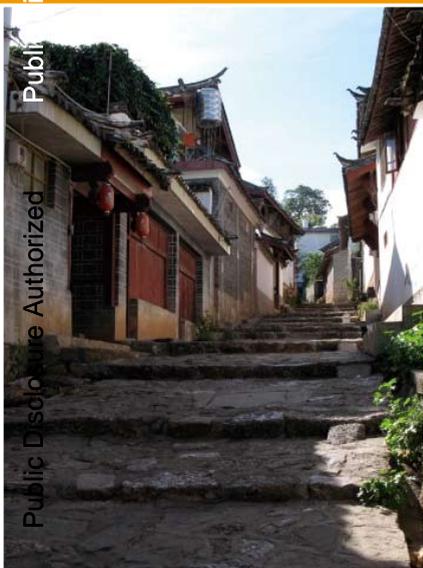


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China Small and Medium Towns Overview





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April 2012

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EXECUTIVE SUMMARY

During the past three decades, China has undergone rapid urbanization, as the urban population soared from 172.5 million to 621.9 million and its share in total population (the urbanization rate) rose from 18% in 1978 to 47% in 2009. Urbanization has been driven mainly by migration from rural to urban areas, and was accompanied by remarkably fast economic growth. Urbanization has produced definite benefits for China's population: GDP per capita is higher in provinces that have a higher urbanization rate. Yet it has also led to increasing inequality, which has become a major social problem. China's Gini coefficient steadily climbed from 0.30 in 1978 and it is now approaching 0.50 – the level of “high” income inequality. Disparity in real urban-rural incomes per capita increased over the past three decades from 1.53 in 1985 to 2.67 in 2009. While nationally urban-rural income inequality has been increasing over time, the income inequality is smaller in provinces with a higher urbanization rate and thus a higher GDP per capita. This implies that the rural population is better off in relation to the urban population in regions that are richer and more urbanized: economic development and urbanization benefit both the urban and the rural population in the same province.

China's urban population resides primarily in city districts (*shiqu*) and town districts (*zhenqu*), which constitute the urban core of much larger administrative-territorial units called cities (*shi*) and respectively towns (*zhen*). Investments and public resources have been mostly directed to the highly urbanized big cities, leaving the less urbanized towns with much less funds for development: the annual fiscal expenditure per capita in 2006 was 4,000 yuan in cities and just 500 yuan in towns. Public services and utilities in towns accordingly lag behind those in cities (this is particularly noticeable for gas supply and wastewater treatment facilities). The development of infrastructure for basic urban services in towns has been listed as a critical target in the country's 12th Five Year Plan (2011-2015). Town districts – the urbanized core of towns – have been identified as the next frontier for extending urban infrastructure services.

The basic objective of this study is to examine the development and features of town districts (*zhenqu*) using statistical data from three official sources: the Urban-Rural Construction Yearbook (2009, 2010), China Township Statistics (2008, 2009, 2010), and China Statistical Yearbook (2010). Unfortunately the statistical data for town districts are at best fragmentary and a more complete picture is constructed by looking at town districts in the broader context of the entire urban system, which includes towns (*zhen*) in the wide sense of the term as well as cities (*shi*) with their urbanized city districts (*shiqu*). For purposes of this study, towns are subdivided into county towns – the seat of county government and regular (non-county) towns. Among regular towns there is a subset of “separate” towns, i.e., towns that are not connected to the municipal and public utilities of either county towns or cities. In general, county towns are observed to be larger, wealthier, and more developed than regular or separate towns.

Of China’s 621 million urban residents, 60% reside in urban cores of 654 cities (including provincial-level municipalities, prefecture-level municipalities, and county-level cities) and the remaining 40% are in 19,322 town districts. There is accordingly a huge size disparity between cities and towns: the average population in a city district is 520,000 compared with 10,000 in a town district. Towns have a much smaller scale than cities also by various economic measures. The average number of industrial enterprises in towns is roughly one-quarter of the number in prefecture-level municipalities (146 and 526, respectively) and they employ less than one-tenth of the enterprise labor force in cities (23 employees per enterprise in towns compared with 282 in cities). Small population and small size of enterprises make it difficult for towns to absorb large numbers of migrant labor without fiscal support. On the other hand, the smaller scale of towns highlights their potential for future growth and development.

The number of towns increased rapidly from about 2,000 in the late 1970s to 20,000 in 1999. After that the numerical growth has slowed down and some consolidation set in, so that today there are 19,322 towns in China. The slowdown in the growth of the number of towns did not arrest the development of town urban cores: the growth of the built-up area in towns accelerated after 2002, outstripping the growth of urban population in town districts. As a result the population density in town districts dropped from 7,500 per sq. km in 1990 to 4,500 per sq. km in 2009 (numbers for separate towns). The population density in city districts decreased even to a greater extent in the same period: slowdown in the numerical growth of cities and continued growth of their built-up area brought the population density in city districts down from 25,000 per sq. km in 1990 to less than 10,000 per sq. km in 2009. Despite the sharp decline, the population density in city districts remains more than double the population density in separate town districts. The population density is

highest in city districts, intermediate in town districts of county towns, and lowest in town districts of regular towns. Since land in China is inherently limited and must be utilized intensively, the next phase of small and medium town development should probably emphasize county towns, where population density is higher than in regular or separate towns and there are more opportunities for absorbing migrant labor.

Agglomeration as measured by the number of towns or cities per sq. km in a province also has a positive effect on per capita GDP. Provinces with greater agglomeration, i.e., with more cities and more towns per sq. km, are generally more affluent. This is another manifestation of higher urbanization rate leading to higher GDP per capita. Furthermore, provinces with larger towns attract more investment per capita.

Disparities in incomes, per capita investments, and level of public services create strong incentives for migration from rural to urban areas. Rural-to-urban migration was the driving force for China's rapid urbanization during the last three decades. The natural increase of urban population (the balance of births and deaths) was substantially less than the observed increase in actual urban population each year since 1978. The shortfall was made up by migration from rural to urban areas, which averaged 78% of total annual population increase between 1978 and 2009. Recent media reports seem to indicate a shift to a new trend, with some migrants returning to work in their hometowns. Towns will be able to realize their potential to absorb a new wave of rural migrants if they can offer adequate job opportunities and well-developed infrastructure to support a better living standard.

Disparities in urban infrastructure

Skewed allocation of fixed asset investments that favors cities over towns has led to striking disparities in the level of public infrastructure and quality of municipal services. Towns receive much less in fiscal transfers from higher level of government than their proportional share in the population and city expenditures are in fact subsidized at the expense of towns. Economic disparity is observed not only between cities and towns, but also between county towns and regular towns.

With the launch of market reforms in 1978, government policies began to emphasize residential and environmental infrastructure, while moving away from the traditional preference for industrial production (a shift from "producing cities" to "living cities"). These developments resulted in a substantial increase in urban infrastructure investments, providing a powerful impetus for urban development and improvement in the standard of living. Investments in consumer-oriented water supply and sewage infrastructure soared by two orders of magnitude after 1978. A change of policy in the electric power sector in 1991 assured power for lighting to the population,

eliminating the absolute priority of industrial production as the main user of the limited electricity supply. However, because all levels of government had focused for so long on productive infrastructure, infrastructure related to households' living conditions and environmental protection still requires massive investments. The major indicators of urban infrastructure increased over time in both cities and towns, but the level of urban infrastructure has been generally higher in cities.

The investment per capita in urban service facilities in cities and county towns increased sharply in nominal terms between 2001 and 2009, but its level in cities is typically double the level in county towns. Cities get more investment (per sq. km) than towns. In 2009, the investment density (in yuan per sq. km of built-up area) in county towns was less than one-half of that in cities, while the investment density in separate towns was less than one-tenth of that in cities. Overall, investment density reveals a strong size bias, with the four super-large provincial-level municipalities – Beijing, Tianjin, Shanghai, and Chongqing – achieving levels much higher than other cities (between 40 and 80 million yuan per sq. km in the provincial-level municipalities compared with less than 30 million yuan per sq. km in prefecture-level and county-level cities combined).

Financing urban infrastructure development

All financing for urban infrastructure projects is managed through the Urban Maintenance and Construction Fund (UMCF), which finances both maintenance of existing urban public facilities and investment in construction of new infrastructure. UMCF derives its revenues from budgetary allocations of central and local governments (the “fiscal fund”) and from financial market sources (the “social fund”). The share of the fiscal fund in UMCF has declined sharply since 1986, reflecting the decreasing support from central and provincial government to infrastructure development as part of the policy of fiscal decentralization. In 2009, over 80% of annual investment financed from the fiscal fund (i.e., government budgets – excluding loans and securities issues) was from local sources (county, city, and town governments), with allocations from central and provincial government budgets providing a minor share.

The share of investment financed by central and provincial government budget is lowest in cities (around 4%), because the fiscal revenue generated at the local level in cities is regarded as sufficient for financing public infrastructure investment. County towns and separate towns enjoy a higher level of support from central and provincial budget (12% in county towns, 16% in separate towns), as their locally generated fiscal revenues are presumably less sufficient than those of cities. For all settlement types (cities, county towns, separate towns), financing from local sources is highest in the affluent East, where reliance on central and provincial budgets is correspondingly

lowest. In the poorer Western Region, towns rely to a greater extent on allocation from higher-level governments than on own fiscal revenue.

Local governments are thus under pressure to mobilize extra-budget resources for the delivery of infrastructure investments and public services. Revenue from land transfer transactions with developers is an important component of the UMCF fiscal fund. In 2009, land transfer revenue accounted for 29% of total fiscal revenue allocated to UMCF in county towns (39% in cities). City and town governments have further broadened their capital mobilization options through the establishment of urban development investment companies (UDIC) – municipal corporations that, in addition to facilitating land transfer revenues for local government, also mobilize domestic loans and self-raised funds for infrastructure investment and maintenance. UDIC also issue bonds and stocks, which are backed by their land use rights and future revenue from land development projects. UDIC may even attract foreign investments. Land revenue thus has a dual function in city and town financing: it directly supplements the local fiscal revenues in the form of land transfer fees (fiscal fund) and it also provides the security for financial market operations that enable UDIC to raise loans and equity (social fund).

Shortage of capital has become the biggest challenge in infrastructure development in towns. Towns are not fiscally independent, because local taxes are collected by county government and only a certain proportion is surrendered to town government. Due to the allocation formula used, town governments seldom have sufficient funds to invest in infrastructure. Furthermore, town governments are not legally qualified to act as borrowers and take loans from financial institutions. Banks are reluctant to finance infrastructure projects in towns, because the ability of town government to service a loan is lower than that of city government and the risk of default is correspondingly higher. This explains the increasing role of market financing mobilized by UDIC.

The data used in this study is solely based on official figures. The team is aware of the limitations as well as advantages associated with such a decision.

TERMINOLOGY AND ACKNOWLEDGEMENT

A note on terminology

Classification of cities, towns, and urban areas used in this study (see Chapter 2 for more detail).

Cities (administrative units)	Towns (administrative units)	Towns (administrative units)
<ul style="list-style-type: none"> • Municipalities (provincial-level) • Municipalities (prefecture-level) • County-level cities 	<ul style="list-style-type: none"> • County towns (seat of county government) • Regular (non-county) towns • “Separate” towns: regular towns not connected to the municipal facilities of cities or county towns • Townships (basically rural) 	<ul style="list-style-type: none"> • City districts • Town districts • Built-up area: large-scale developed quarters within city or town connected to basic municipal facilities

Acknowledgements

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1. CONTEXT

During the past three decades, China has undergone rapid urbanization, as the share of urban population rose from 18% in 1978 to 47% in 2009, with urban population growing from 172.5 million to 621.9 million (StatYB 2010, T.3.1).¹ Urbanization has been driven mainly by migration from rural to urban areas, which contributed around 80% of urban population increase each year since 1978 (Zhang and Song 2003, as updated in this study). The urbanization was accompanied by remarkably fast economic growth. China's GDP in current prices increased more than a hundred-fold from 364.5 billion yuan in 1980 to 34,050.7 billion yuan in 2009 (StatYB 2010, T.2.1). Real GDP (in constant prices) had grown by 2009 to 1,862% of the 1978 level (StatYB 2010, T.2.5) – an average growth rate of nearly 10% annually over three decades. The

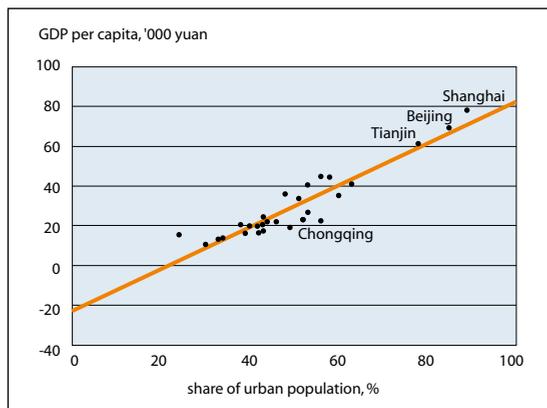


Figure 1.1. GDP per capita by urbanization rate (2009 data).²

Source: Author's calculation using StatYB (2010).

¹ According to the preliminary results of the 2010 Population Census, the urban population in November 2010 was 665.57 million (49.68%); the rural population accounted for the remaining 674.15 million people (50.32%). See http://www.stats.gov.cn/was40/gjtj_en_detail.jsp?searchword=census&channelid=9528&record=5.

² Excluding the four provincial-level municipalities reduces the goodness of fit from $R^2 = 0.88$ to $R^2 = 0.69$ while the slope remains statistically significant, slightly flattening from $b=1067.0$ to $b=883.9$.

GDP growth rate substantially exceeded China's population growth, which averaged 1.4% annually between 1978 and 2009 (StatYB 2010, T.3.1), and real GDP per capita accordingly grew at 8.6% annually during this period.

Urbanization has produced definite benefits for China's population: GDP per capita is higher in provinces that have a higher urbanization rate (**Figure 1.1**). This phenomenon may be regarded as a manifestation of Deng Xiaoping's strategy from the beginning of the reform era in 1978 (Zhang 1996): "People who become rich help the poor, and eventually all become rich." Yet this strategy has led to increasing inequality, which has become a major social problem. China's Gini coefficient – a standard measure of income inequality – has gone up from 0.30 in 1978 to 0.46 in 2006 (Chen et al. 2010) and continued rising to 0.47 in 2010 (China Daily 2010). The Gini coefficient overtook the universally recognized warning level of 0.40 back in 1993 and is now approaching the "high income inequality" level of 0.50 (Lampton 2008).³ Disparity in real urban-rural incomes per capita increased over the past three decades from 1.53 in 1985 to 2.67 in 2009 (StatYB 2010, T.10.2). In terms of public services and public infrastructure, the resources have been mostly poured into big cities and coastal areas, leaving inland and rural areas with much less investment and development: the urban-rural ratio of annual fixed asset investment (FAI) flows⁴ increased from about 3:1 in 1995 to more than 5:1 in 2009 (StatYB 2010, T.5.2).

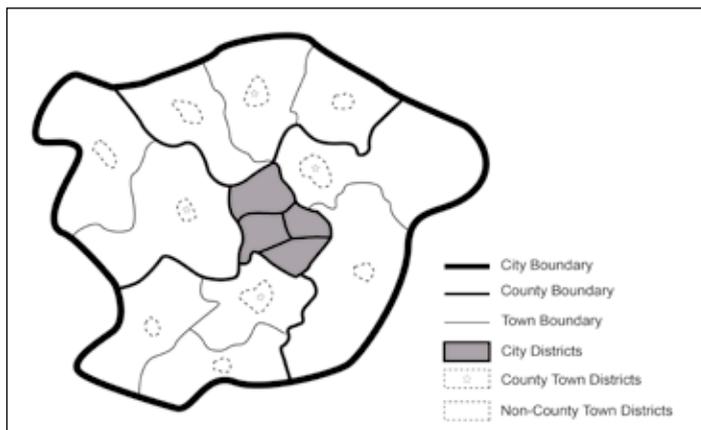


Figure 1.2. Schematic illustration of the main concepts of the urban rural hierarchy in China: city, city district, towns nested within the city, town district within each town.

³ In a World Bank ranking of 150 countries, 88 countries have lower income inequality than China [<http://www.indexmundi.com/facts/indicators/SI.POV.GINI>].

⁴ Total FAI represents the annual amounts invested in capital construction, real estate development, and national and civil defense projects.

China's urban population resides primarily in city districts (shiqu) and town districts (zhenqu), which constitute the urban core of larger administrative units called cities (shi) and respectively towns (zhen). Cities and towns in China are expansive regions, with administrative territories much larger than in the rest of the world (Chan 2007). Cities are conceptually equivalent to counties in the U.S. and thus the whole of China's territory is basically covered by 287 prefecture and provincial-level municipalities, which within their area include 654 city districts – the cities proper in the conventional sense of this word – and 19,322 towns. Each town in turn includes a town district – an urban core that occupies a fraction of the town's area but accounts for most of the town's urban population. While cities and towns as a whole overlap in their administrative boundaries, with multiple towns nested within each city, city districts and town districts are disjoint structures, being urban embryos within the administrative boundaries of territorially larger cities and towns. **Figure 1.2** schematically illustrates the nesting of towns in cities and the disjointedness of town districts from the city district. The main purpose of this study is to examine the development and features of town districts (zhenqu) – the urbanized core of China's towns.

2. CHINA'S RURAL-URBAN SYSTEM

China's mainland administrative divisions are grouped in four hierarchical levels: provincial level, prefecture level, county level, and township level (**Figure 2.1**). The structures of each level are nested within the structures of the upper lying level, forming an urban-rural hierarchy (**Table 2.1**). The top level consists of 31 provincial-level divisions (22 provinces, five autonomous regions with distinct ethnic minority populations, and four municipalities that have provincial-level status – Beijing, Tianjin, Shanghai, and since 1997 also Chongqing).⁵ According to China's constitution, the provincial-level divisions (including the four municipalities) fall directly under the Central Government (Constitution 2004).⁶

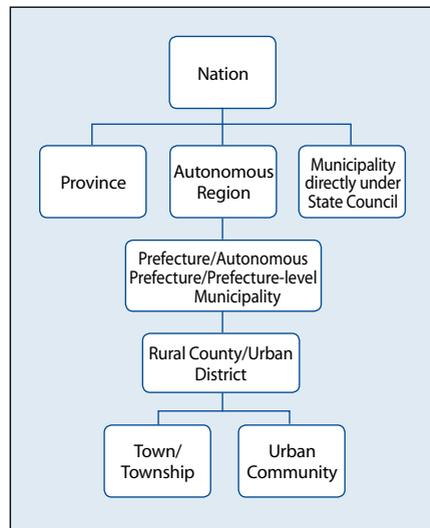


Figure 2.1. China's four-level administrative division (Brixi et al. 2011, p. 13).

Below the provincial-level divisions come the prefecture-level divisions: these consist primarily of prefecture-level municipalities, which between 1983 and 1990 replaced most of the older prefectures and autonomous prefectures.⁷ Most provinces (excluding the four provincial-level municipalities) are completely covered by prefecture-level municipalities, which in a sense are equivalent to U.S. counties completely covering the states. The total population in China's 283 prefecture-level

⁵ In addition to the 31 mainland provinces and municipalities, two Special Administrative Regions (Hong Kong and Macao) and Taiwan are also counted as provincial-level divisions, bringing the total to 34.

⁶ The four provincial-level municipalities are accordingly called "cities under central administration", emphasizing that they are higher than the prefecture-level municipalities in the administrative-divisions hierarchy.

⁷ See Wikipedia, "Administrative divisions of the People's Republic of China".

municipalities (1,165 million) is thus close to the total population in China's provinces (1,240 million, in 27 provinces, excluding municipalities).

Table 2.1. Hierarchy of China's administrative divisions

	Administrative division level	Number	Divisions	Number	Comments
1	Provincial level	31 [^]	Provinces	22	Top-level divisions covering the entire country: equivalent to states in the U.S.
			Autonomous regions	5*	
			Municipalities at provincial level	4**	
2	Prefecture level	333	Prefecture-level municipalities	283	Expansive structures completely covering the provincial-level divisions: equivalent to counties in the U.S.
			Prefectures	50***	
3	County level	2,859	Counties	1464	Urban core districts in municipalities, prefecture-level municipalities, county-level cities; number of city districts (855) is greater than number of cities (4+283+367=654) because some cities have multiple city districts
			Autonomous counties	117	
			County-level cities	367	
			City districts	855	
4	Township level	40,813	Townships	14,848	Lowest level in the urban-rural hierarchy; mostly rural population
			Towns	19,322	Mix of urban and rural population
			County towns	1,636	Seat of county government
			Regular towns	17,686	Non-county towns
			"Separate" towns	16,881	Towns in which public, residential, and municipal facilities are not connected to those of cities or county towns; subset of regular towns
			Town districts	19,322	Urban core districts in county and regular towns

[^] These are the mainland provinces and municipalities; two Special Administrative Regions (Hong Kong and Macao) and Taiwan are also counted as provincial-level divisions, bringing the total to 34.

*Autonomous regions: Xinjiang, Inner Mongolia, Tibet, Ningxia, Guangxi.

**Municipalities: Beijing, Tianjin, Shanghai, Chongqing.

*** 17 prefectures, 3 leagues, 30 autonomous prefectures (Wikipedia, "Administrative divisions of the PRC").

Sources: China Statistical Yearbook 2010; China City Statistical Yearbook 2009; China Urban-Rural Construction Statistical Yearbook 2009; China Township Statistics 2010; China Rural Statistical Yearbook 2010; China Population and Employment Statistics Yearbook 2010; Rural and Agricultural Census 2006.

The prefecture-level municipalities (as well as the remaining prefectures) are in turn subdivided into county-level divisions, which primarily consist of counties, county-level cities, and districts. Districts enjoy county-level status and they typically constitute the urban core of a city (so-called “city districts” – *shiqu* in Chinese or “districts under city administration” – *shixiaqu*). Provincial-level municipalities are similarly divided into counties and districts, but they do not include any county-level cities (nor do they include any prefecture-level municipalities): the “city districts” are the only “cities” within the municipalities, while the counties comprise the rural surrounding. Counties and districts are in turn subdivided into townships (*xiang*) and towns (*zhen*), which constitute the third (lowest) level of China’s administrative-division system – the township level. Similarly to cities, towns are a mixture of urban and rural areas, with the urban communities concentrated in so called “town districts” (*zhenqu*). Administrative divisions of the three levels (below the provincial level) are governed by People’s Congresses and People’s Governments.

Urban population comes mainly from cities and towns. Both cities and towns may also contain rural population, and only the so-called “city districts” and “town districts” are predominantly urban: they constitute the “urban areas” or “urban districts” (*chengqu*), where the population is statistically defined as urban.⁸ Townships, on the other hand, are mostly rural (except townships included within the urban district of a prefecture-level city).⁹ Of China’s 621 million urban population, 60% reside in urban cores of cities (the “city districts” of prefecture-level and county-level cities) and the remaining 40% are in town districts (**Table 2.2**).¹⁰

⁸ China’s National Bureau of Statistics defines urban areas according to criteria principally reflecting physical features and de facto population density (specifically, an average population density of at least 1,500 per sq. km). Other criteria include contiguity of the built-up area, location of the local government, being a “street” or “residents” committee. For a summary in English, see Chan and Hu (2003), Appendix 1. The NBS-defined urban areas are rarely in total congruence with the administratively defined urban areas (city or town districts).

⁹ There is no information on urban population in townships. In 2005, the latest year when data are available, the non-agricultural population in townships – a proxy for urban population – was 14 million (Construction YB 2009, table 3-1-3), which is consistent with 16 million urban population in townships according to Rural and Agricultural Census 2006. These numbers for townships represent about 2.5% of total urban population of 562.12 million in that year (StatYB 2006, table 4-1).

¹⁰ The actual share of towns in urban population is somewhat higher, because the share estimated in **Table 2.1** is based on 18,517 county and separate towns out of the total of 19,322 town districts: it does not include 805 towns that are directly connected to the public facilities of cities and are part of city statistics in the available statistical system (see **Table 2.5**).

Table 2.2. Population in urban districts of cities, county towns, and separate towns in 2009

	Number	Permanent population (millions)	Temporary population (millions)	Total population (millions)	Share of temporary population, %	Share of national urban population, %
Cities*	654	340.69	36.05	376.74	10	61
County towns*	1,636	69.75	11.20	80.95	14	13
Separate towns#	16,881	137.61	25.65	163.26	16	26
Total		548.05	72.9	620.95 [^]	12	100

* Data for cities and county towns include the towns connected to the division's public, residential, and municipal facilities.

Separate towns are towns in which public, residential, and municipal facilities are not connected to those of cities or county towns.

[^] The total population of 620.95 million in city/town districts approximates the urban population of 621.86 million reported in StatYB 2009.

Source: For cities and separate towns, Construction YB 2009 (tables 1-1-2, 3-2-2); for county towns, China Township Statistics 2010, table 1-5-10, which gives the permanent population in town districts of county towns, and Construction YB 2009, table 2-2-2, which gives the temporary population of the entire county town (on the assumption that the temporary population is concentrated mainly in the town district).

Villages constitute an informal fourth level of administrative divisions, which is not explicitly recognized in the Constitution. They are administratively embedded in the higher township level (i.e., in townships and towns. **Table 2.3** shows that of China's 640,000 villages 400,000 are included in towns, 200,000 in townships, and 30,000 in city districts (Rural and Agricultural Census 2006). Villages do not have formal government organs, and they are effectively governed by villagers committees, which are autonomous grassroots organizations. For purposes of statistics, a village is "a collection of houses and other buildings in the countryside where rural residents live and produce" (China Urban-Rural Construction Yearbook). Villages are thus the fundamental organizational units for the rural population. The rural component of cities and towns is also organized in villages that are nested within the larger administrative units.

Table 2.3. Classification of villages in China

Category	Number	Percent
All villages	637,011	100
Villages under towns	398,938	63
Under county towns	47,259	7
Under regular towns	351,679	55
Villages under townships	203,296	32
Villages under street communities (city districts)	31,904	5
Other	2,873	0

Source: Rural and Agriculture Census 2006.

Regional division

China's 31 mainland provinces are conventionally grouped in four regions: North-Eastern, Eastern, Central, and Western (see map in **Appendix 1**). The Eastern and the Central regions combined have 64% of China's population on 20% of land area. At the other extreme, the huge Western region commands 71% of China's land area with less than 30% of the population (**Table 2.4**). The Eastern region has the highest population density (549 persons per sq. km) compared with as low as 52 persons per sq. km in the West. The disparity in population and population density across regions is related to the topography: vast territories in Western China are unsuitable for human habitation because of harsh climate and difficult topographic conditions. The "livable" regions, with milder climate and more welcoming terrain, account for merely 19% of China's land area (Cities 2010). They are mainly located in the eastern plains, in the Sichuan Basin, and similar zones. Agglomerations and cities accordingly develop primarily in eastern and coastal regions, e.g., the Yangtze River Delta, the Pearl River Delta, and the Beijing-Tianjin-Tangshan region.

Table 2.4. Dense East and sparse West: land, population, and population density across the four regions (share of national total in percent; 2009 data, mainland provinces)

	All China	North-Eastern	Eastern	Central	Western
Land area	9.6 million sq.km	8.4%	9.6%	10.7%	71.4%
Population	1,316.6 million	8.3%	36.8%	27.0%	27.9%
Urban population	621.9 million	9.8%	43.5%	23.8%	22.9%
Population density, persons/sq.km	137	135	549	347	52
Number of cities	654	13.6%	35.3%	25.7%	25.4%
Number of towns	19,292	7.6%	31.2%	25.9%	35.5%

Source: Land area from Central People's Government web site http://www.gov.cn/test/2005-06/15/content_18253.htm; population data and number of cities from StatYB 2010; number of towns from China Townships Statistics 2010.

Cities (*shi*)

Chinese cities fall into three broad categories corresponding to different administrative-division levels: the provincial-level municipalities (just four such cities) are part of the top provincial level and fall directly under the central government; prefecture-level municipalities (283); and county-level cities (367). Cities of all three types are not “cities” in the strict sense of the word: they are essentially administrative units, not urban entities. Chinese cities usually consist of an urban core or a group of city districts (the city proper) surrounded by rural areas.¹¹

The city districts are formally called “districts under city jurisdiction” (*shiqu* or *shixiaqu*). They are subdivided into so-called street communities, which are administrative divisions representing agencies of the city government and their population is statistically classified as 100% urban; in addition city districts may include towns, townships, and even villages, so that they have some rural population within their predominantly urban profile (Chan 2007).

A prefecture-level municipality thus typically consists of a central core city surrounded by county-level cities, as well as towns, townships, and villages spanning a large area. The four provincial-level municipalities are similarly organized, except that they contain only one central city (without county-level cities), which is again surrounded by towns, townships, and villages. Generally, the city district corresponds

¹¹ Before 1949, the administrative boundaries of Chinese cities were basically confined to the urbanized, built-up areas. Since the early 1950s, the city unit has increasingly, through successive changes, included rural counties within its administrative boundary and become essentially an administrative unit rather than an urban entity. By the 1990s, many cities already had an administrative area far larger than the urbanized area per se (Chan 2007).

very loosely to the “city proper” concept as understood in the United States, or the “urban administrative area” used in United Nations publications. Yet even this “city proper” typically has a very large area compared to most large Western or Japanese cities. For example, in 2000 the area of Shanghai city proper was larger than New York, Chicago, and Los Angeles “cities proper” combined (Chan 2007). A county-level city is much more compact in area than a provincial or a prefecture-level municipality, but it also consists of an urban core surrounded by towns, townships, and villages.

Towns and townships

The differences between a township and a town were defined by the standards announced by the Ministry of Civil Affairs in 1984, which set guidelines for conversion from townships to towns.¹² A town has a total population of more than 20,000 with non-farming population exceeding 10% of the total; alternatively, a town may have a total population of less than 20,000 if its non-farming population is more than 2,000 people. From these definitions it follows that townships have a larger component of farming (i.e., rural) population than towns of comparable size. In this sense, towns are more urbanized than townships: according to the Rural and Agricultural Census 2006, the share of urban population in towns was 19% in 2005, compared with just 6% in townships. The county seat is automatically declared a town regardless of its population.

Towns are thus classified into county towns – the seat of county government – and regular (non-county) towns (**Table 2.5**). A subset of regular towns are the so-called “separate” towns, in which public, residential, and municipal facilities are not connected to those of nearby cities or county towns (of the 17,686 non-county towns, 16,881 are separate towns). County towns where the county government is located are usually more urbanized and thus more affluent than other towns. In county towns, 59% of total population resides in urban districts, compared with only 21% for regular towns;¹³ 65% of employed work in the higher paying secondary and tertiary industries, compared with 52% in regular towns (see **Table 5.2**).

¹² Statistical Abstract of China, 1985:18; Standard and Qualifications of Town Establishment [Chinese], <http://www.zj.gov.cn/gb/zjnew/node3/node22/node166/node232/node1533/userobject9ai80120.html>. The standard was abrogated in 2002 (http://www.gov.cn/gongbao/content/2002/content_61721.htm) and since then the number of towns remained relatively constant in the absence of guidelines for transformation of townships into towns (see **Figure 3.2**).

¹³ This number can be approximately compared to the urbanization rate of 19% for towns mentioned above, bearing in mind the difference in statistical sources (China Township Statistics 2010 and Rural and Agricultural Census 2006), the difference in definitions (town district population may contain some rural population), and the difference in time (2009 and 2005).

Table 2.5. Classification of towns

	Number of units	Total permanent population, millions	Town district population, millions	Share of town district population, %	Share of total population in China, %
All towns	19,322	803.0	211.9	26	71
County towns	1,636	119.2	69.8	59	11
Non-county towns	17,686*	683.8	142.1	21	60

*Of these, 16,881 are "separate" towns in which residential, and municipal facilities are not connected to those of nearby cities or county towns.

Source: China Township Statistics 2010.

Town and township governments have the lowest administrative level in the People's Congress and among the People's Governments (Constitution, Article 95): they are subordinate to higher-level governments, i.e., governments of counties, county-level cities, and districts (*qu*)¹⁴, which provide policy directions and guidance. The People's Government of a town or a township is responsible for economic and social development, budget and finance, education, science, culture, public health, civil affairs, public security, judicial administration and family planning¹⁵. However, town or township governments are not independent fiscally: the local taxes are collected by the county-level government and the township-level governments are allocated a fixed share of the tax receipts.

In order to be able to absorb migrants from local rural areas, the 12th Five Year Plan (2011-2015) sets the target to develop infrastructure and increase basic service provision in towns, especially in towns' urban core areas. A town's urban core area is designated by the term "town district" (*zhengqu*), while "town" refers to the entire administrative area under the town's jurisdiction, which may also include villages.

Towns, especially those in inland regions, are largely rural: only about 20% of the population in towns is urban, most land within the administrative boundaries of towns is farmland, and 46% of employment is in primary industry (see **Table 5.4**). Town districts are the true urban centers of towns. Positioned at the lowest level of China's urban system, closest to the rural population, town districts serve as bridges linking urban and rural areas: they provide primary distribution centers for agricultural products from the villages, they are the locus of processing and manufacturing industries in largely agricultural areas, and their urban facilities

¹⁴ China's Political System, <http://www.china.org.cn/english/Political/28842.htm>.

¹⁵ Organic Law of the Local People's Congresses and Local People's Governments of the People's Republic of China, <http://www.englishcn.com/ext/view.php?aid=7907>.

(schools, hospitals, libraries, community centers) serve not only the urban population in the town district, but also a significant number of rural people in surrounding areas. Further development of town districts would help to fill the gap between cities and villages, thus promoting the integration of the urban and rural sector.

Average size of settlements

There are huge differences in size between settlements of different types. The population in provincial-level municipalities averages 19 million, in prefecture-level municipalities 4 million, and in county-level cities less than 700,000 (**Table 2.6**). The average town has 42,000 people and the average township 18,000. County towns are larger than regular towns (73,000 and 39,000, respectively). In the average town of 42,000, the population in the urban core (the town district) is 11,000, but even this includes a rural component (because town districts are defined within administrative boundaries and not along statistical urban/rural divisions; see Chan 2007). Village population averages 1,100.

Table 2.6. Average permanent population in settlements of various types (2009)

	Number	Total population, mln	Population in city/town districts, mln	Average population, thou.
Municipalities at provincial level	4	77.6	49	19,408
Municipalities at prefecture level	283	1,239	333	4,378
Cities at county level	367	245	n.a.	666
Towns	19,322	803	212	42
County towns	1,636	123	70	75
Non-county towns	17,686	684	142	39
Townships	14,848	265		18
Villages	637,011	713		1.1

Sources: population in cities at municipality and prefecture levels from StatYB2010, T.3-4; population in city/town districts from China Township Statistics 2010 and Rural and Agriculture Census 2006.

The average population numbers for towns and town districts hide left-skewed distributions with a long right tail of relatively large towns. Town populations range from around 4,000 in the smallest town to 555,000 in the largest. Fully 40% of towns have populations between 15,000 and 35,000 and one-quarter fall below the 1984 threshold of 20,000 for conversion from a township to a town (**Figure 2.2**). At the other extreme, 25% have populations greater than 50,000, with the largest town reaching 555,000. The median population is 35,000, less than the mean population of 42,000, which is biased upward by the long right tail.

The population in the towns' urban core (town district) is much smaller than the town-wide population: one quarter of town districts have population not exceeding 2,500 and the median town-district population is less than 5,000 (**Figure 2.3**). Here also the mean population of 11,000 is upward biased by the long right-hand tail of the population distribution that extends to 553,000. On average, the town-district population is 23% of the total population within the town's administrative boundaries.

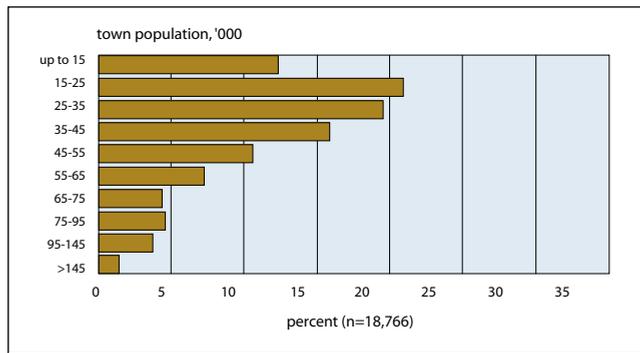


Figure 2.2. Distribution of towns by population 2009.
Source: calculated from China Township Statistics 2010.

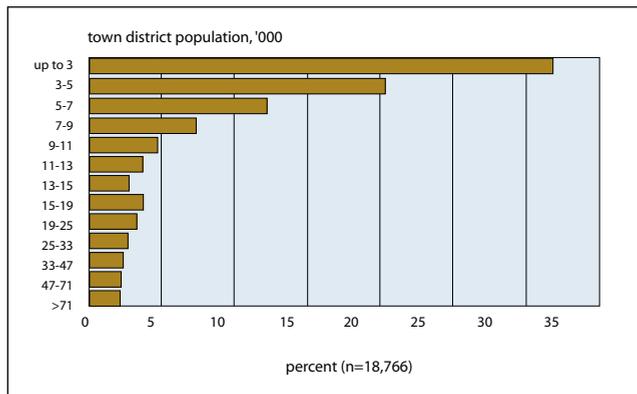


Figure 2.3. Distribution of town districts by population 2009.
Source: calculated from China Township Statistics 2010.

Table 2.7 clearly demonstrates the distributional difference between towns and town districts: the proportion of town districts is much higher in the lower population ranges (up to 15,000); in the higher population ranges, on the other hand, the proportion of towns is consistently greater than the proportion of town districts. Not surprisingly, town districts are overall substantially smaller than whole towns.

Table 2.7. Distribution of population in towns and town districts

Population	Percent of towns (n=18,766)	Percent of town districts (n=18,766)
<5,000	1	52
5,000-15,000	11	31
15,000-55,000	67	14
>55,000	21	3

Source: calculated from China Township Statistics 2010.

3. URBANIZATION

Since the launch of the reform and the opening-up campaign in 1978, China has experienced a remarkable period of rapid urbanization. The number of people living in urban areas increased from 172.5 million in 1978 to 665.6 million in 2010, while the rural population decreased from 790.14 million to 674.15 million during the same period.¹⁶ As a result the urbanization rate – the share of urban population in total population – grew steadily from 18% in 1978 to 49.7% in 2010 (Figure 3.1). The urbanization pattern was less stable prior to 1978: rapid urbanization which was naturally triggered by the emphasis on industrialization in the new People’s Republic after 1949 came to a stop and changed to decline after 1960. The declining urbanization rate between 1960 and 1978 can be attributed to two factors: first was the failure of the Great Leap Forward and the resulting famine of 1960-1963, when food shortages in the cities forced the government to restrict rural-to-urban migration and move urban residents closer to food sources in the villages (Veek et al. 2007); the second was the severe deurbanization measures practiced during the cultural revolution of 1966-1976, when millions of urban young people were sent “down to the countryside” for reeducation (Feiner et al. 2001).



Figure 3.1. Share of urban population (urbanization rate) 1949-2010.
Sources: urbanization rate for 1949-2009 from StatYB 2010 (online edition); urbanization rate in 2010 from National Population Census 2010.

¹⁶ See preliminary results of the 2010 Population Census, http://www.stats.gov.cn/was40/gjtj_en_detail.jsp?searchword=census&channelid=9528&record=5.

The national average urbanization rate hides considerable regional differences. The most urbanized regions are the East and the North-East, with urbanization rates of 57% – ten percentage points above the national average in 2009. The Central and Western regions are less urbanized, with urban population accounting for about 40% of the total (**Figure 3.2**). The four regions have retained this ranking since 1982, but the changes in the urbanization rate over time show that the urban population grew at different rates in different regions. The growth of urban population was slowest in the North-East and fastest in the East. As a result, the industrial North-East lost its initial position as the most urbanized region during the 2000s and the East had caught up with it by 2009 (see **Figure 3.2**). The urban population in the North-East grew at an average annual rate of 1.9% between 1982 and 2009, compared with 4.9% in the East (**Table 3.1**). In the other two regions the annual growth rate averaged 4.2% in the West and 4.5% in the Central Region. Since 2000, however, the urban population growth in these two less urbanized regions has been faster than in the East: 4%-4.1% annually compared with 3.4% in the East. Congestion apparently began to take its toll after years of super-fast growth in the East and the focus of urbanization growth shifted to the relatively under-urbanized Central and Western regions.

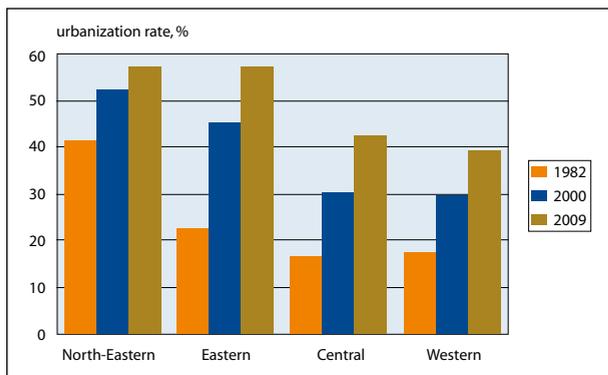


Figure 3.2. Urbanization rate across regions 2000-2009.

Source: China Statistical Yearbooks 1983, 2001, and 2010.

Table 3.1. Urban population growth across regions 1982-2009

Regions	Urban population, millions			Annual growth rate, %	
	1982	2000	2009	1982-2009	2000-2009
North-Eastern	37	56	62	1.91	1.21
Eastern	76	204	274	4.87	3.38
Central	46	104	150	4.49	4.13
Western	48	102	145	4.16	3.96
All China	207	466	632	4.21	3.45

Source: China Statistical Yearbooks 1983, 2001, and 2010.

Urbanization has produced definite benefits for China's population: GDP per capita is higher in provinces that have a higher urbanization rate (see Figure 1.1). Yet rapid urbanization has led to increasing inequality – both across the entire population, as measured by the Gini coefficient (Chen et al. 2010) and most significantly between urban and rural segments of the population (see the next section on urban-rural inequality).

Growth in number of cities and towns

The increasing urbanization has manifested itself in a marked increase in the number of cities and towns during the last three decades. The number of cities (prefecture-level and county-level combined) rose from 193 in 1978 to 666 in 1996, mainly through transformation of counties into county-level cities. The number of county-level cities more than quadrupled during this period, rising from 92 in 1978 to 445 in 1996 (**Figure 3.3**). The process stopped after the central government issued new instructions preventing further transformations of this kind (October 1994), and the number of cities has stabilized at around 660. The urban population of the average city decreased from about 600,000 in 1994–1995 to 500,000 in 2009.

The number of towns also increased dramatically in the past three decades, rising from 2,173 in 1978 to 19,322 in 2009 (**Figure 3.4**). The numerical growth accelerated dramatically in 1984, when the Ministry of Civil Affairs relaxed the criteria for the establishment of towns and spurred large-scale transformation of townships into towns. In just one year the number of towns rose from less than 3,000 in 1983 to 7,186 in 1984. The number of towns continued to increase at a fairly steady rate, as government policies encouraged continued agglomeration of smaller townships into towns (especially after 1992) and the 3rd Plenary Session of the 15th Central Committee (1998) proposed a strategy of development for town districts (Zhang 2006). The growth continued until 2002, when the number of towns peaked at 20,601. After 2002, the numerical growth stopped and the number of towns began to decline slightly as the goals of town development shifted from quantity to quality (Zhang 2006) and the 1984 guidelines for transformation of townships into towns were abrogated.¹⁷ Small towns began to merge with the objective of increasing the population in the urban core and improving the delivery of urban services through economies of size. Responding to this trend, the average population in the urban core of separate towns began to increase, rising from about 6,000 in the 1990s to more than 8,000 since 2004 (**Table 3.2**). This is contrary to the trend in average city size, which decreased from nearly 700,000 in 1990 to 500,000 in 2009. By 2009, the

¹⁷ http://www.gov.cn/gongbao/content/2002/content_61721.htm [Chinese].

population living in the town districts of all towns had reached 211.87 million, which is 34% of China’s urban population or nearly 15% of national total population. This should be compared to total town population of 803 million, which constitutes 60% of the national total population.

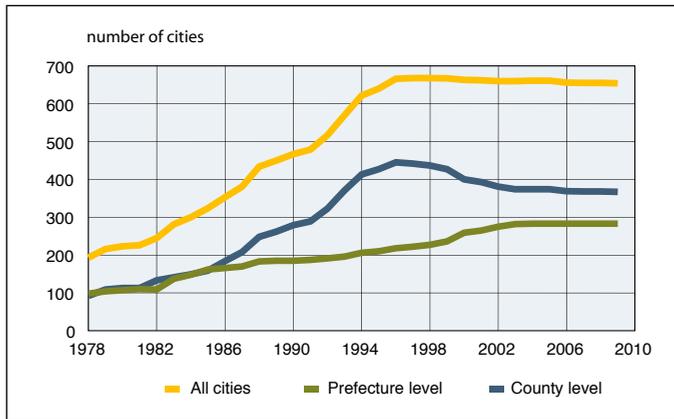


Figure 3.3. Growth of the number of cities 1978-2009.

Source: City Statistical Yearbook 2010.

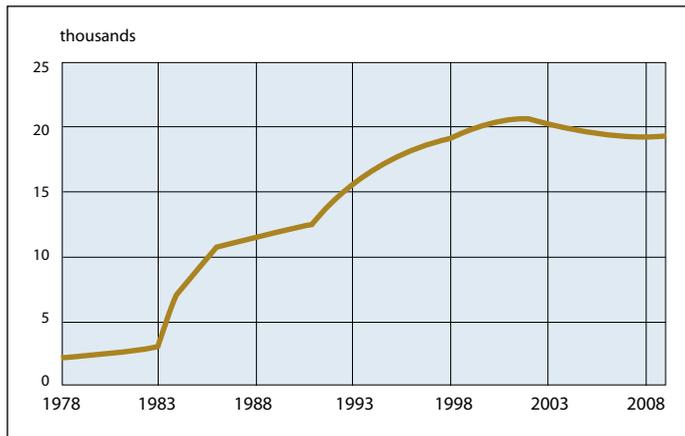


Figure 3.4. Growth of the number of towns 1978-2009.

Sources: 1978-2005 from Zhang (2006), 2006-2009 from StatYB (various years), T.1-1.

Table 3.2. Average size of city and town districts 1990-2009 (population in city districts and separate town districts)

Year	Number of cities	Average city district population, '000	Number of separate towns*	Average town district population in separate towns
1990	468	696.6	10,100	6,040
1995	640	590.5	15,000	6,200
2000	663	585.6	17,900	6,872
2005	661	543.5	17,700	8,362
2009	654	520.9	16,900	8,166

Source: Construction 2009, tables 1-1-2, 3-1-1.

Urbanization density

With cities and towns constituting the foci of urban population in China, urbanization density can be assessed by two indicators: the density of cities and towns per sq. km in regions and provinces and the density of urban population per sq. km in towns and cities.

Density of towns and cities

The Eastern region that has the highest density of towns per 1,000 sq. km, while the Western region with its huge territorial expanses has the lowest density of towns – although their absolute number is even greater than in the Eastern region (**Figure 3.5**).

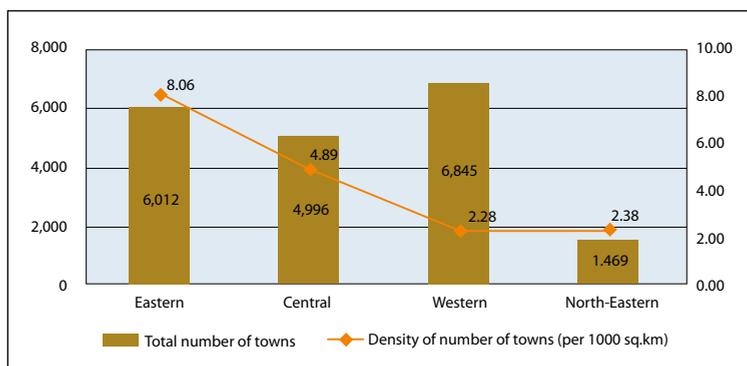


Figure 3.5. Number of towns by region (2009).

Sources: StatYB 2010 and China Township Statistics 2010.

In general, the density of towns (i.e., the number of towns per sq. km) in a region or a province is positively associated with economic performance as measured by GDP per capita. On the regional level, the Eastern region, with its highest density of towns, also has the highest per capita GDP (41,000 yuan), while the lowest per capita GDP (18,000 yuan) is attained in the Western region, where the density of towns is lowest (see **Table 4.1**). The positive association between the density of towns and per capita GDP across provinces and municipalities at provincial level is demonstrated in **Figure 3.6**. A similar relationship is observed between GDP per capita and the density of cities (i.e., the number of cities per sq. km) across provinces. Provinces with greater agglomeration, i.e., with more cities and more towns per sq. km, are generally more affluent. This is probably another facet of the observation in **Figure 1.1**, where higher urbanization rate is seen to lead to higher GDP per capita.

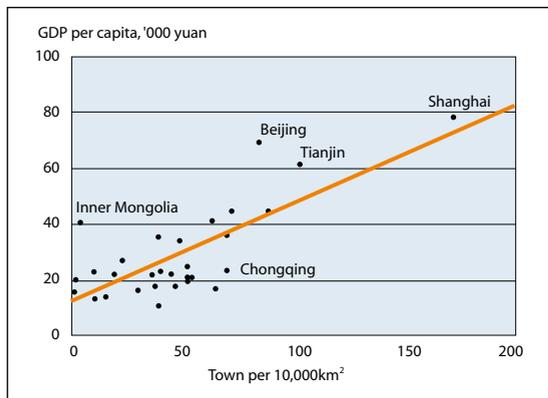


Figure 3.6. The effect of the density of towns on GDP per capita across provinces and municipalities at provincial level (2009).¹⁸

Sources: Number of towns by province from China City Statistical Yearbook 2010, table 1-1; land area by province from the regional links in http://www.gov.cn/test/2005-06/15/content_18253.htm; GDP per capita by province calculated from regional GDP and population data in StatYB 2010.

Population density

The population density in cities and towns is usually calculated as the ratio of the urban-core population to the built-up area (BUA) or the area of the built-up district (Development Report 2010). China Urban-Rural Construction Statistical Yearbook defines BUA as the large-scale developed quarters within the city or town jurisdiction connected to basic public facilities and utilities. BUA is thus typically smaller than the administrative area of the urban district. The average BUA in both cities and separate

¹⁸ The three major provincial-level municipalities – Shanghai, Beijing, and Tianjin – have the highest levels of GDP per capita in all of China and are also characterized the highest density of towns per sq. km. Yet the positive association between density of towns and GDP per capita in Figure 3.6 is not attributable entirely to the effect of the three largest cities. Exclusion of the towns in the four municipalities reduces the regression fit from $R^2 = 0.56$ to $R^2 = 0.19$ while the slope coefficient drops from $b=354.7$ to $b=195.8$. Despite the poorer fit, the positive coefficient of correlation between GDP per capita and density of towns remains statistically significant at $p=0.05$.

towns grew rapidly after 1999-2000 (**Figures 3.7, 3.8**). BUA growth in cities proceeded simultaneously with a general decline of city-district population, whereas in separate towns BUA growth was faster than population growth in town districts. As a result, the population density in both city districts and town districts declined over time. The decline was particularly spectacular in city districts, where the population density dropped from 25,000 per sq. km in 1990 to less than 10,000 in 2009, a decrease of 60%. In separate towns, the population density decreased from 7,400 per sq. km to 4,400 during the same period – a drop of 40%.¹⁹ Despite its sharp decline the population density in city districts remains more than double the population density in separate town districts. For county towns, population and BUA data are available only since 2000. Calculations show that the population density for the urban core of county towns also declines (from 10,800 per sq. km in 2000 to 8,600 per sq. km in 2009), while the absolute levels fall between city districts and separate town districts.

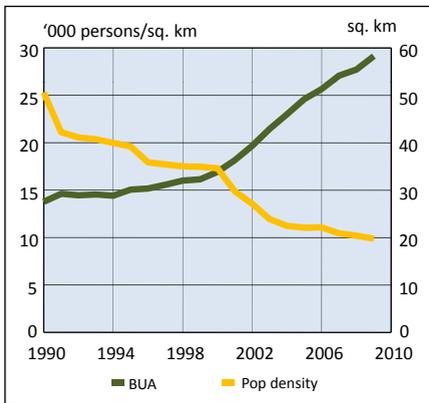


Figure 3.7. Development of cities 1990-2009: average built-up area (BUA) and population density (based on permanent population in city districts). Source: Construction 2009, table 1-1-2.

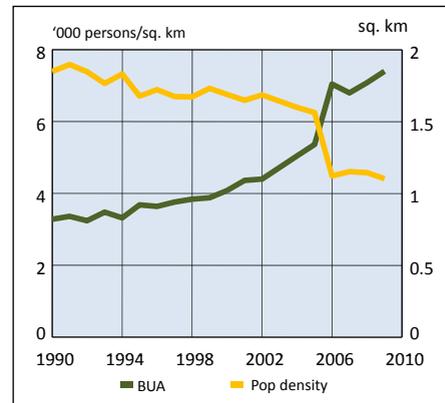


Figure 3.8. Development of separate towns 1990-2009: average built-up area (BUA) and population density (based on permanent population only in separate town districts). Source: Construction 2009, table 3-1-1.

Based on 2009 estimates, the population density is highest in city districts, intermediate in town districts of county towns, and lowest in town districts of regular towns (**Table 3.3**). The relatively low population density in town districts has been used to argue that towns are wasteful of land and thus a less efficient urban form than cities (Development Report 2010). Urbanization focusing on town districts may be unsustainable in China, where land is limited and must be utilized intensively.

¹⁹ The population density in 2009 is based on permanent population only to ensure comparability with 1990. Using both permanent and temporary population we obtain a density of 5,214 persons per sq. km (see **Table 3.3**).

Table 3.3. Population density in urban districts of cities, county towns, and separate towns (2009)

	Total population in urban districts,* millions	BUA, sq. km	Population density,** persons/sq.km
Cities	376.74	38,107.3	9,886
County towns	133.79	15,557.5	8,600
Separate towns	163.26	31,312.9	5,214
All China	620.95	84,977.7	7,929

*Total population is the sum of permanent population and temporary population in city/town districts (see **Table 2.1**).

**Calculated as (permanent population + temporary population)/BUA. This formula used by the China Development Report (2010) produces an overestimate, as the area of the city/town district where the population resides is larger than the BUA and the actual population in BUA is not available in statistical sources. An attempt to correct this distortion by calculating the population density in relation to the urban area produces basically the same ranking: city districts have a higher population density than town districts of county towns (no urban area is available for non-county towns).

Source: Construction 2010: cities from table 1-2-2; county towns from table 2-2-2; separate towns from table 3-2-2.

The reported permanent population in urban districts of all towns almost trebled between 1996 and 2009, increasing from 73 million to 212 million.²⁰ The increase mainly comes from transformation of townships into towns, as well as migration from rural areas (see next section). After 2000, some counties were transformed into cities (at county or prefecture level), causing a decline in number and population of county towns.

The average population per town district is largest by far in Eastern China, where it is nearly double the town district population in Western China (**Table 3.4**). The population density in town districts is higher in Central and Eastern regions (around 3,000 persons per sq. km, compared with 2,000 in North-Eastern and Western regions).

Table 3.4. Average population and average population density in town districts by region (2009)

Region	Number of towns	Average town district population	Average town district area, sq. km	Average population density, persons/sq. km
North-Eastern	1,469	8,545	5.05	1,691
Eastern	6,012	15,821	5.79	2,731
Central	4,996	10,517	3.48	3,018
Western	6,845	7,547	3.62	2,084
All China	19,322	10,965	4.37	2,509

Sources: number of towns from StatYB 2010; population and area in town districts from China Township Statistics 2010.

²⁰ Town-district population in 2009 from China Township Statistics 2010, in 1996 from First Agricultural Census (www.stats.gov.cn/tjsj/pcsj/nypc/nypc1/t20030826_99971.htm).

Rural-urban migration as an engine of urban population growth

The significant disparity between urban and rural China (as highlighted in the introduction and discussed in more detail in the next section) creates strong stimuli for migration from rural to urban areas. Urban population grew at an average annual rate of 4.0% long term, between 1949 and 2009. Total population grew during the same period at an average annual rate of 1.5%. The disparity in population growth rates led to the observed rise in urbanization, with the share of urban population increasing from 11% in 1949 to 46% in 2009. Observed population increase is usually the result of two components: natural population growth (the difference between births and deaths each year) and migration – in or out. Fragmentary data available in China's statistics on natural increase of the urban population since 1978 enabled us to calculate the natural urban growth component for each year. The natural urban population increase each year since 1978 was substantially less than the observed increase in actual urban population. The shortfall had to be made up by migration from rural to urban areas. **Appendix 2** shows the detailed year-by-year calculations of the actual increase, the natural increase, and the net in-migration component that brought the actual population increase up to the observed increase level.²¹

The share of net migration in total annual population increase averaged 78% between 1978 and 2009 (**Figure 3.9**). This justifies the statement that rural-to-urban migration was the driving force for China's rapid urbanization during the last three decades. The dominance of rural-urban migration in urban population increase became particularly pronounced since 1996, when it averaged 84% of annual urban population increase.

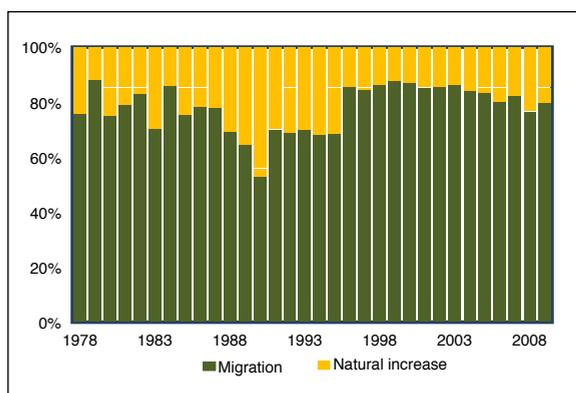


Figure 3.9. Components of urban population increase 1978-2009: actual increase = natural increase + in-migration. For details see **Appendix 2**.

²¹ The table updates the data and the calculations from Zhang and Song (2003). These authors obtained 75% for the average share of net migration in total urban population increase between 1978-1999, which is consistent with our average of 78% for the period 1978-2009.

Cumulating the annual population increases since 1978, we obtain the picture of urban population growth split into its two components – natural increase and net migration. **Figure 3.10** shows how the cumulative migration component (top layer) rapidly exceeds the population attained through natural increase only (bottom layer). Starting from the base urban population in 1977, the net migration component reaches 59% of urban population in 2009, while the natural growth component is just 41% of the total.

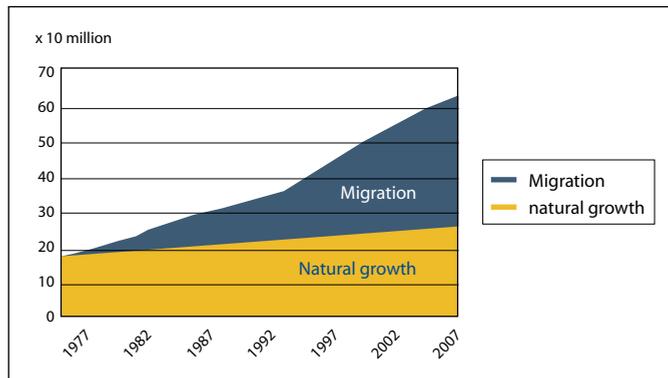


Figure 3.10. Changing composition of urban population 1977-2008. The assumption underlying the construction of this diagram is that rural-urban migration started in 1977.

In recent years, a new trend is taking hold, where some migrant workers are choosing to find employment in their hometowns. In the past, mobility decisions were much more responsive to economic factors (World Bank 2009). Migrants travelled long distances and concentrated in the coastal big cities, due to the better wage; but recently some migrant workers returned to work nearby²². Compared to their previous jobs in the city, their new jobs are less demanding, thus they can enjoy more quality time with families, and they can have more saving even with lower salaries. Furthermore, because it is more expensive to live in cities than in towns, they do not have to spend money on transportation between families and working cities. With prospect economy to offer more employment and well-developed infrastructure to support a better living standard, SMT should do better to absorb new wave of rural migrants.

²² CCTV News "Migrant workers choose to work in hometowns".
<http://english.cntv.cn/program/china24/20110228/116298.shtml>.

4. URBAN-RURAL INCOME INEQUALITY

Urban-rural inequality in China is manifested in different indicators. The most obvious indicator is the disparity in urban and rural incomes (measured by the urban-rural per capita income ratio). Income inequality may be related to differences in the structure of employment: the rural labor market is dominated by low-return primary industry (basically agriculture), while urban workers enjoy higher earnings in secondary and tertiary industries. Other indicators include the skewed allocation of annual fixed asset investments (FAI), which favors urban over rural areas. This in turn leads to striking disparities in the level of public infrastructure and quality of services between urban and rural areas. The present chapter discusses income inequalities; gaps in FAI and public services are dealt with in Chapters 5 and 6.

Figure 4.1 shows the increasing disparity in urban-rural per capita income since 1985.²³ This constitutes a reversal of the trend that was observed between 1978 and 1985, when the urban-rural inequality decreased noticeably due to the beneficial effect of the 1978 reforms on rural incomes. In 1984-1985 the focus of economic reforms shifted from rural to urban areas. Urban incomes started growing much faster than rural incomes. Between 1985 and 2009 urban per capita incomes (in constant prices) grew at an average annual rate of 7.4%, while rural incomes grew at a much slower rate of 5.0% annually. This disparity in income growth led to increasing urban-rural inequality as the urban-rural income ratio (in current prices) rose from 1.86 in 1985 to 3.33 in 2009 (after going through a short-lived dip between 1995 and 1997, when the government temporarily raised the price of agricultural products to spur grain production) (Lu and Chen 2006).

²³ In China, urban disposable income and rural net income are the most common income measures for urban and rural households, respectively. Urban disposable income reflects monetary transactions only and does not include in-kind income. It is cash income less borrowing less personal income tax less expenditures for household sideline production. Rural net income is rural households' total income less expenses incurred in the operation of productive and non-productive businesses, taxes, contracting and other fees payable to the collective, and depreciation of fixed assets. It contains cash net income and goods net income, such as the part of grain which is not sold in the market and is used within the household (see Carsten Holz, ihome.ust.hk/~socholz/SpatialDeflators/Income-data-26Nov05.pdf).

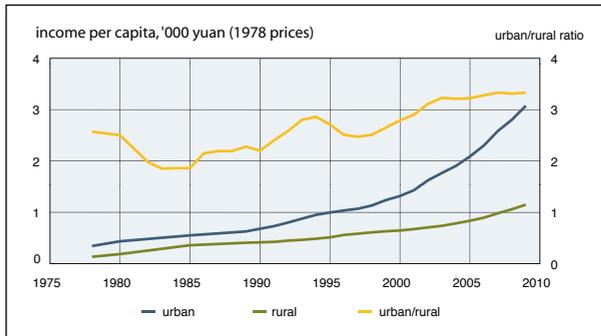


Figure 4.1. Urban and rural per capita income and urban-rural income ratio 1978-2009.

Source: Author’s calculation based on StatYB 2010.

Several factors have been identified in the literature as contributing to the rise of urban-rural income inequality since 1984 (Xue 1997): (1) relatively low farm-gate prices and relatively slow growth in agriculture; (2) faster wage increases for urban workers; (3) decline in non-farming rural incomes due to reduced capacity of Township and Village Enterprises (TVEs) to absorb surplus rural labor in a changing market environment;²⁴ (4) decline of government investment in agriculture, as priority shifted to coastal and urban areas (Xue 2007). The short-lived reduction of income inequality after 1994 was attributed to a temporary increase of farm-product prices, which was intended to spur lagging production and automatically improved farming incomes (Wang and Duncan 2008).

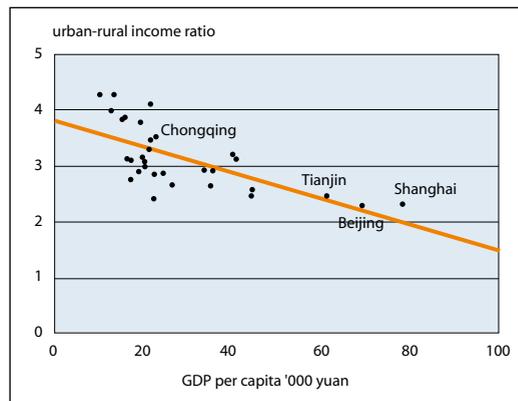


Figure 4.2. Urban-rural income ratio by Province (2009 data).²⁵

Source: StatYB 2010.

²⁴ TVEs, which employed more than half the rural non-farm population in the early 1990s, began to lose their importance in the rural economy after 1994 as government policies encouraged competition from private enterprises and reduced credit availability. In 2004 TVEs employed about 10% of the rural non-farm population (Kung and Lin 2007).

²⁵ Exclusion of the four municipalities reduces the fit from $R^2 = 0.45$ to $R^2 = 0.36$ while making the slope coefficient more negative: it changed from -234×10^{-7} for 31 provinces and the provincial-level municipalities to -335×10^{-7} for 27 provinces without the provincial-level municipalities. In both cases the coefficient of correlation is statistically significant.

Yet the urban-rural income ratio is smaller in provinces with a higher GDP per capita (**Figure 4.2**) and thus a higher urbanization rate (because of the positive correlation between GDP per capita and urbanization, see **Figure 1.1**). In fact, the urban-rural income disparity is lowest in the richest and most highly urbanized municipalities – Shanghai, Beijing, and Tianjin. The pattern demonstrated in Figure 4.2 clearly implies that the rural population is better off in relation to the urban population in regions that are richer and more urbanized: economic development and urbanization benefit both the urban and the rural population in the same province.

5. THE ECONOMY IN CITIES AND TOWNS

City-town disparities

Being urban and economic centers in rural China, towns in general and town districts in particular play an important role as the connecting point of China's urban-rural dual economy. They absorb local rural surplus labor and mitigate the migration pressure on large cities. However, the economy in towns is still small compared to the large cities. Although most of China's industrial enterprises (nearly 3 million) are in towns, the average prefecture-level municipality has three times as many industrial enterprises as the average town (**Table 5.1**). Furthermore, the industrial enterprises in towns are much smaller in size. In 2006, the average industrial enterprise in towns employed only 8% of the employees in the average enterprise in prefecture-level municipalities.

Table 5.1. Disparity between large cities and towns (2006)

	Prefecture-level municipalities*	Towns*	Including:	
			County towns	Regular towns
Number of cities/towns	283	19,322	1,817	17,574
Total number of industrial enterprises, '000	149	2,823	456	2,367
Average number of industrial enterprises per city/town	526	146	251	135
Average number of employees per industrial enterprise	282	23	18	24
Annual fiscal revenue, total, billion yuan	1,086	521	87	435
Share of national total, %	50	28	5	24
Average annual fiscal revenue per city/town, mln yuan	3,800	27	48	25
Annual fiscal revenue, per capita, yuan	2,955	667	671	666
Annual fiscal expenditure, total, billion yuan	1,407	409	67	342
Share of national total, %	46	13	2	11
Average annual fiscal expenditure per city/town, mln yuan	4,972	21	37	19
Annual fiscal expenditure, per capita, yuan	3,827	523	522	524
FAI, total, billion yuan	6,123	997	160	837

	Prefecture-level municipalities*	Towns*	Including:	
			County towns	Regular towns
Share of national total FAI, %	56	9	1.5	7.6
Average FAI per city/town, mln yuan	21,636	52	88	48
FAI, per capita, yuan	16,655	1,276	1,252	1,281

Source: Cities from China City Year Book 2007; towns from Rural and Agriculture Census 2006;

*Statistics for prefecture-level municipalities correspond to city districts (without outlying counties and county-level cities). Statistics for towns reflect the town's entire administrative area within the town boundary.

Towns receive much less investment and have less fiscal resources compared to the large cities. While towns have 60% of China's total population, they receive a mere 9% of total fixed asset investment. Prefecture-level municipalities get 6 times as much total FAI as towns; the disparity in per capita FAI is by a factor of 13. The average large city gets 22 billion yuan in FAI, while the average town gets 52 million – less by a factor of 500. Public spending in towns also lags far behind cities. In 2006, towns generated 28% of fiscal revenue through taxes and other budgetary items at the local level in 2006, but were allocated only 13% of fiscal expenditure from the budget at the local level.²⁶ In the average large city, the annual fiscal expenditure exceeded the annual fiscal revenue by a hefty 30%, whereas in the average town annual fiscal expenditure was 20% below the level of annual fiscal revenue. These facts indicate that towns receive much less fiscal transfers than large cities from higher levels of government and that city expenditures are actually subsidized at the expense of towns.

Table 5.2. Disparity between county towns and regular towns by average indicators (2006)

Indicators (per town averages)	County town	Regular town	County town to regular town ratio
Population in town's urban core (persons)	40,512	7,568	5.35
Floating (migrant) population (persons)	6,455	2,232	2.89
Built-up area in town's urban core (sq.km)	13.36	3.07	4.35
Annual agriculture investment (million yuan)	4.42	3.38	1.31
Annual infrastructure investment (million yuan)	16.47	9.81	1.68
Annual public welfare investment (million yuan)	3.78	2.34	1.62
Average number of employed	36,100	20,900	1.72
Employment in secondary and tertiary sector	65%	52%	--

Sources: Rural and Agriculture Census 2006; employment from China Township Statistics 2010.

²⁶ Fiscal revenue basically consists of taxes and fees collected by the local government. For the detailed composition of fiscal revenue and fiscal expenditure see China Statistical Yearbook 2007, Government Finance section, "Explanatory Notes on Main Statistical Indicators".

Table 5.1 shows that economic disparity is observed not only between cities and towns, but also between county towns and regular towns. County towns are usually larger than regular towns both by population and by their built-up (urbanized) area (**Table 5.2**). Being administrative centers of their counties, county towns attract more talent, as is evident from their higher floating population (number of migrants or temporary residents). In addition to attracting more FAI per town (**Table 5.1**), county towns also attract more investments per town in agriculture, in infrastructure, and in public welfare than regular towns (**Table 5.2**). The higher levels of investments per town ensure that overall county towns are more economically developed than regular towns. The higher economic development and greater economic strength of county towns is evident from the appreciably larger number of industrial enterprises in the average county town (**Table 5.1**). It is also evident from the higher share of the labor force employed in the secondary and tertiary sectors (manufacturing and services) compared with the primary sector (agriculture) (**Table 5.2**). In general, provinces with a higher share of employment in secondary and tertiary sectors achieve higher wealth (as measured by GDP per capita and income per capita),²⁷ which by extension suggests that county towns are wealthier than regular towns.

The level of economic development of towns varies across China's four regions. Measuring economic development and strength by the number of enterprises per town and their average size, we see that the East is economically the strongest while the West and the North-East are the weakest. In the East, there are on average 691 enterprises per town, whereas in the West and the North-East the corresponding number is around 200 (**Table 5.3**). Moreover, the enterprises in the East are larger (by the number of workers) than in other regions.

Table 5.3. Economic strength across regions as measured by the number and size of enterprises (2009)

Region	Share in the total number of enterprises in towns (%)	Average size of an enterprises in towns (persons)	Average number of enterprises per town
Eastern	54	18	691
Central	22	13	344
Western	20	11	228
North-Eastern	3	14	164

Sources: China Township Statistics 2010.

²⁷ See, e.g., <http://www.rieti.go.jp/en/china/05112901.html>.

Employment patterns

Reflecting the increase in national urbanization levels, the primary industry (i.e., agriculture) is no longer the main employer even when we ignore the highly urbanized cities and focus only on the towns. In 2009, town-wide employment (i.e., employment among both rural and urban population in the towns' administrative area) was 46% in the primary industry, with the remaining 54% divided evenly between secondary and tertiary industries (28% in the secondary manufacturing sector and 25% in the tertiary service sector). The industry structure of employment shows considerable regional variation, depending primarily on the urbanization rate. The share of employment in the primary industry is lowest in the highly urbanized East and highest in the least urbanized West (**Table 5.4**). The greater reliance on employment in secondary and tertiary industries in the East is consistent with the fact that this region has the highest regional GDP and the highest level of economic development in all of China.

Table 5.4. Structure of employment in towns* (2009)

Regions	Number of employed (millions)	Employment by sector, %			Urbanization rate, %
		Primary	Secondary	Tertiary	
Eastern	176.41	35.7	37.6	26.7	56.7
Central	113.24	50.0	25.4	24.6	42.3
Western	117.39	57.0	19.2	23.8	39.4
North-eastern	21.45	56.3	18.3	25.4	56.9
National total	428.49	46.3	28.4	25.3	46.6

*Town-wide employment in towns' administrative area, based on China Township Statistics 2010, table 1-1-2.

At the provincial level (**Figure 5.1**), employment structure varies with the size of the town's urban core. Provinces and provincial-level municipalities with larger town districts (i.e., relatively more urbanized towns) tend to have a smaller share of employment in the primary sector (i.e., agriculture) and a correspondingly higher share in secondary and tertiary sectors (manufacturing and services). Urbanized town districts provide a more conducive environment for the development of upstream industries and thus facilitate exit from agriculture. This effect is strongly pronounced for employment in primary and secondary sectors (the first two panels in **Figure 5.1**) and also for secondary and tertiary sectors combined.

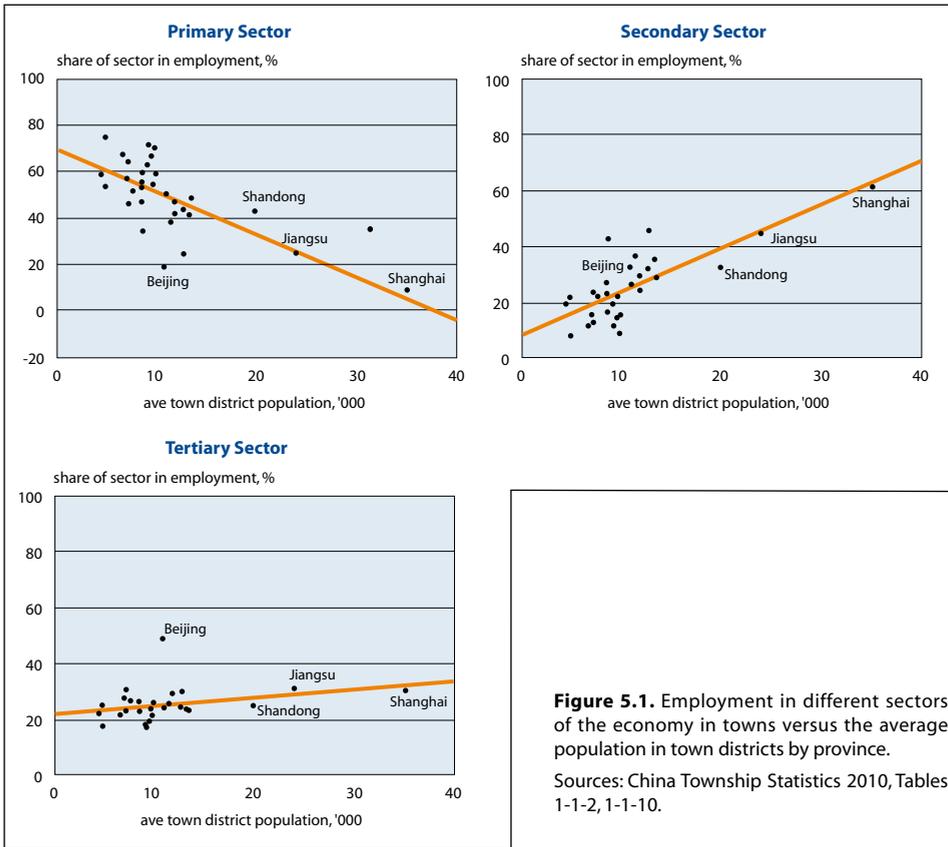


Figure 5.1. Employment in different sectors of the economy in towns versus the average population in town districts by province.

Sources: China Township Statistics 2010, Tables 1-1-2, 1-1-10.

Employment in the tertiary sector on its own (third panel in **Figure 5.1**) does not show statistically significant correlation with town district size, possibly because towns overall are characterized by a relatively primitive economic environment and a generally low level of human capital, none of which is advantageous for the development of the service sector. In support of this conjecture we can note that the share of tertiary industry is exceptionally high in Beijing (third panel in **Figure 5.1**), which as the nation’s capital has a large pool of highly educated and administratively skilled human capital conducive for the development of the service sector.²⁸

²⁸ Three provinces – Shanghai, Jiangsu, and Shandong – are characterized by town districts that are much larger on average than the town districts in the remaining 28 provinces and provincial-level municipalities (see Figure 5.1). Regression analysis of the 28 provinces and provincial-level municipalities without the three exceptional cases produces basically the same results as for all 31 provinces: statistically significant negative correlation between town district population and primary sector employment; statistically significant positive correlation for secondary sector employment; no statistically significant correlation for tertiary sector employment.

During the 1980s and the early 1990s, non-agricultural employment in rural areas was driven mainly by so-called Township and Village Enterprises (TVE). TVEs were industrial enterprises owned by township and village communities with a governance structure in which the community government has control (Che and Qian 1998; Putterman 1997). Real gross output of the TVE sector grew at an annual rate of 22% between 1978 and 1992, outperforming agriculture and state owned enterprises. TVEs had an important influence on the rural economy. During the 1980s and the early 1990s, TVE accounted for more than 50% of rural non-farm employment (Kung and Lin 2007). They also contributed appreciably to rural income growth: in 1992, TVEs accounted for about 40% of per capita rural income, up from less than 8% in 1978 (Yao 1997). The expansion of TVE benefited greatly from a favorable political and institutional environment, including broad local government support and massive loans from the state banking system. After the mid-1990s, however, the support of TVEs began to diminish due to increased competition from private economic entities and tightened credit policy. This adversely affected the profit returns of TVEs. Many TVEs were transformed into private entities and the significance of TVEs in the rural non-farm economy declined. By 2004, less than 10% of non-farming employment was in TVEs (Kung and Lin 2007).

Fixed asset investment (FAI)

Fixed asset investment (FAI) includes annual investments in capital construction, investment in real estate development, and investments in national and civil defense projects. It aggregates investment in fixed assets in all sectors of the economy, e.g., agriculture, manufacturing, commerce, real estate, environment, and public service facilities.²⁹

FAI represents a large portion of China's economy. In 2009, FAI accounted for 66% of China's GDP (StatYB 2009), which is a large proportion in international perspective (Li 2006). FAI is mostly poured into large cities and towns receive much less FAI than higher administrative-division levels. The gap in FAI between towns and prefecture-level municipalities is huge. In 2006, aggregated total FAI in towns was 9% of total national FAI while municipalities at prefecture level accounted for 56% of the national total. Per capita FAI in towns was only about 8% of that in prefecture-level municipalities (see **Table 5.1**).

²⁹ Investment in public service facilities is discussed separately in the next chapter on infrastructure.

Figure 5.2 plots the disparity in FAI between rural and urban China (there is no information on total FAI over time by cities and towns separately). The urban-rural FAI ratio increased from about 3:1 in 1995 to more than 5:1 in 2009. The level of disparity also varies across China's four regions. In the heavily industrialized North-East, with its tradition of massive industrial investments in the cities, the urban-rural FAI ratio is the highest (more than 12:1). In the East, where the GDP per capita is the highest among all regions, the disparity ratio is the lowest (around 3:1, **Table 5.5**). This is consistent with the general observation that the urban-rural income ratio declines as GDP per capita increases (**Figure 4.2**).

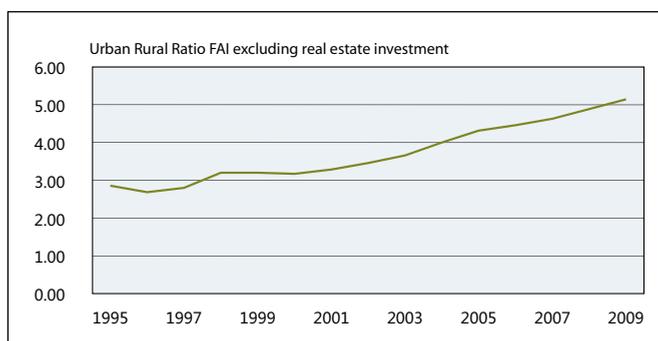


Figure 5.2. FAI disparity in urban and rural China over time.

Source: StatYB 2010, T.5-2.

Table 5.5. Urban-rural disparity in fixed asset investment (FAI), 2009

	Urban/rural ratio: total FAI	Urban/rural ratio: FAI excluding real estate development	GDP per capita (yuan)
Eastern	4.32	3.29	40,599
Central	7.49	6.36	19,823
Western	8.27	6.93	18,234
North-Eastern	15.11	12.42	28,553
All China	6.13	4.95	27,746

Sources: Authors' calculation using StatYB 2010.

On the provincial level, provinces with larger population in the urbanized town districts tend to attract more FAI per urban resident (**Figure 5.2**; here FAI excludes agricultural investment). The coefficient of correlation between FAI per person and average town district population is statistically significant at $p < 0.05$ despite the wide scatter of data points and the relatively low goodness of fit ($R^2 = 0.19$).³⁰

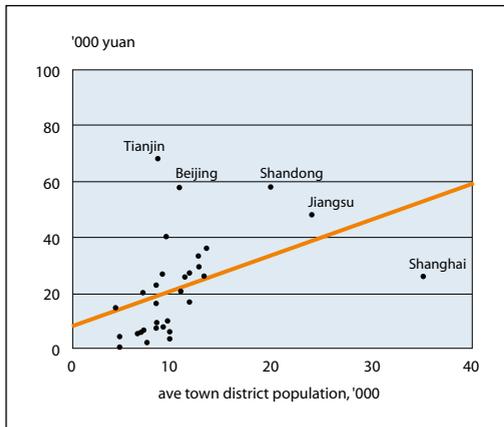


Figure 5.2. FAI per urban resident versus average town district size by province (excluding agriculture investment).

Sources: China Township Statistics 2010, Tables 1-1-5, 1-1-10.

Generally speaking, towns are still at the bottom of Chinese economy. They have much smaller scales compared to cities. The average size of enterprises in towns is just 15 people/enterprise. Even in towns in the East, average size of enterprises is only 18 people/enterprise. Small size of enterprises and small size of towns makes it difficult for towns to absorb large amount of migrant labor. However, there are many towns which already have good economic conditions. For the next phase of development in small and medium sized towns, probably China should focus on county towns.

³⁰ Elimination of the five outliers – Tianjin, Beijing, Shanghai, Jiangsu, and Shandong – in various combinations improves the goodness of fit and increases to slope coefficient, but the positive correlation between FAI per person and average town district population always remains statistically significant at better than 5%.

6. URBAN INFRASTRUCTURE

Infrastructure is characterized as public overhead capital and it consists of two main components: social infrastructure and economic infrastructure (Hansen 1965). Social infrastructure involves overhead capital invested in human beings, such as health and education. Economic infrastructure is overhead capital that supports economic production and general economic activity. It mainly includes public utilities (power, piped gas, telecommunications, water supply, sewerage, waste collection and disposal), public works (roads, major dams and irrigation canals), and transportation (railways, ports, waterways, and airports, urban transportation networks) (World Bank 1994). Thus, economic infrastructure broadly defined is not restricted to production: it also includes infrastructure components that support living conditions (e.g., water supply) and protect the environment (solid waste disposal, wastewater treatment).

This report focuses on selected components of economic infrastructure in urban areas. Due to the limited availability of statistical data, we consider four urban infrastructure indicators:

- Roads as representing urban economic infrastructure supporting production;
- Water supply and piped gas as representing urban residential infrastructure serving households;
- Wastewater treatment as urban environmental infrastructure protecting the environment.

To neutralize the effect of scale differences across urban structures, the indicators are expressed in relative units: coverage rate in percent of the population with access to water and gas supply (allowing for both permanent and temporary population since 2006), wastewater treatment rate in percent of total quantity discharged, and road surface area in square meters per person.

The development of urban infrastructure in China has not been even. Initially, from 1949 to 1978, policies emphasized the need to “turn consumption cities into production cities” in order to achieve industrial recovery (Central Party Committee decisions, 1949; 2nd Five-Year Plan, 1958-1962). Priority was given to infrastructure related to industrial development, while residential and environmental infrastructure was neglected as “non-productive” (Li and Xu 2001). During the Cultural Revolution (1966-1976), some cities canceled all investment in basic urban infrastructure, such as water supply and housing.

With the launch of market reforms in 1978, the policy began to shift from “producing cities” to “living cities” (Li and Xu 2001), emphasizing residential and environmental infrastructure. In the 1980s, new laws put a strong emphasis on urban infrastructure development and defined the construction of municipal and public facilities as the principal function of local government. The Urban Maintenance and Construction Tax was introduced in 1985 to help finance urban development, a portion of the land transfer revenue was earmarked for local infrastructure development, and all new construction projects were required to establish supporting municipal services and facilities. This has resulted in a substantial increase in urban infrastructure investments, providing a powerful impetus for urban development and improvement of the people’s standard of living. Investments in consumer-oriented water supply and sewage infrastructure soared by two orders of magnitude after 1978 (**Table 6.1**). A change of policy in the electric power sector in 1991 assured power for lighting to the population, eliminating the absolute priority of industrial production as the main user of the limited electricity supply. However, because all levels of government – both central and provincial – had focused for so long on production infrastructure, infrastructure related to households’ living conditions and environmental protection requires further efforts and massive investments.

Table 6.1. Growth of investment in water supply and sewage systems 1953-2008 (million yuan)

Year	Investment in water supply	Investment in sewage systems
1953	40	50
1963	50	20
1973	120	30
1983	520	330
1993	6,990	3,700
1998	16,100	15,450
2003	18,180	37,520
2008	29,540	49,600

Source: Special report on 60 years of development of water supply and sewage in China, China Urban Water Association, <http://www.chinacitywater.org/rdzt/jishuzhuanli/60years/index.shtml> [in Chinese].

City-town gap in urban public facilities

We have previously seen that large cities receive much more fixed asset investment (FAI) than the smaller towns both in absolute terms and per capita (see **Table 5.1**). Infrastructure levels also exhibit disparities between cities and towns, but appreciable city-town gaps in infrastructure are observed only by some indicators. Thus, gas coverage rates and wastewater treatment rates, as instances of relatively advanced public services, were substantially higher in large cities than in towns (**Figure 6.1**, 2009 data); on the other hand, the disparities in more basic public services, such as water coverage rate and road surface area per capita, were not pronounced.

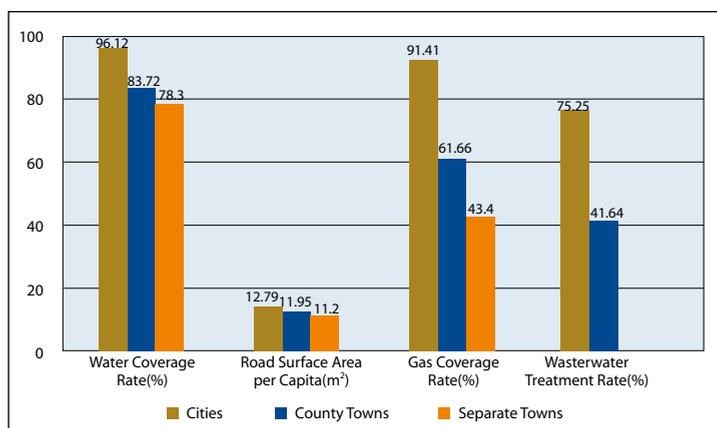


Figure 6.1. Disparity in urban infrastructure between cities and towns (2009).

Sources: Construction YB 2009, tables 1-2-1, 2-2-1, 3-2-1.

Note: Wasterwater treatment rate for separate towns is not available.

The disparity observed in 2009 is the outcome of a long process of continuous improvement in urban infrastructure over time (see, e.g., the steady growth of infrastructure investments in **Table 6.1**). All four indicators of urban infrastructure increased over time in both cities and county towns (no data are available for regular non-county towns). The level of urban infrastructure, however, has been generally higher in cities than in county towns. This is evident from **Figure 6.2**, which plots the development of urban infrastructure between 2001 and 2009 (the period for which comparable data are available for cities and county towns).

The level of wastewater treatment facilities shows exceptional growth since 2001 in cities and especially in county towns (**Figure 6.2**, bottom right-hand panel). This strong growth in environmental infrastructure is a reflection of increasing environmental consciousness that has recently focused more attention on sewage

treatment plants and industrial wastewater treatment. In 1949, there were only four small sewage treatment plants in all of China, located in Shanghai and Nanjing; industrial wastewater was typically discharged untreated into nearby water bodies. In 2009, the urban wastewater treatment rate in China reached nationally 65% of all wastewater discharged in town districts, but there are significant urban-rural gaps in this indicator: 75% in cities compared to 42% in county towns (no data for separate towns).³¹ Furthermore, fully 71% of the counties are still without sewage treatment plants, compared to 23% of the cities (Cities 2010, p. 42). The percentage of separate towns (i.e., towns not connected to the facilities of cities or county towns) with wastewater treatment plants or facilities is less than 55% compared with 90% in cities and over 60% in county towns.³²

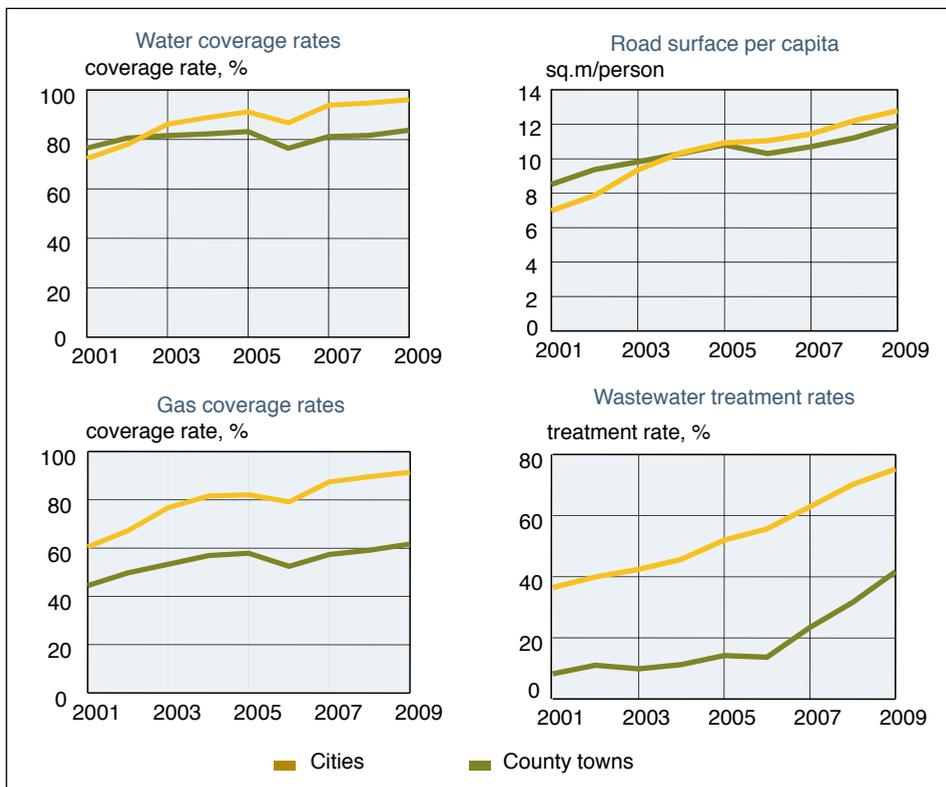


Figure 6.2. The development of infrastructure disparity in cities and county towns.

Sources: Construction YB 2009, Tables 1-1-1 (for cities) and 2-1-1 (for county towns); no data for non-county towns.

³¹ Construction YB 2009, tables 1-1-1 (for cities) and 2-1-1 (for county towns).

³² <http://green.sina.com.cn/news/roll/2011-06-13/220022633293.shtml>.

The development of infrastructure for basic urban services in towns has been listed as a critical target in the country's 12th Five Year Plan (2011-2015). Town districts have been identified as the next frontier for extending urban infrastructure services. Government policies would aim to improve public service provision in town districts and thus strengthen their role as residential urban settlements. Key towns in the Eastern Region, county towns in the Central and Western regions, and major border-crossing towns are designated as the "focal development points" to be developed into small and medium cities.

Investment in urban public facilities

Urban public service facilities – urban infrastructure – include public utilities, such as water, gas, sanitation, sewage and wastewater treatment, as well as public works, such as roads, bridges, rail transit systems, flood control, etc.³³ Infrastructure projects in towns are financed primarily by the government budget, as well as loans from financial institutions (Figure 6.3). The budget receives tax revenue from profit-making commercial projects (water supply systems, toll roads, etc.) and disburses funds for loan repayment.

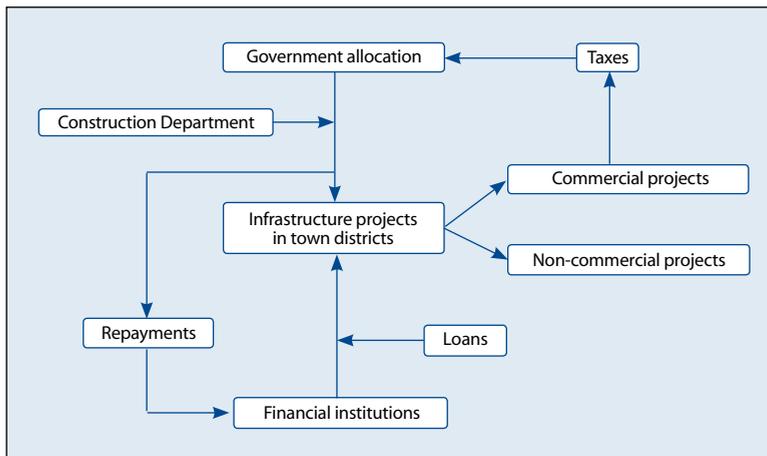


Figure 6.3. Current pattern of infrastructure investment plans in towns.

Source: Ma (2008).

³³ Data for urban public facilities in cities and county towns are from Construction YB 2009, tables 1-2-5, 1-2-6, 2-2-5, 2-2-6.

All financing for urban infrastructure projects is managed through the Urban Maintenance and Construction Fund (UMCF), which finances both maintenance of existing urban public facilities and investment in construction of new infrastructure. As suggested by the diagram in **Figure 6.3**, UMCF derives its revenues from budgetary allocations of central and local governments (the so-called “fiscal fund” that consists of various taxes and fees) and from financial market sources (the so-called “social fund” that consists of domestic loans, securities issues, etc.). The proportions of the two UMCF components changed dramatically over time: in cities, the share of the fiscal fund dropped from 98% of UMCF in 1986 to 50% in 2005, while the social fund correspondingly increased its share from 2% to 50% (**Table 6.2**). Data for county towns are available only since 2000, but a similar trend is observed, with the social fund gaining in importance. Still, county towns are more dependent on the budget than cities: the share of the fiscal fund in 2005 was 62% for county towns compared with 50% for cities.

Table 6.2. Changing structure of UMCF 1986-2005 (in percent)

	Cities		County towns	
	Share of fiscal fund	Share of social fund	Share of fiscal fund	Share of social fund
1986	98	2	n.a.	n.a.
2000	58	42	68	32
2005	50	50	62	38

Source: Construction YB 2010, tables 1-1-3, 2-1-3. Data since 2006 show only the fiscal fund components.

The declining share of the fiscal fund in UMCF is in part a reflection of the decreasing support from central and provincial government to infrastructure development. Government support has been shrinking since 1980 due to the policy of economic transition and decentralization. Prior to 1979, the central government had direct control over provincial and municipal governments in allocation of resources, production planning for key industries, and budgetary control of revenue and expenditure. The new system of fiscal contract introduced in 1980 allowed many cities to retain a higher share of revenues and allocate funding more freely (Wu 1999). The fiscal reform in 1994 further strengthened fiscal decentralization with taxes reassigned between the central and local governments based on a mechanism combining tax assignment and tax sharing (Wong and Bird 2005). Prior to 1990, more than 50% of projects were financed with central government investment; the proportion dropped to 33% in 1999 as a result of decentralization policies (Wei 2001). Today, investment in public service facilities is funded mainly from the fiscal revenue of local budgets. In 2009, over 80% of annual investment financed from the fiscal fund (i.e., from government budgets – excluding loans and securities issues) was from local sources (county, city, and town governments), with allocations from central and provincial government budgets providing a minor share (**Table 6.3**).

Table 6.3 . Sources of fiscal revenue for financing investment in public service facilities, 2009 (in percent)

	Cities	County towns	Separate towns
Central government	2	8	7
Provincial government	2	4	9
County (city) government	88	80	31
Town government	--	7	53
Other sources	8	--	--
Total	100	100	100
Million yuan	672,769	138,202	81,636

Source: China Urban-Rural Construction Statistical Yearbook 2009, tables 1-2-3, 2-2-3, 3-2-2.

The share of investment financed by central and provincial government budget is lowest in cities (around 4%): the fiscal revenue generated at the local level in cities is apparently regarded as sufficient for financing public infrastructure investment. County towns and separate towns enjoy a higher level of support from central and provincial budget (12% in county towns, 16% in separate towns), as their locally generated fiscal revenue is presumably less sufficient than in cities.

The structure of fiscal revenue allocated for the construction of urban service facilities differs across regions (**Table 6.4**). For all settlement types (cities, county towns, separate towns), financing from local sources is highest in the affluent East, where reliance on central and provincial budgets is correspondingly lowest. For separate towns, local sources consist of two components: allocations from county government and town fiscal revenues. Towns in the affluent Eastern China have higher fiscal revenue, both in absolute amounts and per capita, and town governments in the East are better able to support infrastructure development: here 62% of investment in urban service facilities financed by fiscal revenue comes from town government (another 29% from county government and the remaining 9% from central and provincial government). In the poorer Western Region, on the other hand, towns rely to a greater extent on allocation from higher-level governments than on own fiscal revenue: only 24% of investment financed by fiscal revenue is contributed by town government, while 45% if from county government, and the remaining 31% from central and provincial government.

Table 6.4. Allocation of fiscal revenue for investment in urban service facilities in separate towns across regions, 2009 (in percent)

Region	Cities	County towns	Separate towns	Including:	
				County government	Town government
North-Eastern	95	80	72	25	47
Eastern	98	93	91	28	63
Central	98	90	80	29	51
Western	91	90	69	45	24

Source: Construction YB 2009, tables 1-2-3 (cities), 2-2-3 (county towns), 3-2-2 (separate towns).

Local governments are under pressure to mobilize extra resources for the delivery of infrastructure and services (Liu 2004). One of the ways to increase local fiscal revenues for infrastructure financing is by greater reliance on land transfer revenue (Development Report 2010). According to the Land Administration Law, local governments have the power to expropriate for “public interests” land that is owned by rural collectives thus converting it to urban land. Local governments routinely take advantage of their monopolistic power, expropriate rural land cultivated by farmers in collectives, pay compensation based on an underestimated assessment value, and then lease out the land to so-called urban development investment companies (UDIC) for commercial development. The new land users (UDIC) pay the expropriation fee, various stipulated land fees incurred in the transaction, and a conveyance charge. The last item is the net land transfer revenue that the local government retains from these transactions (Fubing 2008). In 2009, land transfer revenue accounted for 29% of total fiscal revenue allocated to UMCF in county towns (39% in cities) (Construction YB 2009, tables 2-2-3, 1-2-3). This land transfer revenue is part of the large share of financing for investment in public service infrastructure that comes from city (county) government and is thus part of the fiscal fund component of UMCF (see **Table 6.3**).

Box 6.1. The common functions of UDICs

- *Financing platform.* UDICs raise funds for urban infrastructure development from multiple channels. They provide borrowed money to infrastructure projects through on-lending or direct investments.
- *Public sector investor.* UDICs operate as authorized investment agents of the municipal government or state-owned asset administration authorities. UDICs operate and manage the assets within their authorized scope and are responsible for maintaining the value of the asset and protecting the interests of the government.
- *Land development agent.* Many UDICs conduct up-front development and management of land allocated by local government in urban planning areas.
- *Project sponsor/owner.* UDICs sponsor and own priority urban infrastructure projects. In this respect, UDICs are responsible for investment, construction, management, and operation of projects.

From World Bank (2010)

The establishment of UDIC has enabled city and town governments to broaden their capital mobilization options beyond reliance on budgetary allocations and land transfer revenue. UDIC are municipal corporations that, in addition to providing a channel for local governments to generate land revenue, are allowed to raise funds by borrowing or issuing securities in the capital market (see Box 6.1 for the common functions of UDICs).

In addition to land transfer revenue, local government also significantly relies on UDIC to mobilize domestic loans and self-raised funds. Local governments are not allowed to engage in direct market borrowing, and the UDIC model provides the local governments with a government-owned corporate structure to borrow from the market for infrastructure development. UDIC can also issue bonds and stocks, which are backed by their land use rights and future revenue from land development projects. UDIC may even attract foreign investments. As noted previously, these UDIC-raised sources constitute the social fund component of UMCf that complements the budgetary fiscal fund. Figure 6.4 illustrates the central role that land revenue plays in financing urban infrastructure investment. First, it directly supplements the local fiscal revenues in the form of land transfer fees (fiscal fund). Second, it provides the security for financial market operations that enable UDIC to raise loans and equity (social fund).

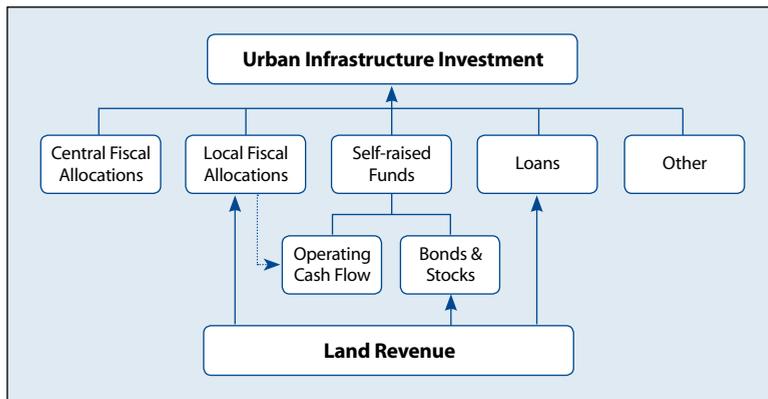


Figure 6.4. Urban infrastructure investments rely on land revenue.

Source: Authors' conception.

Data up to 2005 make it possible to determine the proportions of fiscal and social funds in total UMCF available for both investment and maintenance of municipal infrastructure (see **Table 6.2**). After 2005 we only have the shares of fiscal and social funds in the investment component of UMCF, i.e., the financing structure of fixed asset investment in urban infrastructure. Further, data are available only for cities and county towns, but not for regular or separate towns. Thus, in cities and county towns, the investment in urban public facilities has been mainly financed from two sources: allocations from local government (including land transfer revenue) plus domestic loans and other funds mobilized by UDIC in the financial market (**Table 6.5**). The specific financing mix differs between cities and county towns: county towns rely less on allocation from central and local government, more on domestic loans (no comparable information is available for regular towns).

Table 6.5. Structure of financing sources for investment in urban service facilities 2009 (in percent)

	Cities	County towns
<i>Fiscal fund:</i>		
Central government	6	1
Local government	53	37
<i>Social fund:</i>		
Domestic loans	18	38
Self-raised funds	23	24
Total sources	100	100

Source: Construction YB 2009, tables 1-2-6, 2-2-6.

The investment per capita in urban service facilities in cities and county towns increased sharply in nominal terms between 2001 and 2009, but its level in cities is typically double the level in county towns (**Table 6.6**). There are no comparable data for infrastructure investment in towns over time. Yet 2009 data reveal an obvious urban-rural gap in rate of investment in urban service facilities (**Figure 6.5**). Cities get more investment (per sq. km) than towns and townships. The investment density (in yuan per sq. km of built-up area) in county towns was less than one-half of that in cities, while the investment density in separate towns was less than one-tenth of that in cities. Overall, investment density reveals a strong size bias, with the four provincial-level municipalities achieving levels much higher than other cities (between 40 and 80 million yuan per sq. km in the municipalities compared with less than 30 million yuan per sq. km in prefecture-level and county-level cities combined).

Table 6.6. Investment per capita in construction of urban service facilities (nominal values)*

	Cities, yuan/person	County towns, yuan/person	City/county town ratio
2001	658	374	1.8
2002	887	465	1.9
2003	1,320	602	2.2
2004	1,395	681	2.0
2005	1,559	717	2.2
2006	1,547	614	2.5
2007	1,732	645	2.7
2008	1,992	880	2.3
2009	2,825	1,257	2.2
Nominal growth 2009/2002	4.3	3.4	

*Since 2006 the calculations are based on sum of permanent and temporary population.

Source: Construction YB 2009, tables 1-1-2, 1-1-5 for cities, tables 2-1-2, 2-1-5 for county towns.

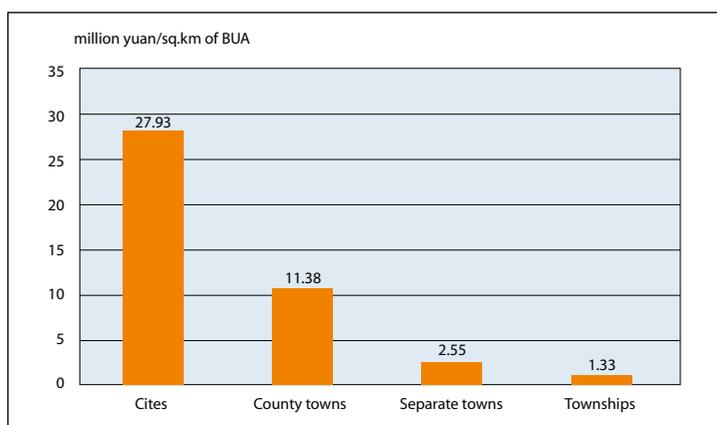


Figure 6.5. Disparities of investment density in urban service facilities across cities and towns of different types (2009).

Investment density= completed investment projects/built-up area.

Sources: Construction YB 2009 (tables 1-2-2 and 1-2-5 for cities; tables 2-2-3 and 2-2-5 for county towns; table 3-2-2 for separate towns; table 3-2-10 for townships).

Shortage of capital has become the biggest challenge in infrastructure development in towns. Towns are not independent in fiscal terms: the local taxes are collected by county government and only a certain proportion of tax revenue is surrendered to town government. The proportion is determined by the county government based on actual administrative expenses, including officials' salaries and daily office expenses (Ma 2008). Due to the allocation formula used, town governments seldom have sufficient funds to invest in infrastructure. Furthermore, the town governments are not legally qualified to act as borrowers and take loans from financial institutions. Banks are reluctant to finance infrastructure projects in towns, because the ability of town government to service a loan is lower than that of city government and the risk of default is correspondingly higher. This explains the increasing role of market financing mobilized by UDIC.

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APPENDIX 1.

CHINA'S FOUR REGIONS

North-Eastern region: 3 provinces

Liaoning, Jilin and Heilongjiang.

Eastern Region: 10 provinces/municipalities

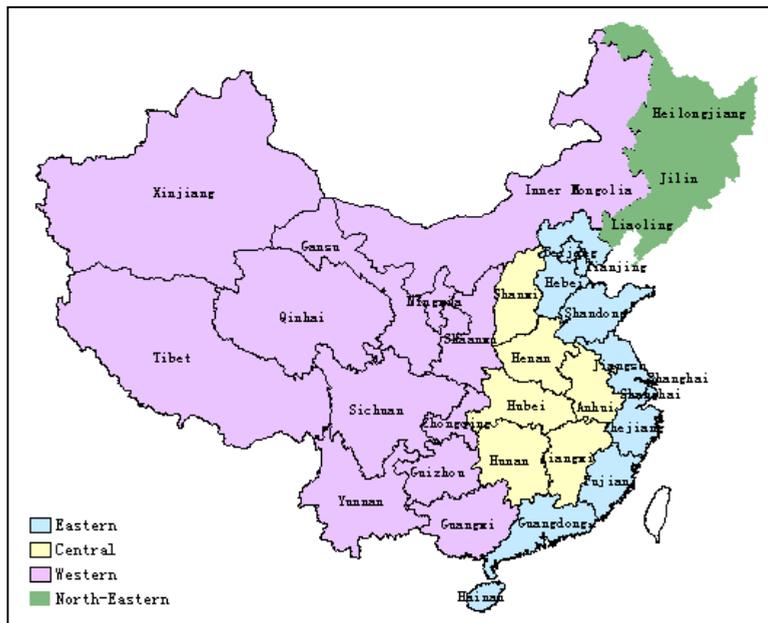
Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan;

Central Region: 6 provinces

Shanxi, Anhui, Jiangsu, Henan, Hubei and Hunan;

Western Region: 12 provinces/municipalities:

Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinhai, Ningxia, Xinjiang, Inner Mongolia and Guangxi;



APPENDIX 2. COMPONENTS OF URBAN POPULATION INCREASE 1978-2009

Year	Actual urban population, x10,000	Annual population increase, x10,000	Natural urban population increase rate, per 1000	Natural urban population increase, x10,000	Net migration, x10,000	Share of natural population increase, %	Share of net migration in total increase, %
	(1)	(2)	(3)	(4)=(1)*(3)/1000	(5)=(2)-(4)	100*(4)/(3)	100*(5)/(2)
1977	16669	576					
1978	17245	1250	8.44	576	435.31	24.42	75.58
1979	18495	645	8.6	1250	1101.69	11.86	88.14
1980	19140	1031	8.69	645	484.28	24.92	75.08
1981	20171	1309	11.31	1031	814.53	21.00	79.00
1982	21480	794	11	1309	1087.12	16.95	83.05
1983	22274	1743	11	794	557.72	29.76	70.24
1984	24017	1077	11	1743	1497.99	14.06	85.94
1985	25094	1272	11	1077	812.81	24.53	75.47
1986	26366	1308	11	1272	995.97	21.70	78.30
1987	27674	987	11	1308	1017.97	22.17	77.83
1988	28661	879	11	987	682.59	30.84	69.16
1989	29540	655	10.95	879	565.16	35.70	64.30
1990	30195	1008	10.43	655	346.90	47.04	52.96
1991	31203	972	9.99	1008	706.35	29.93	70.07
1992	32175	998	9.7	972	669.33	31.14	68.86
1993	33173	996	9.38	998	696.20	30.24	69.76
1994	34169	1005	9.6	996	677.54	31.97	68.03
1995	35174	2130	9.23	1005	689.62	31.38	68.62
1996	37304	2145	8.82	2130	1819.77	14.57	85.43
1997	39449	2159	8.94	2145	1811.50	15.55	84.45
1998	41608	2140	7.55	2159	1861.16	13.80	86.20
1999	43748	2158	6.35	2140	1875.79	12.35	87.65
2000	45906	2158	6.5	2158	1873.64	13.18	86.82
2001	48064	2148	6.95	2158	1838.95	14.78	85.22
2002	50212	2164	6.45	2148	1837.99	14.43	85.57
2003	52376	1907	6.01	2164	1862.23	13.95	86.05
2004	54283	1929	5.87	1907	1599.55	16.12	83.88
2005	56212	1494	5.89	1929	1609.27	16.57	83.43
2006	57706	1673	5.28	1494	1197.20	19.87	80.13
2007	59379	1288	5.17	1673	1374.66	17.83	82.17
2008	60667	1519	5.08	1288	986.35	23.42	76.58
2009	62186	576	5.05	1519	1212.63	20.17	79.83