive local policies, it has a close relationship and also relies on the support of macro national economic strategies. Both city-centric capitalism and state capitalism jointly guide the development of Chinese cities and regions.

Last but not least, there is an argument that technology, growth, and development induce (economic) institutional changes and innovation (Ruttan 2001; Ruttan and Hayami 1984). In the opening China, its institutional changes and innovation can be considered as an induced one to a certain extent, riding on the tide of economic globalization and rapid development of technology. Shenzhen's history of development offers the best example. The Shenzhen authority understood that the then institutional environment and arrangements, such as the status of market and the employment and property right systems, did not fit the development need and help to raise the productivity and attract foreign investment. Therefore, bold moves were taken to reverse such situation by implementing new systems. Along with the induced innovation, in fact, the Chinese stakeholders—both the government and nongovernment—take the initiative to create favourable environment for development through various measures. For example, the Chinese government strived hard in the past 30 years to maintain a stable and peaceful environment, both within and out of the territory, for the resurgence of Chinese economy. Definitely, one can argue that the Chinese government was modelling a helpful time-space envelope (TSE) for its development. In the coming future, both economically and politically, the Chinese government continues to create favourable geo-political, geo-economic, and national TSEs to facilitate the interaction between mainland (YRD, PRD, and Taiwan Strait West) and Taiwan, and between China

and the world through various measures such as planning, trading pacts, and international organizations. Among all, the Belt and Road Initiative combining the development of the new Silk Road Economic Belt and twenty-first century Maritime Silk Road with the establishments of Asian Infrastructure Investment Bank and Silk Road Fund is the most aggressive one with prospects. Only a favourable environment can provide opportunities to Chinese cities and the whole economy.

The development of Guangzhou, Shenzhen, Fuzhou, Shanghai, Hangzhou, and Nanjing keeps evolving, and the ever-changing external and internal factors keep influencing their development. It is the same for Hong Kong. Besides the international connections, Hong Kong's linkages and relationship with Chinese cities and regions are getting closer and closer. Many issues are waiting for further explanation and uncharted water needs exploration. First, there will be more coastal cities and inland cities heading to engage deeper in the global economy. To demonstrate their strengths, appropriate indicators are needed. Besides urban competitiveness index which has been used, it is worthwhile to explore improved or new indicators to measure the comprehensive performance of the city, which can also help enhance their sustainability. Second, the political institutional arrangement and economic institution in regional development need in-depth study. Power distribution (particularly the horizontal one and vertical one) and casual relationship between development and institutional innovation are areas to be further explored. So are the institutional arrangement of Hong Kong—mainland China economic integration that under the regulation of "one-country, two systems". Third, many foreign and local experiences have proved that a paradigm of development is getting less useful in urban and regional development since each city and region has its own uniqueness, and the world condition is changing fast. Therefore, in the case of China, instead of identifying a paradigm of development of coastal cities for latecomers, it is more useful and appropriate to study and summarize the essence of successful development, sustainability, and good governance, as well as lessons for the reference of other Chinese cities.

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Appendix
Administrative Hierarchy in China

The administrative division in China is divided into four levels in general, i.e. provincial level, prefecture level, county level, and township level. Normally, a prefecture-level unit administers a certain number of county-level units on behalf of the province. Frequent mergers at county level and below and acquisitions have occurred in the past two decades, such as turning a county-level city to a district of a prefecture-level city. In recent years, some provinces try to administer the county-level units directly.

Table 1 presents the administrative statuses of the seven coastal cities in the administrative division in China.

Table 1 The administrative statuses of the seven coastal cities in 2014

Level 1: provincial level			
23 Provinces	5 Autonomous regions	4 Municipalities	2 Special administrative regions
Guangdong (GD) Fujian (FJ) Zhejiang (ZJ) Jiangsu (JS)		**Shanghai (Chap. 5)**	**Hong Kong (Chap. 8)**
Level 2: prefecture-level cities			
GD: **Guangzhou (Chap. 2)** and **Shenzhen (Chap. 3)** FJ: **Fuzhou (Chap. 4)** ZJ: **Hangzhou (Chap. 6)** JS: **Nanjing (Chap. 7)**		n.a.	n.a.
Level 3: districts, county-level cities and counties			
Guangzhou	Liwan, Yuexiu, Haizhu, Tianhe, Baiyun, Huangpu, Huadu, Panyu, Nansha, Conghua, Zengcheng		
Shenzhen	Luohu, Futian, Nanshan, Yantian, Bao'an, Longgang		

(continued)

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Table 1 (continued)

Fuzhou	Gulou, Taijiang, Cangshan, Jin'an, Mawei, Changle, Fuqing, Yongtai, Minqing, Minhou, Luoyuan, Lianjiang
Shanghai	Huangpu, Xuhui, Changning, Jing'an, Putuo, Hongkou, Yangpu, Minhang, Baoshan, Jiading, Pudong, Jinshan, Songjiang, Qingpu, Fengxian, Chongming
Hangzhou	Xihu, Gongshu, Xiacheng, Jianggan, Shangcheng, Binjiang, Yuhang, Xiaoshan, Fuyang, Linan, Jiande, Tonglu, Chuan'an
Nanjing	Xuanwu, Qinhuai, Jianye, Gulou, Yuhuatai, Qixia, Pukou, Luhe, Jiangning, Lishui, Gaochun
Hong Kong	n.a.

Note Seven coastal cities are in bold.

For each level of administrative unit, they are granted different degrees of authority in economic and law administration. To foster the development of a prefecture-level city, a vice-provincial level status can be granted to provide a city higher authority in making its own economic plan. Similarly, a special economic zone can be set up and given provincial-level authority in economic development, i.e. they have an administration ranking higher than their administrative division status. Among the seven cities in question, Guangzhou, Hangzhou, Nanjing, and Shenzhen have been designated as vice-provincial level cities and Shenzhen is also a Special Economic Zone, although they are all prefecture-level cities. In addition, Pudong New District, a county-level unit of Shanghai, has also been granted the vice-provincial level authority.

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