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China's post-reform urbanization: retrospect, policies and trends

Anthony G.O. Yeh, Jiang Xu, and Kaizhi Liu

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Author's contact:

Anthony G.O. Yeh: Centre of Urban Studies and Urban Planning,
the University of Hong Kong, Pokfulam Road, Hong Kong SAR.
Email: hdxugoy@hkucc.hku.hk

Jiang Xu: Department of Geography and Resource Management,
the Chinese University of Hong Kong, Shatin, Hong Kong SAR.
Email: jiangxu@cuhk.edu.hk

Kaizhi Liu: Centre of Urban Studies and Urban Planning,
the University of Hong Kong, Pokfulam Road, Hong Kong SAR.
Email: liukz@hku.hk

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Human Settlements Group
International Institute for Environment and Development (IIED)
3 Endsleigh Street
London
WC1H 0DD, UK
Tel: 44 20 7388 2117 (international); 020 7388 2117 (UK)
Fax: 44 20 7388 2826 (international); 020 7388 2826 (UK)

Population and Development Branch
United Nations Population Fund (UNFPA)
220 East 42nd Street
New York
NY 10017, USA
Tel: +1 212 297 5000
Fax: +1 212 297 4930

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1 Introduction

Throughout most of its long recorded history, China has been an agrarian society. For thousands of years, Chinese people lived in the countryside and engaged in agriculture in a societal context that valued self-sufficiency. Given the minimal need for the exchange of goods within this economic structure, cities and towns were either administrative centres or military hubs, and sometimes both, but these functions were insufficient to stimulate the development of large prosperous cities as in many other countries. The role of cities and towns as marketplaces never became well established under the firmly entrenched “physiocracy” ideology that encouraged farming and restrained trade and commerce in feudal China. When the century of foreign incursions began with the first Opium War, Chinese cities were viewed as repositories of alien corruption and vice (Kirkby, 1985). The city lifestyle was depicted as idle and parasitic, within a strongly anti-urban ideology (Salaff, 1967; Ma, 1976; Murphey, 1976). Much later, but still reflecting this outlook, Mao promoted several anti-urban and anti-migration policies and even sent young people from cities to work on farms in the countryside during the 1960s in order to endure hardship and learn about hard work.

As a result of this heritage, China was still a predominantly rural society as late as the 1970s. Beginning with the economic reforms of the late 1970s, however, the last three decades have witnessed an extraordinary turnaround in China’s perspective on urbanization, as well as massive urban growth. Given changing policies and varying definitions of what constitutes an urban area, observers have not always agreed on the exact dimensions of recent urban growth, but all concur that it has been enormous. Given that the central government is currently directing and supporting further urbanization, the recent pace of China’s urbanization will undoubtedly continue. Various projections anticipate China’s “urban billion” era. According to the latest official United Nations projections, for instance, China’s urban population is expected to increase from 636 million to 1037 million between 2010 and 2050 (United Nations, DESA, 2010). Similarly, the McKinsey Global Institute (2009) has forecast the expansion of China’s urban population to 926 million in 2025, reaching one billion by 2030 – an annual growth rate of nearly 20 million. Such growth rates will be consistent with those of the past three decades. In short, the overall trend towards rapid urban growth is very clear.

This paper provides a broad and updated overview of urban growth in China, its determinants and its consequences. It attempts to quantify important trends in the Chinese process of urbanization and to link these to evolving policy stances, especially economic reform. The paper also describes how urban planning has evolved in unique directions over time in order to accompany policy changes and how, as urbanization accelerates and the urban economy is restructuring, new challenges have emerged. In sum, the three themes of this paper on China’s urbanization since economic reform are retrospect, policies and trends.

The next section (Section 2) discusses the meaning of “urban population” and the level of urbanization. In China this is a continuing challenge (Ma, 1983; Chan and Xu, 1985; Ma and Cui, 1987; Chan and Hu, 2003; Zhou and Ma, 2003), and different measurement techniques have led to inaccuracies and discrepancies in estimating the urban population (Zhou and Ma, 2003). Section 2 thus attempts to clarify the basic concepts of “urban” and “urban population” in China, and on this basis to establish the basic parameters of its recent urbanization processes.

Section 3 traces China’s urban transformation since economic reform and interprets it systematically. The past three decades of urban development indicate that the state has had a tremendous influence on urban and regional development, including through Five-Year Plans and other policies and guidelines. This core section of the paper thus focuses on the

mechanisms underlying China's urbanization by examining the stages of urban development since the 1978 economic reform, and looks at the changing landscape of cities and regions within the respective stages. Section 4 highlights the policies that affect China's recent urbanization and urban development, giving special attention to the role of urban planning. Section 5 discusses issues arising from post-reform urbanization, including the effects on farmland, migration, and wider social and environmental concerns.

2 Urban growth in China: definitions and measurement

Enumerating the urban population is simple in theory: there are only two questions to consider – how to define an “urban area”, and what proportion of the population within that area should be counted as “urban”. Although simple in concept, this is particularly complicated in the case of China. The country's urban population “enigma” (Orleans and Burnham, 1984) concerns the definition of these two elements, and is further complicated by the national system of household registration.

First, the geographical definition of an urban area relates to the actual spatial coverage of the built environment that has certain “urban” characteristics, such as urban infrastructure or residential blocks. This physical reality of a city often does not coincide with its administrative boundaries. Therefore, in order to enumerate the urban population accurately, it is common practice to adopt a statistical demarcation of urban areas, such as the Metropolitan Statistical Area (MSA) and Standard Metropolitan Statistical Area (SMSA) adopted by the US Census Bureau. However, before 1999, when the first set of criteria for counting urban populations was established in China, the administrative boundaries of cities and towns were used for urban population statistics. In addition to the lack of coincidence between actual urban areas and the administratively bounded areas, administrative boundaries of cities and towns have frequently changed, often due to expansion. For these reasons, there has been considerable inaccuracy in measuring the urban population.

The second concern is the proportion of the population within the defined urban areas that should be counted as urban population. The normal practice is to count those people who stay for a minimum period, such as six months in the year before the Census. The situation in China is complicated by the application of the household registration or *hukou* status as the criterion for enumerating urban population for some Census years.

The *hukou* system was introduced in the early 1950s, originally for population registration and later also for migration control. But there are actually two classifications of *hukou*: *hukou* type and residential location. Both were adopted as categories for the enumeration of urban population in China's Census in a rather inconsistent manner. Based on the *hukou* type, the country's population was divided into two groups: agricultural (*nongye*) *hukou* population and non-agricultural (*fei nongye*) *hukou* population. The key differentiation was the source of a person's grain supply, rather than economic occupation (Zhang and Zhao, 1998). Holders of a non-agricultural *hukou* received grain and other goods and services allocated by the state. Those holding an agricultural *hukou* were assumed by the state to practice farming and so received no allocated goods or services. In the pre-reform period, the categorization of *hukou* type was an effective way of controlling the movement of population into cities. As most goods and services were controlled by the state, people could not live in the cities without state-provided resources. The other classification of *hukou* is based on residential location. Individuals register their *hukou* to an administrative unit (normally their place of origin) – for example, a Beijing *hukou*. A *hukou* in each location can be either agricultural or non-agricultural.

Table 1 indicates the many complex changes in the definition of urban area and urban population that have been adopted in different Censuses. To complicate matters further, the administrative boundaries have varied as the criteria defining “city” and “town” changed. In general, the main criteria for establishing a city are the settlement’s administrative status, economic functions, size of population and the percentage of non-agricultural *hukou* population. The State Council can amend these criteria to change a settlement’s status. For example, in 1963, strict criteria¹ were adopted to restrict the number of localities defined as cities and towns due to concern about the rapid growth of the urban population and the possible lack of agricultural capacity to sustain it. The criteria for establishing towns and cities were revised in 1984 and 1986 respectively. The latter’s criteria for town establishment remain valid now, while those for cities were again revised by the State Council in 1993.² Such changing criteria greatly inflated the statistics on urban population, when the administrative boundary was used in counting it.

Table 1: Definitions of urban population and urban area adopted in various Censuses

		The proportion of population counted as urban			
		Total population	Non-agricultural <i>hukou</i> population	Urban residence (one year)	Urban residence (half a year)
Urban area	Administrative Boundary (I)	Census 1953 (1 st)	Census 1964 (2 nd)		
	Administrative Boundary (II)	Census 1982 (3 rd)		Census 1990 (I) (4 th)	
	Administrative Boundary (III)			Census 1990 (II) (4 th)	
	Statistical Criteria (I)				Census 2000 (5 th)
	Statistical Criteria (II)				Census 2010 (6 th) (ongoing)

Notes: 1) China has had five Censuses since 1949, conducted in 1953, 1964, 1982, 1990 and 2000; 2) Administrative Boundary (I) refers to the administrative boundaries of the cities and towns; Administrative Boundary (II) refers to the administrative boundaries of the cities and towns excluding the counties under the jurisdiction of cities; and Administrative Boundary (III) reflects more basic administrative units in cities and towns, the districts and street offices;³ 3) Statistical Criteria (I) refers to the document issued in 1999 by the National Bureau of Statistics (NBS), *Provisions on Statistical Division of the Urban and Rural Area (on Trial)*; Statistical Criteria (II) refers to the document issued in 2008 by NBS, *Statistical Division of the Urban and Rural Area*; 4) “Urban residence (one year)” refers to people who had been living in the urban area for more than one year by the Census date.

With the evolution of the definition from an administrative boundary to a statistical area for an urban area, and from total population to *hukou* category to urban residence on a half-year basis, the statistics on China’s urban population are becoming increasingly realistic (Chan and Hu, 2003; Zhou and Ma, 2005). Table 2 shows the estimated urban population and level of urbanization by year in post-reform China, according to official sources.

¹ According to the regulation, a minimum requirement of setting up a town is either a cluster of 3000 people having a non-agricultural population of more than 70 per cent, or a cluster of 2500 people with a non-agricultural population of more than 85 per cent. Compared with the previous requirement (a clustered population of 2000 with non-agricultural population over 50 per cent), the new regulation conveyed a signal of anti-urbanism.

² For the detailed evolution of town and city establishment criteria, see Zhang and Zhao (1998).

³ For detailed discussion on the variations of these criteria, see Kirkby (1985), Ma and Cui (1987) and Zhou and Ma (2003).

Table 2: Urban population and urbanization level, 1979–2008

Year	Urban population (million)	Urbanization level (%)	Year	Urban population (million)	Urbanization level (%)
1979	184.95	19.0	1994	343.01	28.6
1980	191.40	19.4	1995	351.74	29.0
1981	201.71	20.2	1996	373.04	30.5
1982	214.80	21.1	1997	394.49	31.9
1983	222.74	21.6	1998	416.08	33.4
1984	240.17	23.0	1999	437.48	34.8
1985	250.94	23.7	2000	459.06	36.2
1986	263.66	24.5	2001	486.04	37.7
1987	276.74	25.3	2002	502.12	39.1
1988	286.61	25.8	2003	523.76	40.5
1989	295.40	26.2	2004	542.83	41.8
1990	301.91	26.4	2005	562.12	43.0
1991	305.43	26.4	2006	577.06	43.9
1992	323.72	27.6	2007	593.79	44.9
1993	333.51	28.1	2008	606.67	45.7

Notes: 1) data before 1982 refer to the non-agricultural population; data from 1982 to 1989 are adjusted based on the 1990 Census; data from 1990 to 2000 are adjusted based on the 2000 Census; data from 2001 to 2004, and 2006 to 2008 are adjusted based on the annual population survey;⁴ data from 2005 are adjusted based on 1 per cent sampling in 2005;⁵ 2) Census data are for 1 November while data in this table use 31 December; for example, according to Census 2000, the urbanization level is 36.1 (1 November 2000) while in this table the urbanization level is 36.2 (31 December 2000).

Source: *China Population and Employment Statistical Yearbook 2009*.

3 Stages of Chinese urbanization

3.1 An overview of post-reform urbanization

This section offers an overall picture of the country's urbanization trajectory in order to set the stage for a closer examination of three clearly differentiated recent stages in this process. The main point to be retained is that the pace of urbanization has been much faster in the post-reform period than before 1978. According to the first Census of the People's Republic of China (PRC) in 1953, there were only 77.3 million urban residents, accounting for 13.3 per cent of the total population (NBS, 1954). The three decades from 1949 to 1978 witnessed an increase of only 4.6 per cent in the level of urbanization, signifying an average annual increase of 3.8 million urban people and an overall increase of 114 million in the urban population. Most of this modest increase in urban population occurred in the first decade after 1949, when China embarked on its First Five-Year Plan, involving the launch of

⁴ The annual population survey, held for 20 years since 1983, is a major source of annual population data at both national and provincial levels.

⁵ The Census discussed above is carried out every ten years. Given the rapid change of population data, the National Bureau of Statistics holds a "1 per cent" sampling survey between Censuses, usually in the middle year between two Census years.

industrial and military modernization projects.⁶ Shortly after this planning period, however, political movements toppled production and construction, slowing down the development of the whole country, including the cities.

It was not until the economic reform of 1978 that China's urbanization started to take off and, since then, the two processes have fed off each other. With the introduction of market mechanisms in the 1978 reform, growth factors such as labour, land, capital and technologies (including vernacular techniques) could be mobilized for increased economic accumulation. The three decades after 1978 (1979–2008) thus saw an increase of 26.7 per cent (from 19.0 to 45.7 per cent). The urban population increased from 185 million to 607 million, an average annual increase of 14.1 million, nearly four times the rate of the pre-reform era. As will be shown below, the last three decades have also seen an increase in the number of cities, in average city size, in the number of large cities and in the urban built-up area.

During this period, cities have played a central role in the country's social and economic development. In 2001, urbanization (*chengzhenhua* in Chinese) was, for the first time, written into the 10th Five-Year Plan (2001–2005) as an explicit development strategy. In 2001, cities and towns accounted for half of the national industrial output, 70 per cent of GDP, and 80 per cent of all national tax revenue. Some 90 per cent of higher education and scientific research resources were located in cities and towns (People's Government of PRC, 2001a).

As noted in the *Outline of the 10th Five-Year Plan*:

“...enhancing the level of urbanization and shifting rural population benefits an increase in peasants' income, enlarges the consumer market, optimizes the rural/urban economic structure... with the advance of productivity in the agricultural sector and acceleration of industrialization, the time is ripe for the promotion of urbanization and we should not miss such a chance to implement the strategy of urbanization.”

(People's Government of PRC, 2001a, translated by authors)

Urbanization was viewed as a stimulus for economic growth and a solution for rural–urban disparities. The significance of urbanization was reiterated in the 11th Five-Year Plan (2006–2010). The resolution to promote further urbanization was confirmed, with emphasis on a healthier development trajectory:

“...adhere to the coordination of the development of large, medium and small size cities and towns; enhance the carrying capacity of cities and towns; promote urbanization actively and steadily to transform the dual rural/urban structure under the principles of step by step, saving land, intensive development and rational distribution.”

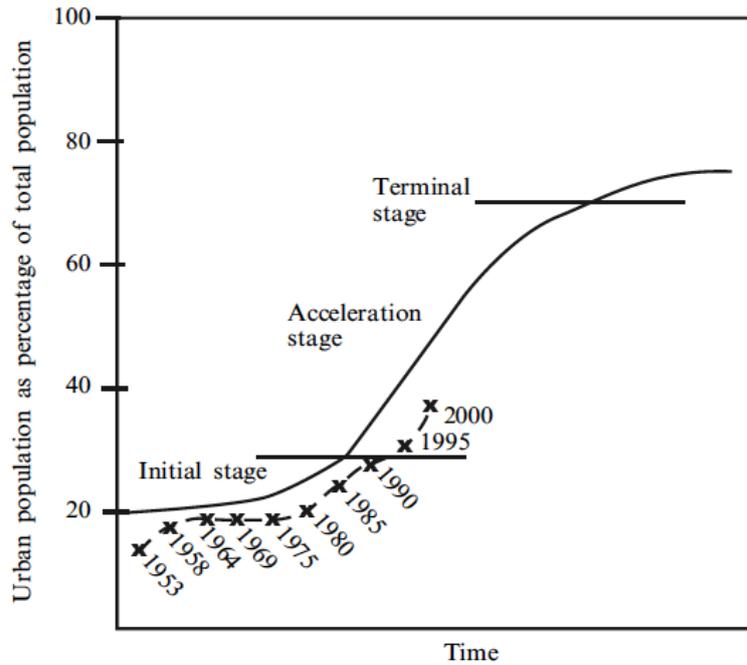
(People's Government of PRC, 2006, translated by authors)

According to a model derived from other advanced industrial countries, China's urbanization process is now in the accelerating stage⁷ (Figure 1) (Pannell, 2002). Figure 2 indicates that this accelerating trend also applies to both China's urbanization level and its urban population growth.

⁶ PRC launched its 1st Five-Year Plan (1953–1957) to advance industrialization and modernization with 156 major construction projects under the supervision of the Soviet Union.

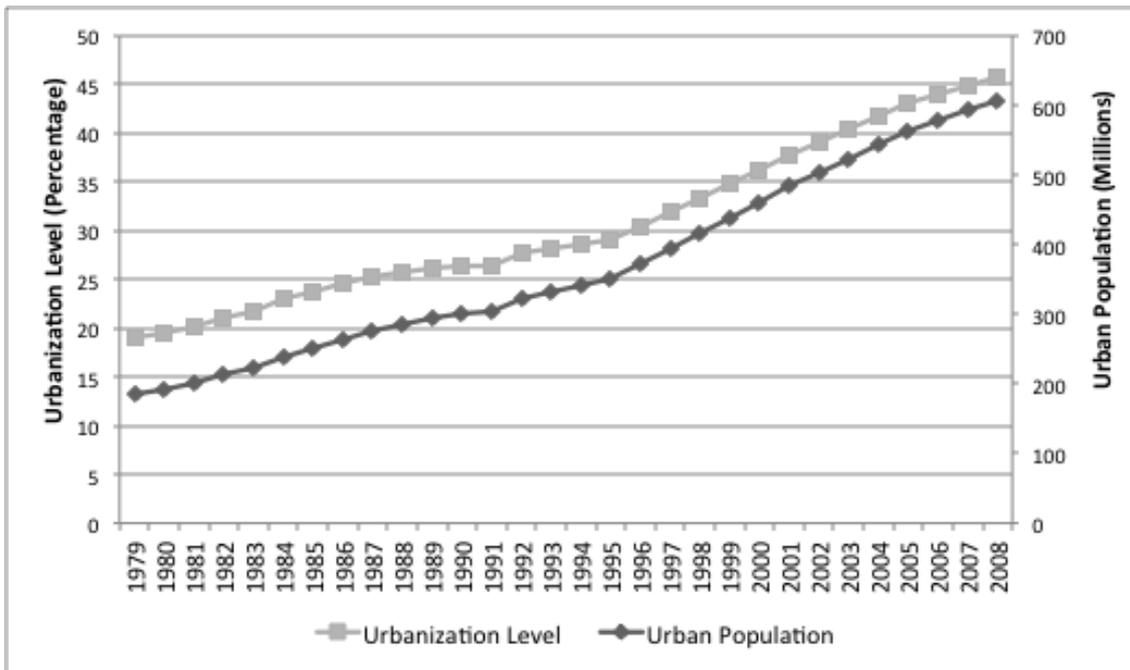
⁷ Renowned American Geographer, Ray M. Northam examined the urbanization process in European and American cities, and generalized that urbanization goes through three phases: initial, accelerating and stable. The process enters the accelerating phase when the urbanization level reaches 30 per cent. Other advanced industrial countries, including Japan, have followed similar patterns.

Figure 1: China's urbanization level and the stages of urbanization



Note: x—x shows China's urbanization level in respective years.
 Source: Pannell, 2002: 1571.

Figure 2: Urbanization level and urban population, 1979–2008

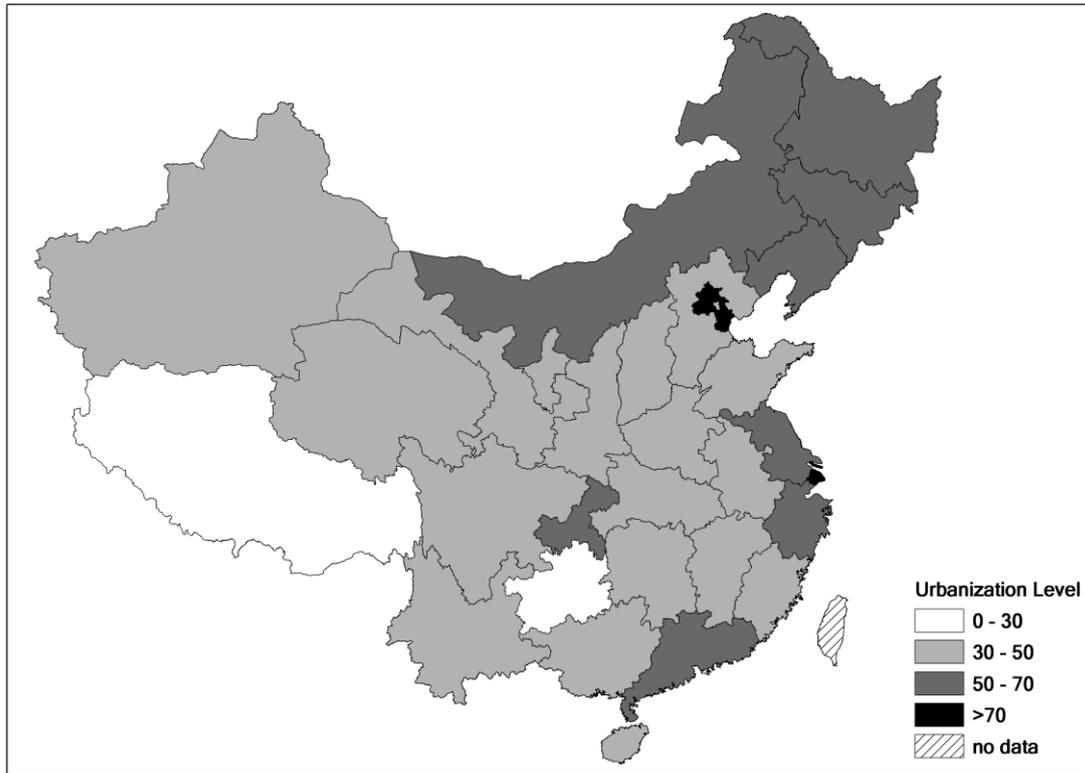


Source: *China Statistical Yearbook 2009*.

Within these overall national trends, urbanization patterns vary considerably across the country, with the eastern region showing the highest level of urbanization, followed by the central and western regions. In 2008, 56.2 per cent of the population in the eastern region was urban, while the figures for the central and western regions were 43.0 per cent and 38.3 per cent respectively. There are also variations between provinces (Figure 3). The four

independent municipalities of Beijing, Shanghai, Tianjin and Chongqing are all highly urbanized, especially the first three, which have over 75 per cent urbanization levels. Provinces with over 50 per cent urban population are concentrated mostly in coastal areas and the northeast, such as Heilongjiang, Liaoning, Jilin and Inner Mongolia, which used to have a heavy-industrial base. There is also a close relationship between urbanization level and per capita GDP of provinces.⁸

Figure 3: Urbanization level by province, 2008

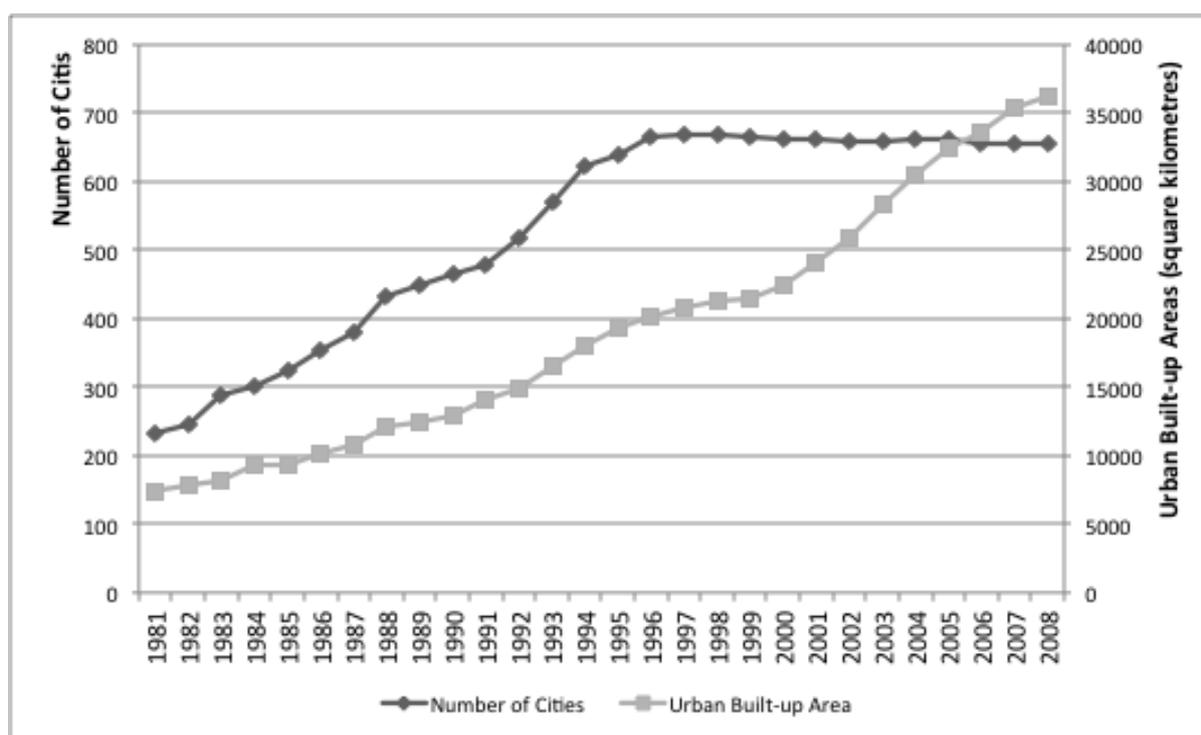


Source: *China Statistical Yearbook 2009*.

Rapid urban population growth has led to an increase in the number of urban settlements and to the expansion of urban built-up areas. Thus, the number of cities in China grew from 193 in 1978 to 655 in 2008: The most marked increase began in the early 1980s and reached a peak in the mid-1990s (Figure 4). The greatest growth took place in small and medium-sized cities. Such growth is largely due to the urban development strategy that prevailed throughout the 1980s, intending to control the size of large cities, rationally develop the medium-sized cities and actively develop small cities. Nevertheless, the number of cities with more than 1 million people grew from 13 to 58 and their population increased from 29.9 to 148.3 million – an increase larger than the sum of the other city-size groups' increase (Table 3).

⁸ The correlation coefficient between urbanization level and per capita GDP for the 31 provinces is 0.93 (correlation significant at the 0.01 level).

Figure 4: Number of cities and urban built-up area, 1981–2008



Source: *China Urban Construction Statistical Yearbook 2008*.

Table 3: Number of cities of different population sizes, 1978 and 2007/8 (millions)

City size	1978		2007		Number of additional cities from 1978 to 2008	Population increase from 1978 to 2008
	Number	Population	Number	Population		
Over 1 million	13	29.9	58	148.3	31	118.4
0.5–1 million	27	19.9	82	56.0	83	36.1
0.2–0.5 million	60	18.7	232	74.1	71	55.4
Under 0.2 million	93	11.3	283	37.6	215	26.3
Total	193	79.8	655	316.0	462	236.2

Source: *China Urban Development Report 2008*.

There has also been a trend towards rapid expansion of the urban areas (see Figure 4). From 1981 to 1999, the annual expansion of urban built-up areas was around 800 square kilometres. Since 1999, the growth rate almost doubled to around 1700 square kilometres per annum. The urban built-up area has grown much faster than the urban population. From 1981 to 2008, the annual growth rate of urban population was 4 per cent whereas the

corresponding figure for urban built-up area was 6 per cent. Altogether, the urban built-up area grew dramatically from 7438 to 36,295 square kilometres, a fivefold expansion.

In summary, the four key characteristics of urbanization in post-reform China are:

1. A rapid growth of the urban population, with an increase of 421.7 million people, resulting in an increase of the country's urbanization level from 19 per cent to 45.7 per cent. This rapid growth is continuing, and anticipated to become even faster.
2. Variations in urbanization levels by region, with the wealthier eastern region having a higher level, followed by the central and western regions. Variations are also observed at the provincial echelon, with richer provinces being more urbanized.
3. A rapid growth in the number of urban settlements, with the numbers of small and medium-sized cities growing faster than those of large and extra-large cities. However, in absolute terms, urban population growth was concentrated in the largest cities.
4. A rapid expansion of urban area, resulting in a total urban area in 2008 that was five times that of 1981. Moreover, the expansion of the urban built-up area has been accelerating since the beginning of 2000.

The following sub-sections discuss the role of government policy in the acceleration of urban growth processes in the post-reform period. China's post-reform urbanization can be divided into three main stages, according to the forces that affected it. These are: rural urbanization driven by industrialization (1978–1987); urbanization driven by land reform (1988–2000); and urbanization driven by the service industry (2001–). Each of these three stages of post-reform urbanization had different impacts on the pace and form of urban development, and will now be considered in turn.

3.2 Rural urbanization driven by industrialization (1978 to 1987)

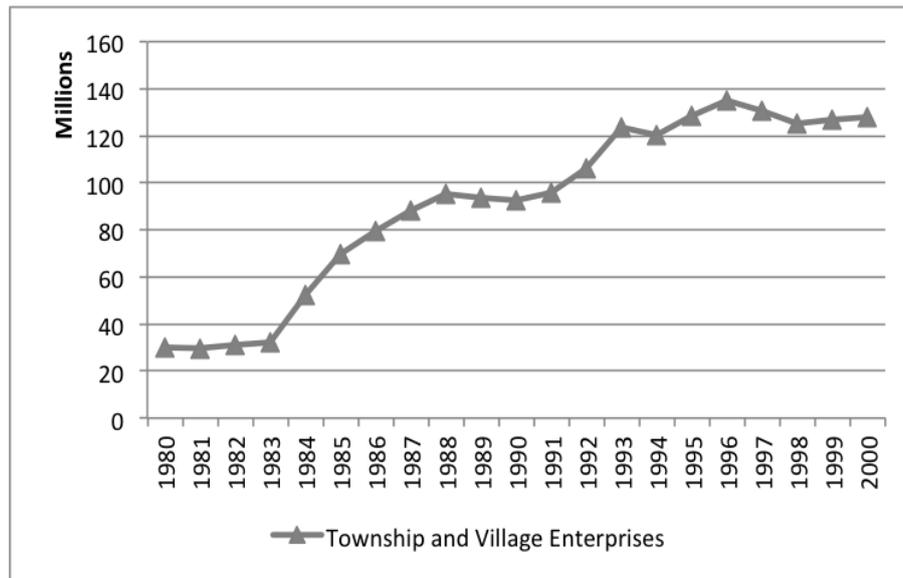
Before the development of national economic reform policies, 18 farmers in *Xiaogang* village (in eastern Anhui Province) inadvertently ignited China's rural reform. They signed a secret agreement to divide communally owned farmland into individual plots. This ended up triggering the collapse of the People's Commune System (PCS) and the establishment of the Household Responsibility System (HRS). The HRS allowed individual households to take full charge of production on their allocated land plots. Essentially, households were allowed to retain grain surpluses instead of turning in the entire farm product to the collectives under the PCS (Yang, 1996). Peasants' initiatives galvanized rural productivity and generated a huge surplus of farm labourers that had been disguised under the PCS. According to an estimate by Taylor and Banister, the number of surplus rural workers exceeded 100 million each year between 1982 and 1987, accounting for 33.5 to 42.5 per cent of the entire rural labour force (Ma and Lin, 1993).

Growing perception that the firmly entrenched *hukou* system fettered the mobility of labour led to a proposal for reform aimed at releasing the pressure from surplus rural labour. In the early 1980s, holders of an agricultural *hukou* were allowed to migrate to nearby market towns and other small towns, as long as they could provide for their own livelihood (Chan, 2009). This loosened the main constraint on migration. Subsequent industrialization in these towns absorbed the labour surplus released from the countryside.

The process of rural industrialization was realized through the promotion of township and village enterprises (TVEs). TVEs were set up in rural areas where the administrative levels are township and village. Driving forces for the growth of TVEs included: the initiative of the local government for promoting tax revenue; the central government's aspiration to modernize national agriculture; the absorption of surplus labour; the alleviation of rural poverty by improving the living standards of the peasants; and the desire of those without adequate agricultural work to seek new opportunities for moving out of poverty and

underemployment in the countryside (Liang, 2006). Additional elements facilitated rural industrialization, such as the existence of traditional craft activities, or favourable locations for foreign capital investment (Friedmann, 2004).

Figure 5: Number of employees of TVEs, 1980–2000



Source: *China Statistical Yearbook 2009*.

The number of people employed in TVEs grew rapidly from the early 1980s until the mid-1990s (Figure 5), with over 100 million employees joining TVEs during that period. In comparison to the stagnant or even retrograde situation in state- and collectively owned enterprises during the same period, TVEs contributed significantly to employment creation. The TVE sector thus became one of the main pillars of China's economy. In 1990, rural industries accounted for a quarter of China's total GNP and 60 per cent of its rural production. Ninety million people were registered as rural-industry employees, and the actual number may have been much higher. Rural industries employed 87 per cent as many people as state sectors, although three years later, in 1993, these two sectors provided equal numbers of jobs (White, 1998).

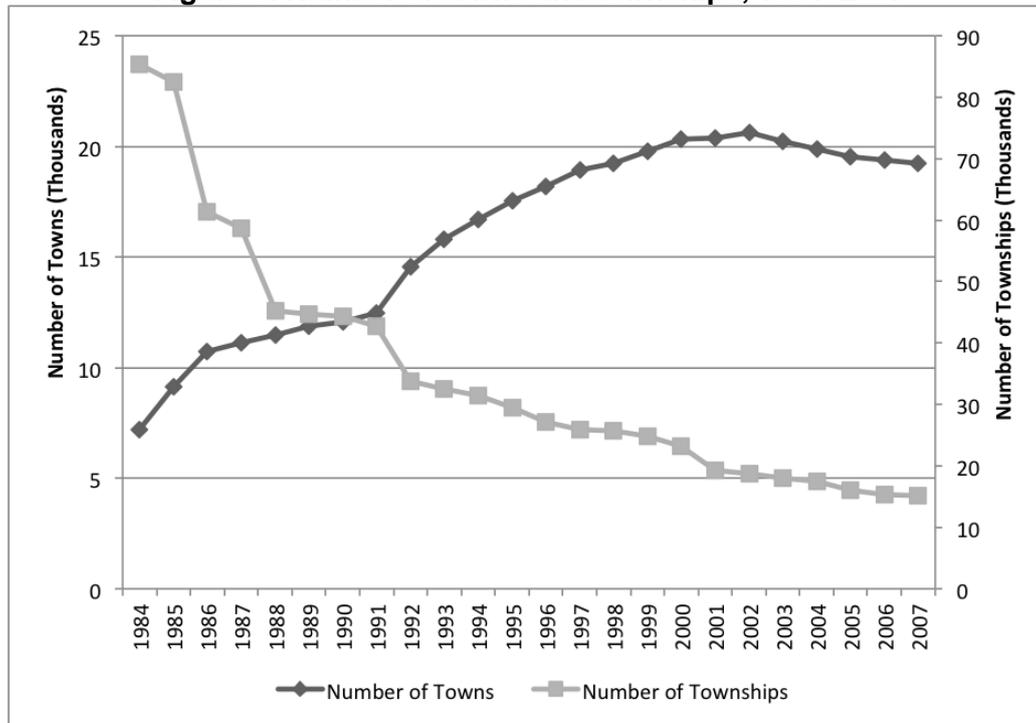
The development of rural industries enabled millions of former farmers to continue living close to their home villages. There was a saying that reflected the condition of these farmers working in rural industries: 'leave the farm but not the village; enter the factory but not the city'. Despite their non-agricultural jobs, these workers maintained ties with farming and could provide support in the busiest farming seasons (normally sowing and harvesting), when mass farm labour was needed for short periods. In addition, the partially reformed *hukou* system continued to put restrictions on migration, and was another reason for people working in the towns close to their villages (Goldstein, 1990; Chan, 1994; Shen, 1995; Chan and Zhang, 1999; Solinger, 1999).

The influx of rural workers (although most of them were temporary migrants) began giving an urban character to some rural areas through the development of rural industries (Friedmann, 2004). This process was later described by Zhu (2000) as *in situ* urbanization. Friedmann (2004) evaluated such urbanization in five dimensions: administrative, economic, physical, socio-cultural and political.

- Administratively, the rapid increase in the number of towns in the early 1980s and the momentum maintained in the 1990s resulted in most towns being upgraded from townships (*xiang* in Chinese) (State Council, 1984) (Figure 6).

- Economically, the trend was for people to retreat from underemployment in the primary sector, by leaving farmland to engage in the secondary (manufacturing industry, construction), and tertiary sectors (trades and services).
- Physically, the villages and townships acquired an “urban look” as streets were paved, public spaces were beautified and multi-storey buildings appeared.
- Socially and culturally, everyday life was transformed, with large numbers of newcomers working in local factories, and the simple peasant life giving way to new and more complex livelihoods.
- Politically, there emerged a strong linkage between local officials and business elites – the local corporatism referred to by Jean Oi (Friedmann, 2004).

Figure 6: Number of towns and townships, 1984–2007



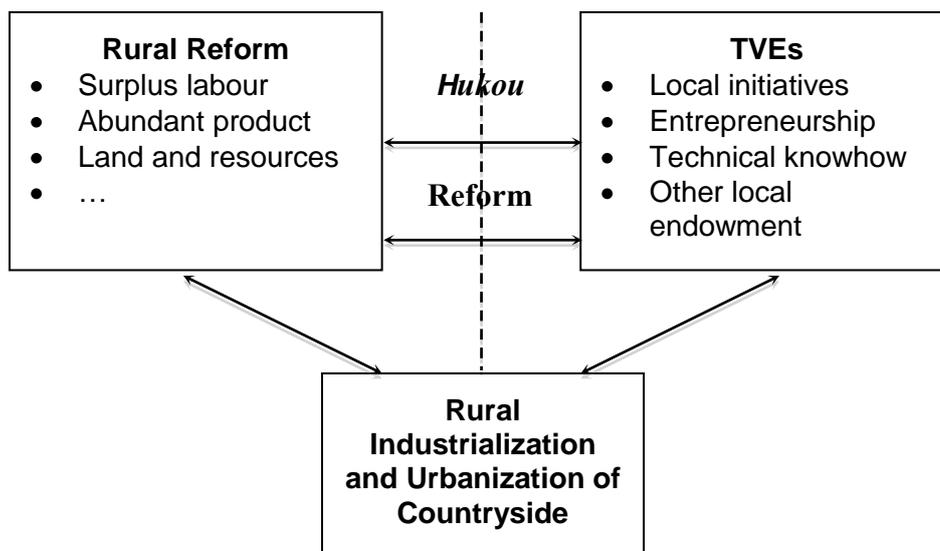
Source: *China Civil Affairs Statistical Yearbook 2008*.

Ma and Lin (1993) and Ma and Fan (1994) described the urbanization brought on by rural industrialization as “urbanization from below” after investigating the development of towns in the Pearl River Delta in Southern China and Jiangsu Province in Eastern China. They argued that the central government had not played an active role in the growth of towns. Rather, local endowments – such as geographical location, resources, history and business culture – and linkage with foreign capitals had played key roles. Such varied local endowments led to the emergence of different models of rural–urban development. For example, the Southern Jiangsu Model features a prominent role for collectives in organizing and facilitating local industrial development (Ma and Fan, 1994; Wei, 2002). The Wenzhou Model was famous for its dynamic private sector (Liu, 1992; Parris 1993; Ye and Wei, 2005), and the Pearl River Delta Model emphasized the advantages of overseas capital (Ma and Lin, 1993; Eng, 1997; Sit and Yang, 1997). Such sporadic industrial development in rural areas generated “multi-centric” urban spatial forms and the rampant growth of peri-urban areas around medium-sized and large cities (Friedmann, 2004: 36). This helped to slow down mass migration to big cities, and avoided the pattern common to many other developing countries where rural migrants settled in shantytowns in large cities, having very limited formal employment opportunities.

The pace of rural industrialization began to slow in the mid-1990s. This was mostly due to competition from the enterprises in cities, limited technological and human resources, vanishing tax and loans incentives, and other drawbacks to rural enterprise management (Yao, 2002; Kung and Lin, 2007). The situation worsened after China's accession to the World Trade Organization in 2001, bringing competition from large-scale and better-managed foreign firms. Employment in the TVEs dropped by 17 million in 1998 (Solinger, 2003) and then remained stagnant. The following decade saw a total growth of only 15.8 million people working in TVEs, less than the annual growth in the 1980s. Facing such intensive competition, mostly from privatization, TVEs have been experiencing a process of transformation (Chang, McCall et al. 2003; Shen and Ma, 2005). However, TVEs have undoubtedly contributed significantly to China's rural transformation and urbanization. As noted by Friedmann (2004), China is the only country (with the possible exception of communist Vietnam) in which rural industrialization has shaped new urban configurations, and the only country in which rural industrialization has been truly transformative. It helped to save Chinese cities from the severe problems widely experienced in developing countries elsewhere.

Figure 7 summarizes the processes of rural industrialization. Initially, rural reform generated surplus rural labour and supplied sufficient farm produce to sustain non-agricultural activities in towns and cities. Further, changes in the *hukou* system facilitated rural migration to small towns. Then, local initiatives together with local endowments (such as the entrepreneurship of local leaders and technical knowledge) and foreign capital, all helped rural industries to flourish. The sector not only absorbed surplus labour but also contributed to the country's economy significantly throughout the 1980s. Moreover, the growth of rural industries spurred the development of small towns and cities and made those previously rural settlements increasingly urban. The urbanization process in this stage can thus be summarized as an endogenous and spontaneous growth of rural industries in small towns, leading to the urbanization of the countryside.

Figure 7: The process of rural industrialization



3.3 Urbanization driven by land reform (1988 to 2000)

Land and housing reforms

The success of rural reform since the late 1970s encouraged the central government to promote further reforms in the urban sector through a series of policies that have been

adopted since 1984. In line with the country's transformation from a planned economy towards a market economy, cities were directed towards commercialization and privatization. Private property and other institutional arrangements, such as devolution of power, are essential in the process of marketization. The globalizing world, specifically in the forms of foreign trade and foreign capital, also fuelled the transformation. The key factor triggering these processes was land reform, which led to the commodification of the built environment. Since the economic reform, labour had been commoditized through certain migration rights, and attracted to towns and cities. Favourable policies facilitated foreign capital investment in selected regions and industries. Thus, of the three factors of production – labour, capital and land – it was only land that remained intact in the state's domain.

In the classic Marxist view, land was not considered a main factor of production, having no value without the addition of labour. Therein, an increase of land value was perceived as an indirect exploitation of labour engaged in production. Avoiding the exploitation of labour thus required elimination of the private ownership of land, regarded as a means of exploitation, and the reduction of the land costs to zero (Zhang, 1997). Therefore, in the pre-reform era, there was virtually no privately owned land. Land in China was either state-owned or collectively owned, and land transactions were banned.⁹ The state allocated land to users without any charges. Since the users at that time were publicly owned enterprises or agencies, the free land-allocation system was not challenged. Following economic reform and the introduction of privately owned enterprises, including foreign enterprises and joint ventures, the free allocation of land was no longer appropriate (Yeh and Wu, 1996a; Zhang, 1997). Besides, it was perceived that the system of free land use resulted in serious economic inefficiency, contributing to the demand for reform of the land allocation system (Bertaud and Renaud, 1992; Xie, Parsa et al., 2002; Ding, 2003).

In a prelude to official land reform, several coastal cities with concerns about land use for foreign investors began to experiment with the paid use of urban land. Shenzhen, one of the Special Economic Zones established in the early 1980s, was the first to levy an annual land-use fee to overseas investors (Yeh, 1985). A national experiment in charging land-use fees was then introduced in 1984 (Xie, Parsa et al., 2002). Such trials confirmed the irrational and inefficient land use under the previous system, and triggered the establishment of the State Land Administration Bureau and the enactment of Land Administration Law in 1986. The Bureau was "responsible for, and in charge of land policy reform, land allocation and acquisition, monitoring of land development, comprehensive land-use plans, and implementation of land laws" (Ding, 2003: 112). The law shifted power in land management from various ministries and other units to the local government (Wu, Xu and Yeh, 2007). Both the establishment of the bureau and the enactment of the law set the stage for land reform.

The paid transfer of land-use rights was made official in the First Session of the Seventh People's Congress in 1988, and included in the constitution through a clause stating "the right to the use of land may be transferred in accordance with law". This marked the end of free land use and opened a new era of lawful transactions of urban land (Dowall, 1993; Yeh and Wu, 1996a). There were three key features of China's urban land-use reform (Zhang, 1997):

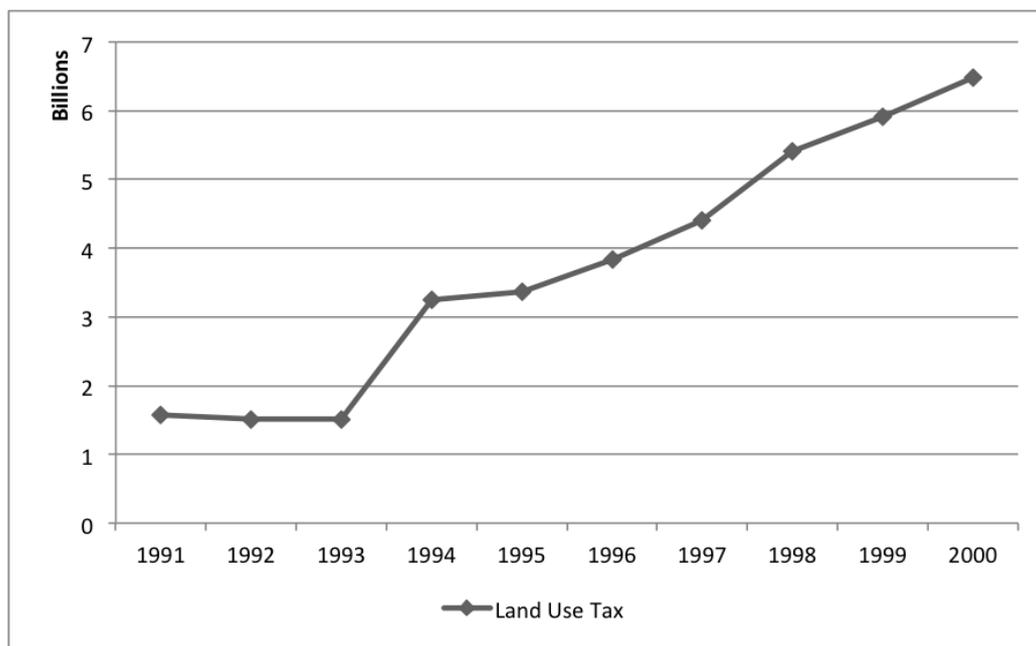
1. land taxation, requiring all urban land users, including both work units and individuals, to pay a land-use tax;
2. the separation of land-use rights from ownership, so that the state retains ownership of the land and only the use-right is leased;
3. a dual-track land system, in which the administrative land allocation of the pre-reform era and the newly established land-leasing system co-exist.

⁹ According to Clause 4, Article 10 of the 1982 Constitution: "no organization or individual may appropriate, buy, sell, or lease land, or unlawfully transfer it in other ways".

Through these arrangements, land-use efficiency has improved and government revenues increased. Local authorities and agencies were highlighted as the main actors in implementation of the land reforms, supported by reform in the fiscal system.

The introduction of the central–local contract system in 1985 (Zhang, 1999) and the tax-sharing system in 1994 (Chen, 2004) provided incentives for local governments to address land issues effectively. The objectives of the reform were to promote local productivity, increase local initiatives in expanding revenue and cutting expenditure, and develop the national economy. Local governments were permitted to retain certain revenues, the so-called “extra-budgetary revenue”, for local disposal. Land revenue was included in the category of extra-budgetary revenue. Together with the disposal rights of land granted by Land Administrative Law, the role of local government started to change, gaining autonomy and initiative (Oi, 1995). Walder (1995) referred to local governments as “industrial firms” and Duckett (1996) and Friedmann (2004) described them as entrepreneurial states (or cities). Land was the essential instrument in developing the local state. According to Ho and Lin (2001), land-related revenues accounted for 30–70 per cent of the total revenue of local governments in the 1990s. Ding (2003) came up with a more conservative estimate of 25–50 per cent. Figure 8 shows the rapid growth of urban land-use tax. The trend increased rapidly, especially since the tax-sharing system of 1994. With the introduction of housing reform, the significance of land was emphasized once again.

Figure 8: Urban land-use tax, 1991–2000



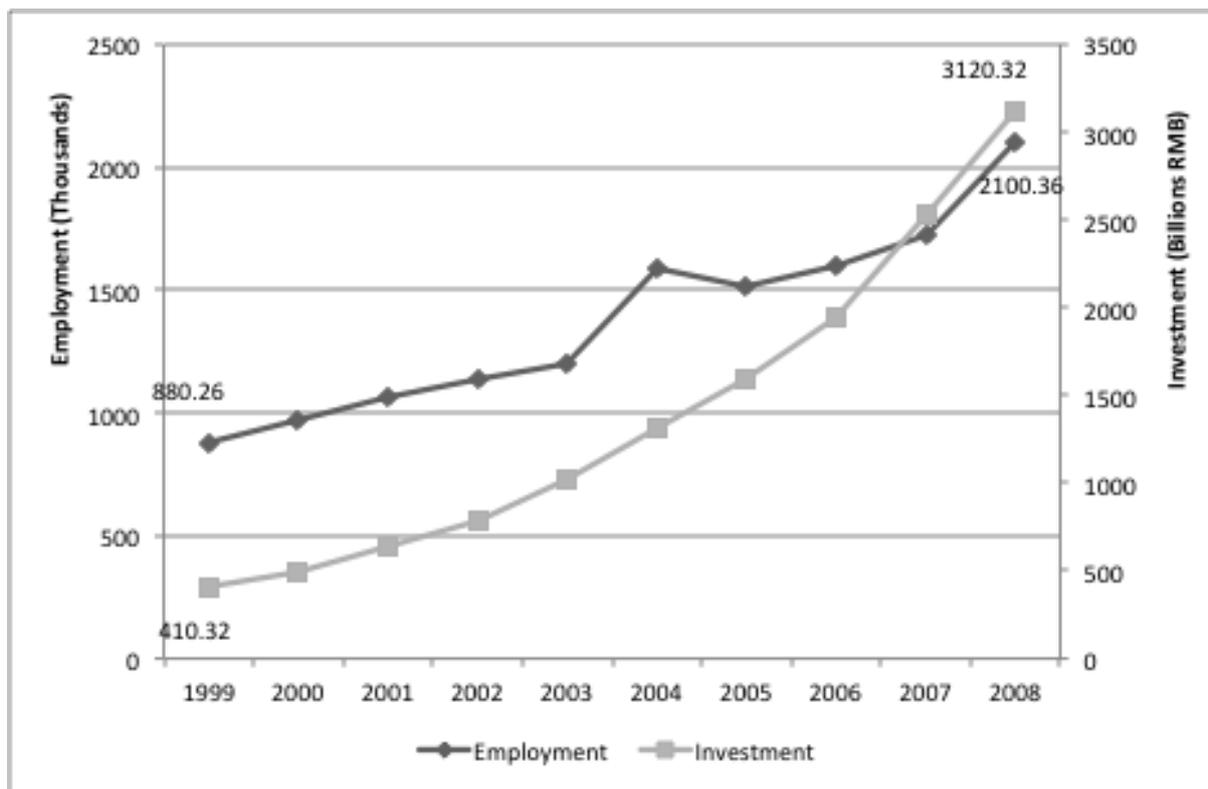
Source: *China Statistical Yearbook 2009*.

The gradual reform of the housing sector started in the late 1980s when the state faced a severe housing shortage and an insufficient budget to construct more housing stock (Wu, 1996; Zhou and Logan, 1996). With the announcement of gradual reform (State Council, 1988), the work-units started to sell existing housing stock, which triggered the process of housing commercialization. Later, state employees were subsidized by their work-units to buy newly developed housing. It was not until 1998 that the allocation of housing based on the state work-units was abolished. The objective of housing reform was to develop commodity housing to boost domestic demand and thus to stimulate economic growth. The direct housing distribution by work-unit employers came to an end while a multiple supply

system was established, including state-supported affordable or low-cost commercial housing, and high-standard commodity housing. The housing finance system was created to facilitate the process of commodification (Wang, 2001; Wu, 2001).

Housing reform led to a booming real-estate market and stimulated the urban economy (Figure 9). The decade from 1999 to 2008 witnessed a more than seven-fold growth of real-estate investment, from 410.32 billion to 3120.32 billion, and an increase of more than double the amount of employment from 880 thousand to 2.1 million. Land and housing reforms are manifestations of commercialization, decentralization, privatization and globalization in the post-reform era. The role of local states has been transformed under these processes, as have urbanization and urban development.

Figure 9: Employment and investment in the real-estate sector, 1989–2008

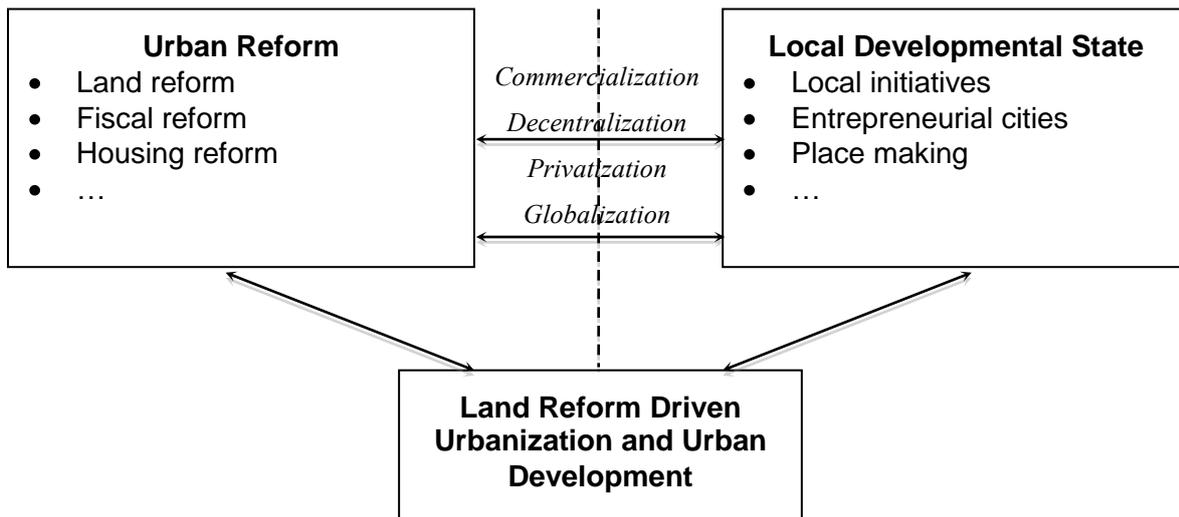


Source: *China Statistical Yearbook 2009*.

Urbanization and urban development

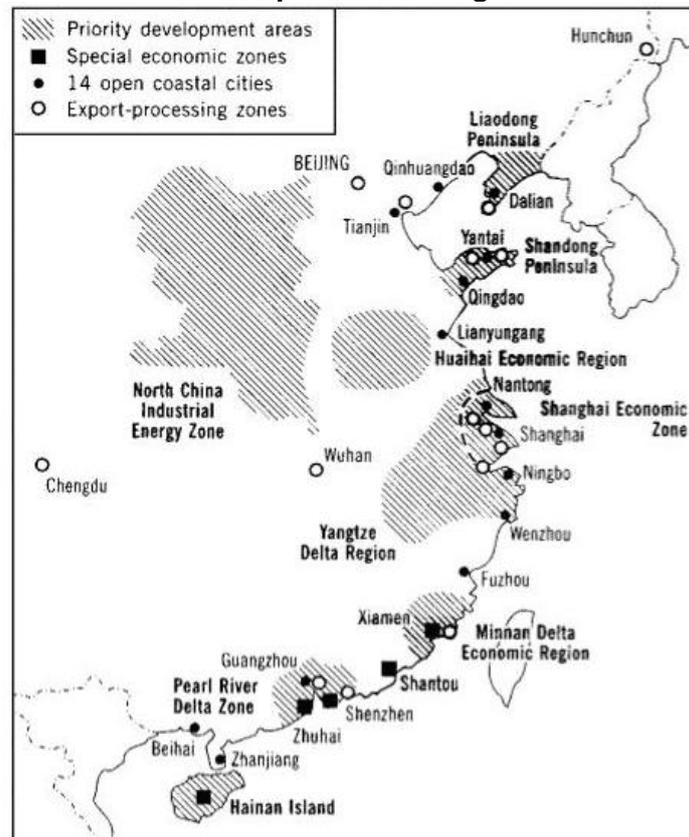
The policies and processes summarized in Figure 10 significantly changed the regional and urban landscapes, especially through the development of the land and housing market and the rapid expansion of urban land and construction. Regionally, with the gradual implementation of reform policies, inequalities developed. With the rapid expansion of major cities, and the appearance of small cities and towns, city-regions in China started to emerge. At the city level, more efficient land use, and spatial differentiation of land use could be observed.

Figure 10: Urbanization and urban development driven by land reform



The reform policies were tested and implemented gradually. The right to accept foreign capital was first granted to the Special Economic Zones and then to the open coastal cities before being introduced throughout the country. Similarly, land-use reform and housing reform were tested in a few pilot cities, mostly the coastal cities in Southern China. Thus, geographical disparities increased (Figure 11).

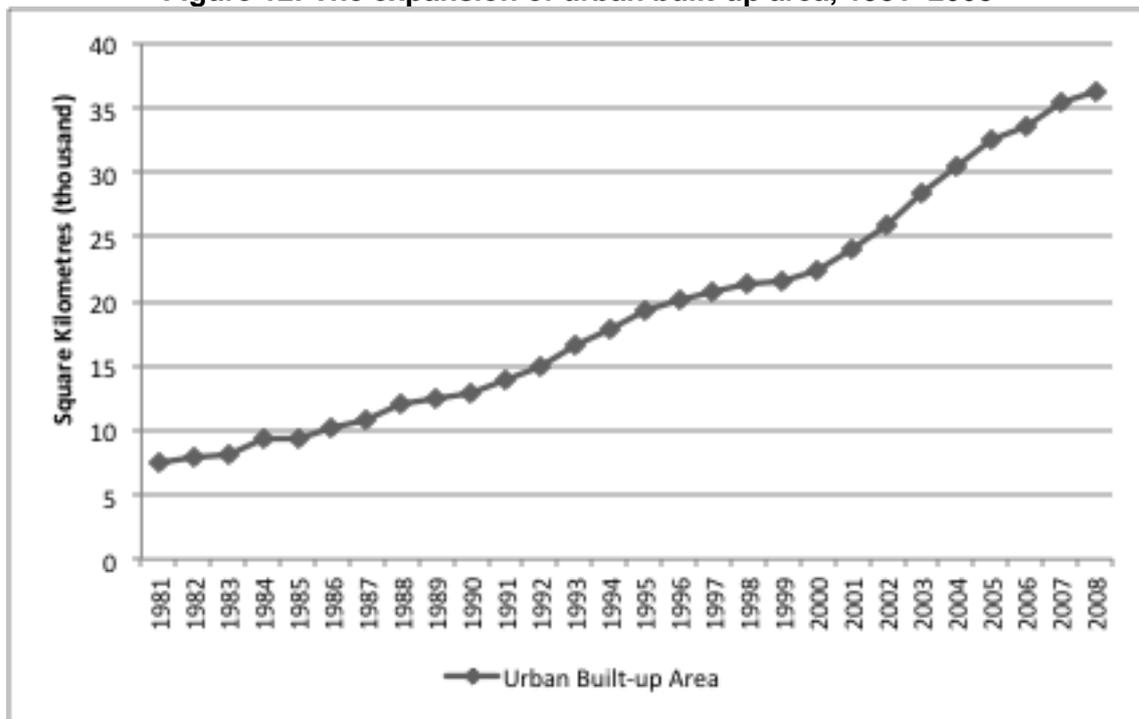
Figure 11: Cities and zones opened to foreign investment in the 1980s



Source: Phillips and Yeh, 1990: Figure 9.4.

Rapid urban expansion was also observed in this stage (Figure 12). There were two periods of faster growth: the late 1980s when land reform was initiated, and the late 1990s when housing reform began. Such rapid urban expansion transformed China's urban and regional spatial patterns, giving birth to the mega-city region – a cluster of contiguous cities or metropolitan areas, administratively separate but intensively networked in various ways (Xu and Yeh, 2010). This is regarded as a specific urban form resulting from a high level of urbanization (Gottmann, 1961; Zhou, 1991; Scott, 2001; Hall and Pain, 2006). The country's most developed mega-city regions are the Yangtze River Delta, the Pearl River Delta and the Bohai Sea Rim, regions regarded as the hub areas of Chinese economic growth (Zhang and Wu, 2006). These three regions, with less than 3 per cent of the national territory, accounted for 14 per cent of the country's population, generated 42 per cent of the national GDP and attracted 79 per cent of foreign investment flowing into China in 2007 (MOHURD, 2008).¹⁰

Figure 12: The expansion of urban built-up area, 1981–2008



Source: *China Urban Construction Statistical Report 2008*.

Besides these renowned regions, there are many other emerging regions, such as the Shandong Peninsula Region, Shenyang-Dalian regions and Chengdu-Chongqing regions (Figure 13). The role of these mega-city regions in China's development will be significant. Recent research and national policy targets the building of more integrated mega-city regions to coordinate the development of cities (Yeh and Xu, 2008).

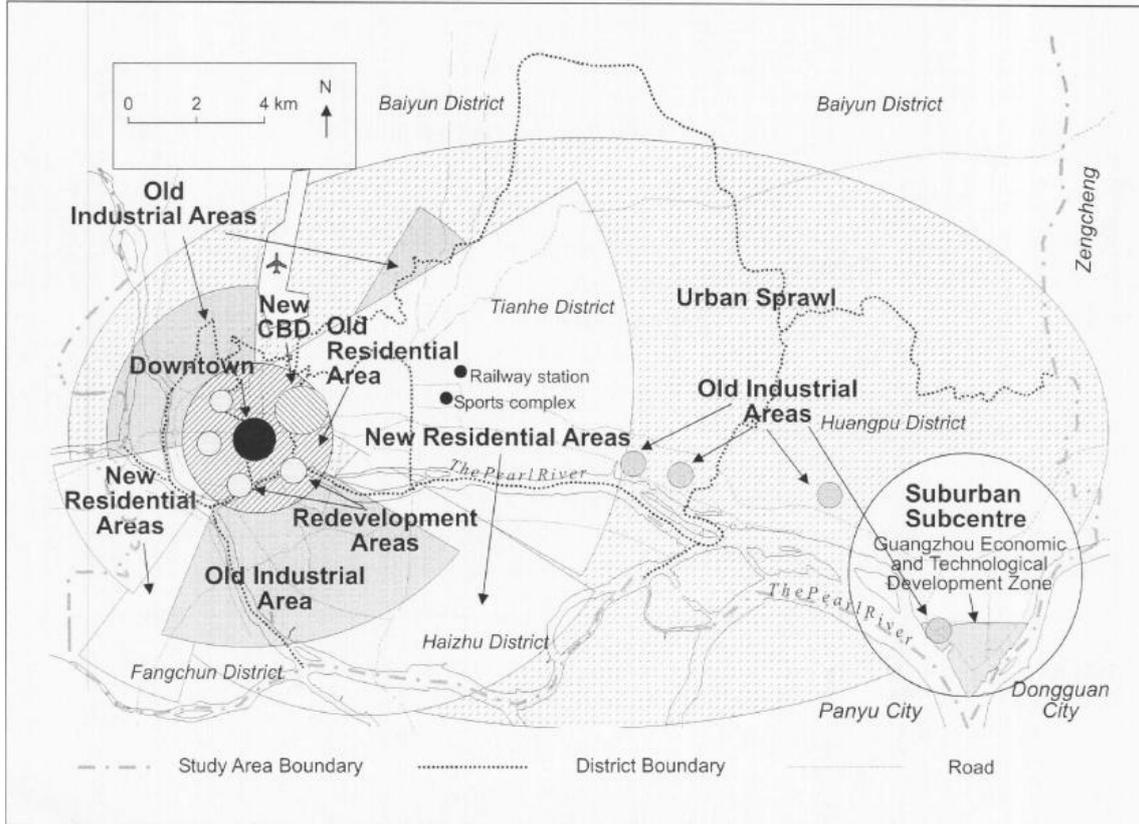
¹⁰ MOHURD is the Ministry of Housing and Urban–Rural Development of the People's Republic of China.

Figure 13: China's mega-city region



Urban growth driven by land development also affects the intra-city spatial pattern. The immediate impact is that land now has a value, and land value is a better reflection of location rent. Previously inefficient use of urban land was improved as unused land from state-owned enterprises was returned to the government. Further, low-value-added manufacturing industries were excluded from central locations now affordable only to higher-value-added service activities. Throughout these processes, the economic efficiency of urban land use has been enhanced, and a new urban spatial pattern has emerged (Logan, 2007; McGee, Lin et al., 2007; Wu, 2007). Inner-city redevelopment, new areas of construction, high-tech parks, industrial zones and central business districts are emerging to transform the original urban spatial fabric (Ding, 2003). Most cities have changed from a compact form to a dispersed metropolis characterized by urban redevelopment in the city centre, suburban expansion towards new suburban sub-centres, and leapfrog urban sprawl in the urban fringe (Figure 14) (Wu and Yeh, 1999).

Figure 14: A model of the emerging urban spatial structure of Guangzhou, China



Source: Wu and Yeh, 1999: 388.

Urban infrastructure improved significantly in this stage of development. The increasing amount of money invested in providing infrastructure and other public goods was largely derived from the land and housing economy's provision of urban revenue (Yeh and Wu, 1996a; Ding, 2003). In 1987, according to figures from the China Statistics Bureau, cited by Ding (2003), sales of land-use rights generated 35 million RMB in 1987 but 29,048 million RMB in 1996, accounting for 25–50 per cent of cities' revenue. With such a rapid increase in urban revenue, investment in urban infrastructure was greatly increased as well. Taking Shanghai as an example, the investment in urban infrastructure was only 0.446 billion RMB in 1978, increasing more than ten-fold to 4.722 billion in 1990, then again to 44.99 billion in 2000. Improved urban infrastructure can improve accessibility and thus open up new land for development (Yeh, 2002; Wu, Xu and Yeh, 2007). This is widely known in China as the "land breeding land" model of urban development. Land revenue is used to construct infrastructure that increases accessibility and thus enhances land value. The enhanced land value derived from infrastructure development is captured by land sales, which further contribute to the construction of more infrastructure to increase accessibility and land revenue.

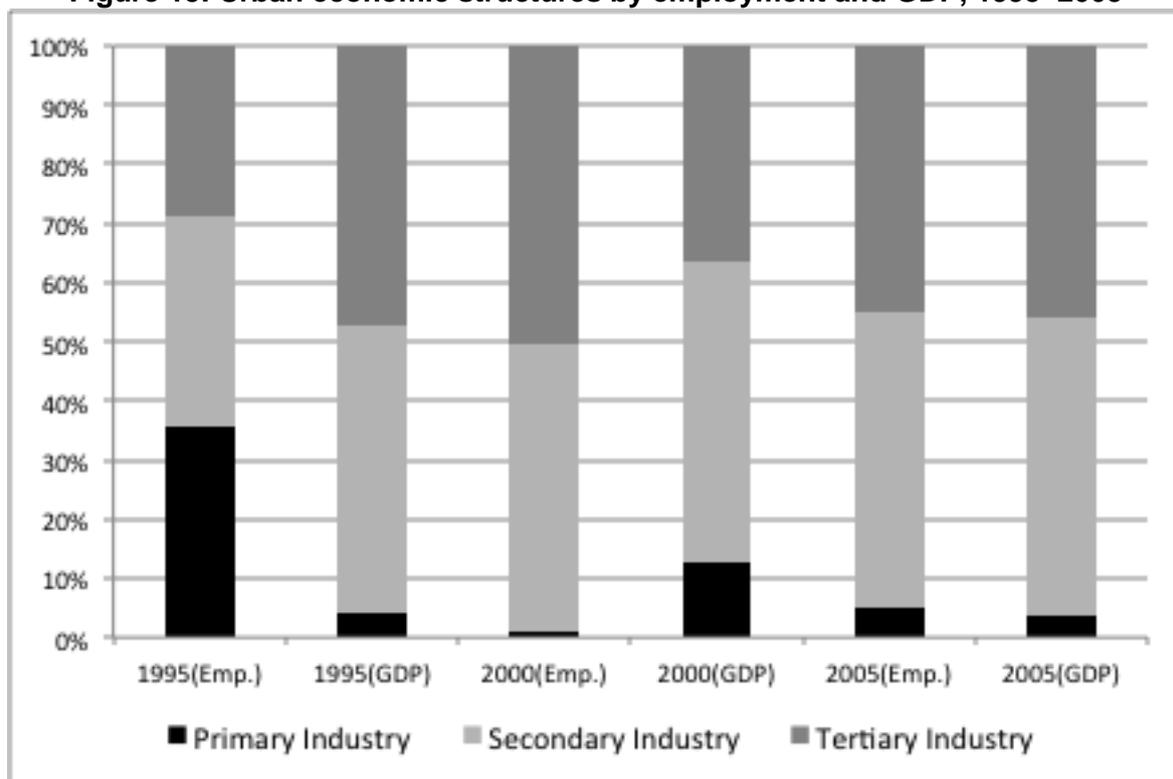
The process of land development driven by urbanization still maintains its momentum. After all, it is one of the most convenient ways in which to generate urban revenue. However, government land holdings are limited, and land-based revenues cannot be expected to grow indefinitely. Thus, urban governments are keen to explore new and sustainable dynamics for continued urban development.

3.4 Urbanization driven by the service industry (2001 to present)

The growth of the tertiary-sector industries in China had been constrained for decades, especially before economic reform when services were considered unproductive and consumptive. In the early stages of economic reform, manufacturing and other secondary industries were still the focus of efforts aimed at boosting the country's economy. The role of the tertiary sector was not taken seriously until 1992, when the central government proposed a strategy to facilitate its development. This shift was based on the awareness that the service industry can give cities a competitive edge and impetus for new growth. Specifically, it was hoped that it would help to diversify the employment structure, open up new opportunities for low-threshold entrepreneurship, and generate employment. In addition, the growth of per capita income of urban residents since the early 1990s required a dynamic service sector. Per capita income had grown more than ten-fold in less than two decades. In this period, the service sector consisted mainly of consumer-related services, such as wholesale and retail trade, hotels and catering.

In urban China, the service sector grew rapidly. The contribution of the tertiary industry to employment increased from 30 to 50 per cent from 1995 to 2000, and tertiary-generated GDP maintained around 40 per cent of all GDP in this period. Since 2000, in terms of both GDP and employment, the service industry has been catching up with industry (Figure 15). However, compared with service development in other countries, the proportion of service industry in China is still low. According to World Bank statistics, the tertiary industry accounted for 72 per cent of national GDP in high-income economies, and 59 per cent in middle-income economies. Moreover, the proportion of advanced producer services within the Chinese service sector remained small.

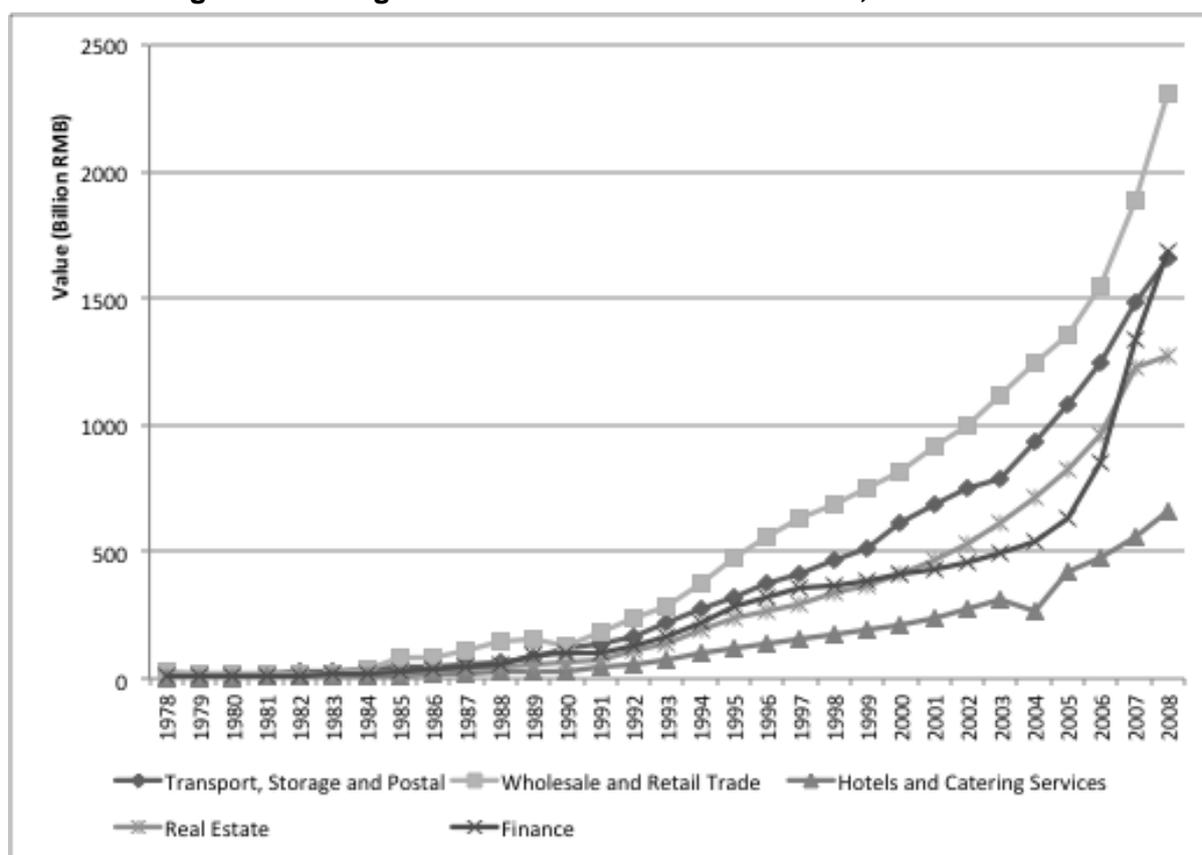
Figure 15: Urban economic structures by employment and GDP, 1995–2005



Source: *China Statistical Yearbook 2009*.

The producer service sector has developed only recently in China since the privatization of the public ownership enterprises. Before this, China's enterprises, both state-owned and collective-owned, tended to be "all in one" – providing all the services for their employees by the enterprises themselves. Thus, there was little demand for externalizing separate functions to outside service providers. Furthermore, human resources with high levels of education and specialized talents were not yet ready for producer services. Only since the 10th Five-Year Plan (2001–2005) was the producer service sector, often known as the modern service sector in China, designated to play a significant part in enhancing the global competitiveness of the Chinese urban economy. The advanced producer service sector in China normally refers to services for businesses, such as computer services, legal consulting, accounting, marketing, advertising, scientific and research services. The finance and real-estate sectors had the greatest growth momentum, although not the highest value (Figure 16). These sectors roughly fall into the category of advanced producer services.

Figure 16: The growth of the main service sectors, 1978–2008



Source: China Statistical Yearbook 2009.

Producer services are predicted to grow in the coming decades. Premier Wen Jiabao has emphasized the role of the service sector in the national economy. He has further pinpointed the role of producer service industries, such as finance, logistics and information, in supporting the growth of modern manufacturing industry and facilitating the upgrading of economic structure (Xie, 2010). Such policy emphases have been reflected in the development of almost all major cities. The development outlines of China's two major city regions endorsed recently by the National Development and Reform Committee (NDRC) reflected the determination of both central and local governments to promote the producer service sector. According to the *Outline of the Reform and Development in Pearl River Delta Region*, this region strives to develop an advanced producer service industry, advanced manufacturing and high-tech industry (NDRC, 2008). Key industries within the producer service sector have been identified. Ways of promoting these industries, and goals for them,

have been formulated (Table 4). The overall goal of the development of the producer service industry is to account for more than 60 per cent of service output by 2020.

Table 4: Premier industries in the outline of the reform and development of the Pearl River Delta

	Key industries	Practice and objectives
Producer service industry	Finance Commercial service	Guangzhou and Shenzhen as the regional financial centre; cultivate the headquarters economy
	Exhibition	China Import and Export Fair (Canton Fair); China High-tech Fair (Shenzhen); China International Aviation & Aerospace Exhibition; China (Shenzhen) International Culture Industry Fair
	Creative industry	Incubate the creative industry cluster, construct the software, comic and animation base
	Logistics and port services	Baiyun Airport and Bao'an Airport, Guangzhou Port, Shenzhen Port; world-class logistics centre; logistics parks
	Information and communication	Southern China information and communication centre; international e-commerce centre
	Outsourcing	Cultivate 2/3 national outsourcing bases; form international integrated outsourcing chain
	Tourism	Demonstration region for comprehensive tourism-industry reform
	Human resources	Human-resource exchange centre
	Other third-party services	Research, design, marketing, consulting and others

Source: *Outline of the Reform and Development of the Pearl River Delta* (NDRC, 2008).

The latest regional plan for the Yangtze River Delta region also shows the importance of the producer service industry in urban and regional development. The region is positioned as the “gateway to the Asian Pacific Region, the modern service and advanced manufacturing centre of global importance and the whole region enjoys relatively high competitiveness” (NDRC, 2010). Both the Pearl River Delta and the Yangtze River Delta are leading regions in China’s economic development. They are expected to undertake the role of promoting new industries, facilitating economic restructuring, guiding other regions and realizing the overall industrial upgrading of the country’s economy.

4 Urban planning policies

4.1 Urban planning regulations

Under the centrally planned economy before 1978, urban planning was perceived as a tool for carrying out planned socialist development and for translating the goal of economic planning into urban space. This approach was largely abandoned after the economic reform of 1978. The re-emergence of property rights from housing and land reforms in the late 1980s led to an increased interest in developing urban space, which in turn increased the

need to establish planning controls suitable for achieving economic development in a market economy (Yeh and Wu, 1996b; 1999). The shift towards growth-oriented development, decentralized administration, and inflows of foreign capital also meant that urban planning faced considerable pressure from commercial and industrial interests in reducing restrictions on land use. The consequences of this, the subsequent restructuring of interests, and their demands for land and urban space, undermined the confidence of planners (Wu, Xu and Yeh, 2007). The urban planning system did not seem to be ready for these shocks during the early reform period, signalling an urgent need to improve the legal foundation of urban planning. This led to the enactment of a series of city planning laws and regulations, beginning in the 1980s, such as the 1984 Urban Planning Regulation, the 1989 Urban Planning Act, and the 2008 Urban and Rural Planning Act.

Urban planning regulation and legislation, 1980s

The 1984 Urban Planning Regulation provided seminal guidelines for urban planning during the late 1980s. Five years later, the 1989 Urban Planning Act developed a comprehensive approach to urban planning which included defining the size, economic orientation and structure of a city, realizing goals of economic and social development, preparing “rational” city plans and carrying out construction to meet the needs of development (Wu, Xu and Yeh, 2007). The word “rational” reflects long-held views on the sporadic nature of market-oriented development and a need to pursue ordered and coordinated growth. This presumes that the development of a city in terms of its functional specialization and size can and should be controlled in order to shape a “rational” urban system nationwide.

The 1989 Act also delegated territorial power to municipalities in important functions of urban planning, ranging from plan-making to development control. In contrast to past practice, prior permission was now required for all development projects. Municipal planning departments exercised controlling power through the “one report and two permits” system (Site Selection Recommendation Report, Land Use Planning Permit, and Building Construction Permit) and made discretionary judgements on development proposals on the basis of considerations formulated in development plans and other specific requirements of government (Xu and Ng, 1998).

The 1989 Act offered a blueprint approach in a two-tiered planning system: the master plan (*zongti guihua*) and detailed plans (*xiangxi guihua*). The master plan is a long-term strategic layout of a city, and is statutory in nature. Apart from defining broad land-use zones, the master plan spells out a wide range of urban development strategies and land-use policies, such as those related to transportation and open space. It usually has a 20-year planning horizon and considers long-term development strategies. Master plans are intended to take a general perspective, leaving details to other plans.

Land-use policies are set out in detailed plans that define the boundaries of each construction project within the planned plot, control indices such as floor-area ratio, building density and building height. They include general layout plans, utility engineering plans and three-dimensional site plans. Detailed plans are further divided into two types – detailed development control plans (DDCPs) (*kongzhixing xiangxi guihua*) and detailed construction plans (DCPs) (*xiujianxing xiangxi guihua*). The DDCP is prepared for urban planning districts where future development projects are uncertain, while the DCP is prepared for areas facing immediate construction.

In effect, detailed plans fill in details left unspecified by the strategic policies of master plans, and generally should conform to the master plan. Because all developments now require planning permission, detailed plans provide the main basis for development control. However, these plans are not statutory in nature. In practice, controlling development through these plans is very difficult, if not impossible (Xu and Ng, 1998; Wu, Xu and Yeh,

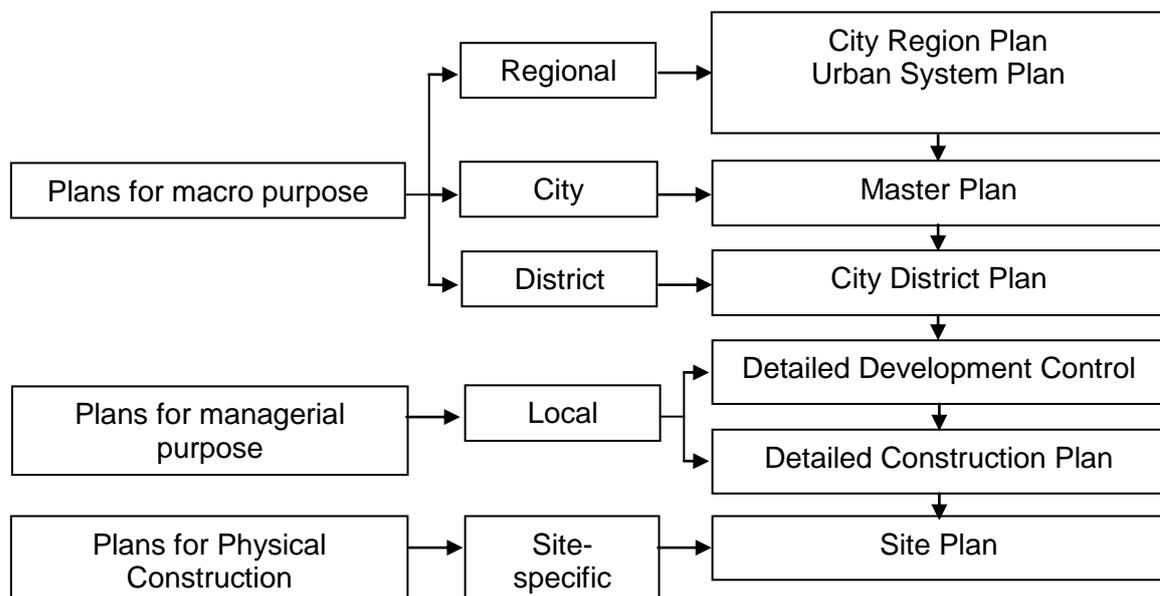
2007). Besides, local officials, flawed enforcement, and interference from higher levels of administration often override planning regulations. As land leasing becomes an essential source of government income, planners are often pressured to apply less control in land development, to encourage economic growth and urban expansion.

To achieve better planning control, new efforts have been introduced in two directions: to expand the planning area to the regional scale, and to specify land-development intensity at the micro (land-parcel) level (Wu, Xu and Yeh, 2007). New plans are now required to fulfil these tasks. The city region plan (*shiyu guihua*) is a new type of regional plan prepared for the city region under the jurisdiction of the municipality. The master plan of the 1989 Act covers only the central city and sometimes only the city centre within the central city. This means that a large part of the city region is not covered by the master plan, and there is a need to coordinate development in the outlying counties and towns. The city region plan is thus intended to integrate a central city along with nearby small towns and counties into one unified plan for better coordination on important regional issues such as environmental protection policies, infrastructure and hierarchy of urban settlements.

Complementing the city region plan, the urban system plan (*chengzhen tixi guihua*) is another regional plan to rationalize “functional, hierarchical and spatial” structures of infrastructure and urban settlement. It aspires to manipulate regional spatial development, such as city size. However, such features are difficult to control, even under a centrally planned system. Also, there are no concrete measures to link the planned “spatiality” with resource allocations of national economic planning, the enforcement of development control or any tangible socio-economic policies. The urban district plan (*chengshi fenqu guihua*) is an optional plan made to improve control and define land uses, the boundary and development intensity, and to coordinate various infrastructure, public amenities and facilities at the district level. It is part of the master-planning stage.

At the micro level, some local authorities have begun to experiment with zoning-like measures as a way of bringing urban growth under effective planning control, because detailed plans do not have statutory force. One example is the statutory plan in Shenzhen. Such plans offer a basis for planning officials to determine whether planning permission should be granted unconditionally, or subject to certain conditions. The various types of plan and their spatial scopes are shown in Figure 17.

Figure 17: Types of plans and their coverage



Rural and Urban Planning Act 2008

On 28 October 2007, the National People's Congress promulgated the new *Urban and Rural Planning Act*, which came into force on 1 January 2008. The 2008 Act stresses the "rural" element to ensure better spatial coordination of urban and rural land uses and to avoid excessive agricultural land loss and unauthorized land development in cities, towns and villages (Central People's Government, 2007). It provides detailed stipulations to curb the discretion of local governments and key officials in the decision-making process. It also encourages public participation. In particular, the 2008 Act empowers DDCPs to become statutory plans for better development control. The new Act is expected to create a qualitative and sustainable transformation of both urban and rural landscapes.

In addition to the 2008 Act, new types of plans are emerging. One example is the "concept plan", which is widely practised. Unlike most other plans, the concept plan is not fixed at a particular tier of the plan hierarchy. It can operate at all levels to set out general urban policies on development and land use. It may also include policies and design proposals for a specific site. Like a sketch before a painting, the concept plan explores the broad-brush goals of a new framework for urban growth. Unlike a master plan, the concept plan does not have a fixed content and a planning horizon. Neither does it need to be modified at predetermined intervals. Planners can make alterations or replace the whole plan at any time, and do not require higher-level approval. This results in more local flexibility in organizing urban space.

Another example of a new type of plan is the regional strategic plan. The regional system in many of China's mega-city regions has undergone significant transformation because of market reform, globalization and rapid urbanization. Many cities and towns that were formerly peripheral, or connected only to rural areas, have developed into active economic centres linked to world capital investors and consumer markets. The resultant polycentric spatial form has combined with the rise of urban entrepreneurialism that is increasingly becoming a key municipal strategy to enhance space-specific socio-economic assets (Xu and Yeh, 2005). This reform-imposed transition leads to an intensified inter-city competition for mobile capital. In response, regional strategic planning constitutes a new policy option for mega-city regions to overcome the negative effects of political fragmentation. Some scholars argue that such strategic plans should have been incorporated into the 2008 Act, given their great importance (Zhang and Luo, 2008).

4.2 Problems of planning coordination

The multiple tiers of China's planning system present many challenges. In recent years, the hunger for capital at the municipality level has intensified inter-city competition and encouraged place-based entrepreneurial endeavour among local governments (Xu and Yeh, 2005). Under such circumstances, planning is more than just prohibiting or constraining externalities. It has also been used increasingly to enhance place marketing and competitiveness. In many cities, development plans focus on projects such as the development of airports, deep-water ports, underground railways, and convention and exhibition centres. This is intended to address economic and social problems, and to project new and dynamic city images globally. Hundreds of cities in China, large and small, are competing to build "mega" projects branded by the world's top architects and planners. City-led comprehensive residential development has evolved into a campaign to transform the urban structure through various economic and technological development zones, special zones and industrial parks. In this way, cities look "modernized" with Manhattan-like skylines looking down on multi-lane highways leading to newly emerging and expanding urban areas (Yeh and Xu, 2009).

There are two outcomes of such development. On one hand, place marketing presents the opportunity for Chinese cities to stimulate business and attract investment. On the other hand, some aspects of the bureaucratic/entrepreneurial approach to city development can undermine other important roles of local governments in city planning. Such an approach not only diverts scarce public-sector resources away from the basic services upon which the city's disadvantaged groups depend, but also creates places which lack social meaning and functionality. The distinctive qualities of Chinese cities have gradually disappeared. The understanding of cities as a collection of cultural and physical layers is missing in today's Chinese planning (Wu, Xu and Yeh, 2007).

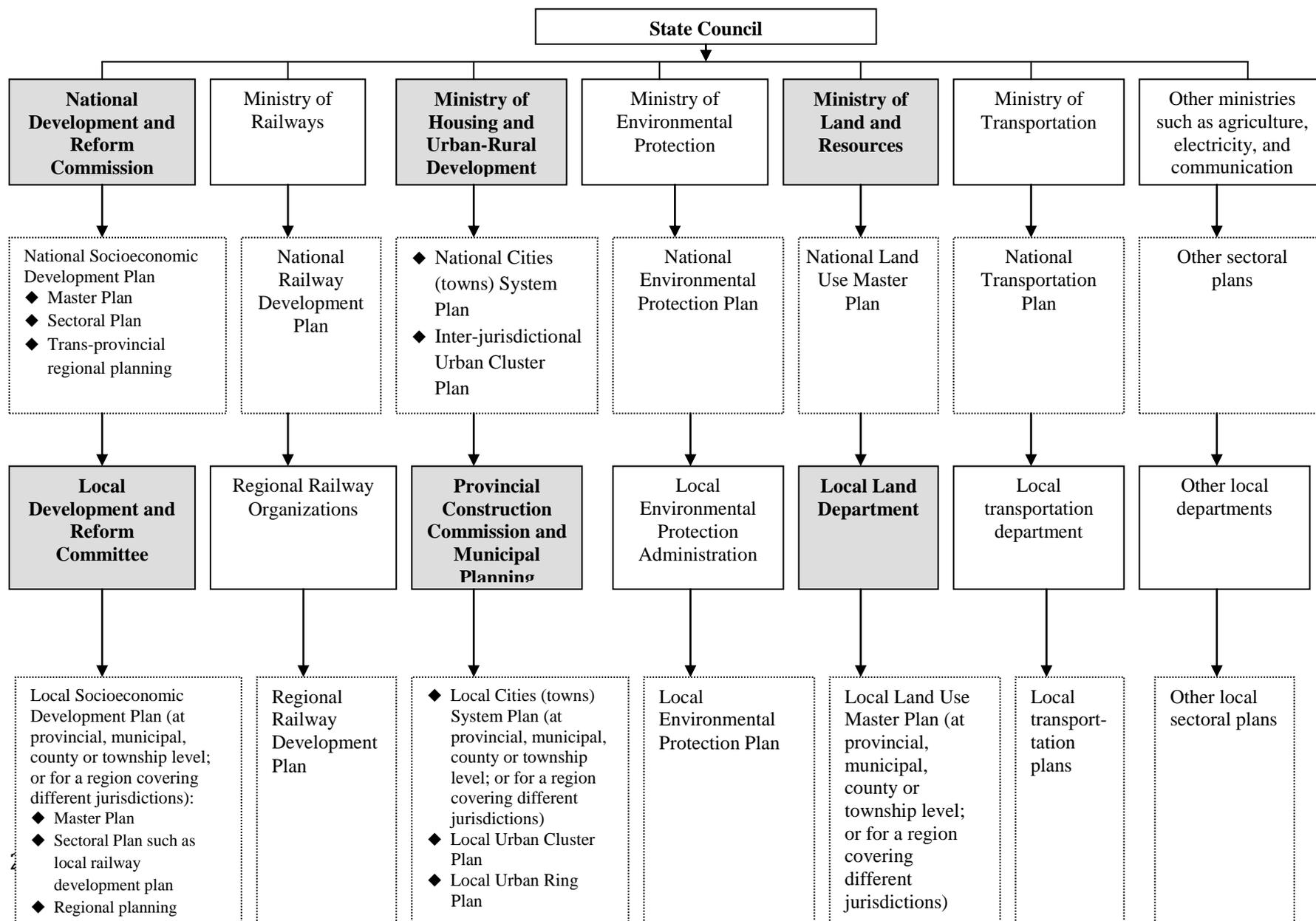
Another major problem is the difficulty of coordination among plans from different ministries (Figure 18). There are many interrelated plans from different government agencies, including socio-economic plans, urban master plans, and land-use plans. The National Development and Reform Commission (NDRC) is the agent of socio-economic plans. These plans have been in operation since the pre-reform period, and have recently come to contain a strong spatial element. Socio-economic plans have the capacity to guide and constrain spatial plans made by other ministries. Socio-economic plans clarify the overall positioning of regions and major cities, provide blueprints for priority development areas, and give solutions to problems that are difficult for one city or one province to solve. More importantly, socio-economic plans directly connect state resource allocations to spatial formation.

The Ministry of Housing and Urban–Rural Development (MOHURD) and its local subordinates, such as construction commissions and municipal urban planning departments, are agencies responsible for physical planning. They prepare regional studies and plans to provide necessary elements of spatial coordination, such as functional relationships of cities, distribution of regional infrastructure facilities, and other spatial elements like industrial space, transportation hubs, wilderness and conservation areas. These plans pay particular attention to population and region-wide environmental, social and economic issues, and develop an extremely strong element of strategic consideration.

The Ministry of Land and Resources (MLR) and local land departments are entitled to prepare land-use plans at all levels but primarily address issues of farmland protection. In recent years, new content has been added to these plans to provide land-use projections for development projects and to demarcate different zones for regulation – an element contained within physical or spatial planning. Several other ministries such as the Ministry of Railways, the Ministry of Transportation, and the Ministry of Agriculture have their own regional plans to guide sectoral development. The fragmented functions of regional planning can result in inter-ministerial conflicts, making it difficult to implement regional strategic plans (Xu, 2008).

Figure 18: Fragmented regional planning and governance in China

Source: Xu, 2008: 6



5 Trends and issues of concern

Given the recognition of urbanization as an important part of national strategy for modernization and economic development, the momentum of urbanization will be accelerated in the future. Projections from various research institutes reaffirm the fast pace of urbanization in China, as discussed in early sections of this paper. However, as the urban population increases and the urban area expands, several challenges emerge as well. Three main concerns will be examined here: urban expansion and farmland loss, rural-to-urban migration, and social and environmental justice.

5.1 Urban expansion and farmland loss

Rampant expansion of urban areas has resulted in the reduction of farmland (Table 5) (Cartier, 2001). Further, many cities have established various kinds of economic and technological zones (ETZs) as a means of attracting foreign investment and this has involved the diversion of large land areas (Yeh, 2002) – although many of these ETZs have not been fully used. According to figures from a national investigation in 1997 – “of the 4,210 development zones nationwide, only 1,128 had central or provincial government approval. Cultivated areas accounted for 55 per cent of the enclosed areas. Of the land demarcated for these development zones, only 20 per cent had actually been used” (Lin, 2007: 1848).

**Table 5: Areas of cultivated land under reform in selected coastal areas, 1979–1997
(thousand hectares)**

Year	Shenzhen	Shanghai	Fujian	Jiangsu	Historical context
1979		4.37	2.66	10.39	SEZ policy formulated
1980	2.8	1.71	3.67	9.02	
1981	2.02	1.33	2		
1982	1.38	1.07	4.53	5.8	
1983	0.61	1.72	1.8	1.16	
1984	1.9	4.18	3.07	8.96	Coastal cities opened
1985	4.1	6.18	18.4	17.06	Coastal regions opened
1986	0.7	6.54	10.93	13.24	
1987	1.29	2.17	6.34	10.98	
1988	1.01	3.67	4.73	10.97	
1989	0.81	3.12	0.67	6.52	Tiananmen incident
1990	0.16	0.82	2	4.46	
1991	3.56	2.24	2.06	7.89	Hong Kong property market high
1992	4.78	3.12	5.94	28.2	Deng Xiaoping’s southern tour
1993	4.3	15.85	9.33	26.11	
1994	1.46	8.14	8.8	31.66	
1995	0.19	3.89	6.41	15.69	Urban real estate law in effect
1996	0	2.71	7.79	12.87	
1997	0.87	0	7.67		May moratorium on arable land conversion

Source: Cartier, 2001: 454.

5.2 Rural-to-urban migration

Surplus labour arising from rural reform was the main source of the migrating population from farms to towns. As discussed above, township and village enterprises (TVEs) throughout the 1980s and export-oriented coastal cities since the 1990s were the major destinations for surplus labour. The large-scale rural-to-urban migration challenged the absorption capacity of non-agricultural sectors. The latest official report on China's floating (temporary) population shows that there were 211 million migrants in 2009, and this is expected to rise to 350 million in 2050. Of these migrants, 80 per cent hold an agricultural *hukou*, and so are not eligible for subsidized urban services, such as housing, education and health care. The group is dominated by young people, with over two-thirds between the ages of 20 and 44. Most of them work in production, construction, wholesale, and other service sectors (National Population and Family Planning Commission, 2010). It is estimated that another 300–400 million people will need to be relocated to the non-agricultural sector by 2050 (Fan, 2005).

The encroachment of farmland in suburban areas for development projects, while leaving the rural residential site intact, gives rise to the problem of urban villages within Chinese cities. When rapid urban development and expansion reach the urban fringe, the usual development strategy is the requisition of rural land. Urban governments normally convert agricultural land into suburban areas while leaving the village's residential land intact because of the high costs of relocation of the residents and housing compensation. The villagers are left without farmland, and so lease their houses to make a living. This often coincides with the influx of rural migrants seeking affordable shelters in cities. As the number of migrants increases, villagers tend to build more rooms to lease. However, since the area of residential land is fixed, this results in the addition of more storeys, and higher-density accommodation. As these areas are categorized as rural, the city government has no regulatory control over them, and does not provide infrastructure:

“many urban villages are plagued by aged facilities with poor maintenance, very narrow pathways between rows of terraced buildings, intensive use of space without appropriate planning, and high residential density that are beyond the capacity of infrastructure services. There are also such social problems as violence, pornographic activities, burglary and robbery in addition to building dilapidation.”
(Zhang, 2005: 246)

Urban villages have thus become a headache for urban governments. They have provided an indispensable source of cheap housing and services for migrant workers, but have become communities without adequate infrastructure, and they are beyond urban governance. When urban areas keep on expanding, some urban villages become surrounded by high-rent urban areas. The existence of low-income communities close to high-rent areas affects the development of the city, and many cities are trying to remove the low-income communities at very high economic and social costs.

Another issue related to the increasing migrant population is the growth of informal economic activity in Chinese cities. Ghose (2005) identified the “irregular employment” in Chinese cities, which includes most of the migrant workers and urban laid-off workers. This can involve casual-wage employment (for example, in construction or domestic service) and self-employment (for example, street vending or repair services). Ghose's evaluation shows that irregular employment had an annual growth rate of 18.5 per cent between 1992 and 2002. There are increasing concerns about the ability of the urban sector to provide sufficient employment for the migrant population. The informalization of employment forms, such as street vending and home-

based production, which exists in many Third World cities, may be increasing in Chinese cities (Pannell, 2003; Yeh, Xu et al., 2006; Ma, 2007).

Although the concept of informal employment is still vague, street vending, as one of the most visible activities within the informal sector, is widespread throughout China. However, it is not officially allowed in most Chinese cities. According to the regulation on individual and privately owned enterprises issued in 1987, which is still valid today, the prerequisite to apply for an individual/private business is a fixed site of operation. However, labour surplus in rural China, together with the employment pressure in cities, makes street vending an accessible occupation for many in need of work. One figure commonly cited in the news media is that there are 30 million street vendors throughout the country (*People's Daily Online*, 2009), accounting for 4 per cent of the entire employed population. Because of its illegality, street vending involves the risk of eviction from the street by the urban authorities. This damages the vendors' livelihoods, and there are concerns of urban social justice affecting the disadvantaged and marginalized population in Chinese cities (Ma, 2007).

5.3 Social and environmental justice

Ma (2007) raised eight main concerns about social and environmental justice in China's current urban transition:

1. severe water and air pollution
2. population relocation and landslides caused by dam construction
3. serious long-term water shortages in two-thirds of China's cities
4. widespread corruption
5. land loss by peasants to (and land-grabbing and hoarding by) real-estate developers, some of whom have amassed huge fortunes
6. loss of jobs and social benefits by urban state workers and violations of labour rights due to privatization and bankruptcy
7. forced residential relocation of urban residents with inadequate compensation
8. the lack of a "right to the city" and truncated citizenship rights for rural-to-urban migrants.

Due to space limitations, it is not possible to discuss all these topics here, and so this section only highlights some of the main issues of inequality and environmental degradation.

China has been moving from being one of the world's most egalitarian to one of its more unequal societies. The Gini coefficient of income distribution for China has already exceeded 0.4¹¹ (Lin, Zhuang et al., 2008; Islam, 2009), and there is considerable regional disparity arising from the country's strategic arrangement. As discussed above, reform policies were tested and implemented gradually and in selected places, starting from Spatial Economic Zones, then in open coastal cities, and provinces. With the reform shifting from the rural to the urban sector, rural-urban disparities have also increased, especially since the relative decline of TVEs and mass migration to the cities. As noted above, the majority of the migrants are young people, whose absence from the rural areas exacerbates the problem of rural development and increases rural-urban disparities (Fan, 2008). The initial call to "let some people and some regions get rich first" activated development initiatives in both rural and urban areas three decades ago. Now it seems time to emphasize the latter part of that slogan – "to eventually achieve common prosperity".

¹¹ The Gini coefficient is a measure of inequality of income or wealth. A value of 0 expresses total equality and a value of 1 maximal inequality.

Black smoke from factory stacks could be seen in rural areas where TVEs prospered. Cities and towns in China's southern and coastal regions began to suffer serious air pollution and acid rain in the 1980s. With the increasing number of motor vehicles in larger cities, other pollutants such as nitrous oxides, carbon monoxide and photochemical smog exacerbated air pollution (He and Huo et al., 2002). The issue of water scarcity and water pollution is equally alarming. According to Shalizi (2008), more than 400 of China's 600 cities are believed to be short of water, and about 100 of them face serious problems of water shortage. Water scarcity in cities leads to the depletion of groundwater, causing a drop in the groundwater table. In Beijing, the water table has dropped by 100–300 metres.

Water pollution exacerbates water scarcity in urban areas. According to Economy (2010), 'More than 75 percent of the water in rivers flowing through China's urban areas is unsuitable for drinking or fishing' Economy (2010: 18–19). The same source also cites the 2006 annual report of the Ministry of Environment Protection, which analysed the drinking-water sources in 107 Chinese cities and concluded that about 28 per cent of drinking water failed to meet state water-quality standards due to contamination by human sewage and nitrogen (Economy, 2010: 71–72). In terms of solid waste, it is estimated that China's annual waste production is growing at close to 10 per cent per year (Dong, Kurt et al., 2001). China has surpassed the United States as the world's largest generator of municipal solid waste (Hoornweg and Lam, 2005), and urban residents produce two to three times more waste than their rural counterparts (Wang, 2009).

China's central authority is well aware of these issues and forges ahead in its resolution to go green. The recently issued 12th Five-Year Plan reflects China's effort to combat the environmental degradation generated by decades of rapid economic growth, and echoes the calls from academia to this intent (Yeh et al., 2006; Ma, 2007; Economy, 2010). The Plan sets out a strategy and launches a campaign to 'propel green development and to construct a resource-conserving and environmentally-friendly society'. Six aspects are identified for action under this strategy. These are: active response to global climate changes; strengthen resource conservation and management; promote circular economy; intensify environmental protection; further promote environmental protection; promote ecological protection and restoration; and strengthen water management system as well as the construction of disaster prevention and alleviation systems. Additional specific green goals have been announced, including:

- energy – 16 per cent cut in energy intensity (energy consumed per unit of GDP)
- pollution – 17 per cent cut in carbon intensity (carbon emission per unit of GDP)
- Land – 30 per cent decrease in built-up-area intensity (built-up area used per unit of GDP)
- resource use – 15 per cent increase in resource-use rate
- circular economy – industrial solid-waste comprehensive reuse rate to reach 72 per cent (People's Government of PRC, 2011).

6. Concluding remarks

China's urbanization in the post-reform period since 1978 is especially notable for two features. First, it had a remarkable impact on the national policy framework, particularly as concerns the *hukou* system, household responsibility, land reform, tax-sharing, and housing reform. The state, both central and local, continues to have an important role in determining the pace of urbanization and shaping urban and regional growth patterns. China is probably one of the few countries in the world with such an influential national urban policy. The second feature concerns the relation between urbanization and the market. Marketization is rapidly taking place

in urban China in the post-reform era. This began with the marketization of labour, with migrants being attracted from the countryside into cities to provide a cheap urban workforce. It developed into the privatization of productive resources, including the conversion of state-owned enterprises into shareholding corporations. Finally, it has evolved to include the commodification of the built environment, through the establishment of a leasehold land system and commodity housing markets (Wu, Xu and Yeh, 2007).

Three distinctive stages of urbanization have been identified in post-reform China: urbanization driven by rural industrialization (1978 to 1987), urbanization driven by land reform (1988 to 2000), and urbanization driven by the service industry (2001 to present). These three stages are strongly influenced by policies on enterprises, land and housing reform and more recently by market forces, especially rising per capita income as a result of economic development. The different stages have been identified in this paper to help understand the main factors affecting the processes of urbanization and urban development. This does not mean that factors affecting one stage will not affect the development of another. For example, factors affecting rural urbanization in the 1980s and land-driven urbanization in the 1990s are still influential in urban development in the stage of service-industry development, which has become just one of the additional factors affecting urban development. Further, due to the vast land area and great regional disparity of China, the three urbanization stages also vary between different regions. For example, service-industry-driven urbanization has mainly occurred in the coastal eastern regions. Some areas of the central and western regions are undergoing rural urbanization and land-driven urbanization stages to different degrees.

Rapid urban growth challenges urban planning, even in the context of China's unique system. Regulations and laws have been issued and amended in response to the growing need for coordination and control of urban growth. However, there remain alarming issues such as the loss of agricultural land and related issues of environmental degradation. The anticipated large increase in rural migrants to cities, plus increasing car ownership and housing prices as a result of rising per capita income, will be growing challenges for city governments in China. The central point that must be recognized, however, is that urbanization has been essential to China's economic miracle, and needs to be improved but not inhibited. As indicated by Wu, Xu and Yeh (2007), China's post-reform economic regime has to rely on cities as strategic sites for both capital accumulation and regulation. Urbanization is one of the major central strategies proposed to overcome the constraints of economic growth. The level of urbanization will continue to rise during the period of the 12th Five-Year Plan (2011–2015), but the focus will shift to improve the quality of the process in order to solve such problems as the unbalanced development between urban and rural areas, widening income gaps, urban sprawl, and insufficient services for migrant workers. It is this combination of enormous challenges and new urban dynamics that demands further research and observation.

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