

China's Urbanization in 1949–2015: Processes and Driving Forces

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Abstract: The pace and scale of China's contemporary urbanization are stunning. This paper reviews process and the underlying driving forces of China's urbanization between 1949–2015. Contemporary China's urbanization has experienced four stages, and each has had different driving forces: 1) economic re-construction and industrialization-led urbanization (1949–1977); 2) economic reform and market-led urbanization (1978–1995); 3) economic globalization and the global-local urbanization (1996–2010); and 4) the land-economy-led urbanization (2010–). These urbanization processes and driving forces will undoubtedly provide scientific reference and have significant implications for developing countries, especially African countries, to formulate their urbanization public policies.

Keywords: urbanization; Contemporary China; urbanization level; urbanization process; driving forces; public policies

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1 Introduction

In China, traditional Chinese life and rural society are being rapidly transformed into an urban, modern society with growing cities of different sizes, led by officials and professionals from many disciplines who create a cross-disciplinary nexus studying the issues and practice of Chinese urbanization (Gu *et al.*, 2012). In general, Chinese early cities were developed mainly in areas where agricultural irrigation was fairly developed and access to local farm products was easy. At the end of the Shang Dynasty (about 1600 BC–1046 BC), 26 cities emerged in the Weihe River Area in the central plain (Gu, 1992). Although ancient Chinese cities interacted with cities across the world, particularly along different routes of the Silk Road, trade and interaction with other countries were still limited. This can be identified as 'embryonic globalization' (Gu and Cook, 2011). The

Chinese urban system experienced significant changes between the Opium War of 1840 and 1949. It was heavily influenced by Western political and economic controls in the 19th Century. Western intervention established treaty ports, and foreign capital controlled major Chinese industrial sectors. A small number of the national industries dependent on foreign capital had no other options but to locate in areas near large cities. This proto-globalization deepened political and economic interactions across time and space and pushed forward development in urban and ex-urban areas through a variety of processes (Gu *et al.*, 2015). As a result, cities in the coastal ports and inland river ports that were connected to coastal ports through water transportation grew faster than cities in other areas. Cities in the coastal region constituted 76.2% of the total number of cities in the country. One third of China's urban population, modern industrial capital, labor force, and national

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output were in Shanghai alone. By the time the People's Republic of China was founded in 1949, the urbanization level was around 10.6% in 1949, China's urbanization process lagged behind other countries. However, now the urbanization process is rapidly catching up, the urbanization level was nearly 50.0% in 2010 and 56.1 % in 2015 (Table 1). The World Financial Crisis broke out in 2008 and China also faced a difficult economic situation, with foreign trade and exports dropping greatly, so that adopted active financial policies to promote the processes of the national urbanization (Gu and Wu, 2010). What are processes and driving forces underpinning China's urbanization? In fact, foreign experts have also been engaged in trying to better understand Chinese urbanization since the 1950s, as Ma and Hanten (1981) and Ma and Noble (1986) said that studies on Chinese urbanization still lag in a vacuum area between theories and actual practice, due to the lack of detailed and reliable data and the separation from Chinese academic community for a long period of time (Kirkby, 1985; Wu and Gaubatz, 2013). This paper divided the recent urbanization process into four stages, and draws upon in-depth experience of China's urban growth to summarize key driving forces, in order to better understand the contemporary pattern of Chinese urbanization.

2 Economic Re-construction and Industrialization-led Urbanization (1949–1977)

After the People's Republic of China was founded in 1949 and before 1977, the central government focused on recovering the national economy through rural land reform and urban industrialization.

2.1 The rural land reform

To consolidate the new regime, the Central government

adopted 'the land reform law of the People's Republic of China' in 1950. This law abolished feudal land ownership and offered land ownership to the peasant class. By the end of 1952, the land reform movement was basically completed. More than 3×10^8 farmers gained land ownership, which accelerated rural economic recovery and development. With the land reform, rural lands and rural labor forces could join agricultural development and industrialization. There was a further move towards the establishment of producers' co-operatives in the mid-1950s, however in 1958 China launched the Great Leap Forward movement, which established the people's communes, a type of autonomous organization. The communes promoted development through often unrealistic top-down targets, e.g., increasing the agricultural products by setting up unachievable goals of grain yield per mu and encouraging tens of millions persons to make iron and steel with the goal of 1.1×10^7 t output annually. In the same time, some other sectors, including transportation, telecommunications, education, culture, and health, similarly promoted their own 'Great Leap Forward' movements, which ultimately foundered because of attempting to do too much too soon (Cook and Murray, 2001).

2.2 Large-scale industrialization

This began in the 1950s when 156 major industrial projects were launched with technical and financial support from the Soviet Union. The main component of this industrialization was heavy industries with capital-intensive technologies. While the direct impact of these industries on urbanization was limited, they encouraged the growth of small industries, which absorbed rural laborers in cities. Under the planned economy, all large factories were owned by the state, and all major economic decisions were made by the government. With the decision

Table 1 China's population and urbanization level in 1949–2015

Year	Total population (10^4)	Urban population (10^4)	Proportion of the urban population to the total population (%)	Rural population (10^4)	Proportion of the rural population to the total population (%)
1949	54167	5765	10.6	48402	89.4
1978	96259	17245	17.9	79014	82.1
1990	114333	30195	26.4	84138	73.6
2000	126743	45906	36.2	80837	63.8
2010	134091	66978	49.9	67113	50.1
2015	136782	74916	56.1	61866	43.9

Notes: Urban population includes population without residential ID. This is an official estimate by the National Bureau of Statistics of China. Source: 1) based on National Bureau of Statistics of China (2012). 2) <http://www.bjzq.com.cn/dpfx/ShowArticle.asp?ArticleID=377302>

to adjust industrial locations in China, inland cities started to develop, and consequently the unequal industrial and urban development between the east and the western parts of China became balanced to an extent.

2.3 Industrialization-led urbanization

In 1952, China launched the first five-year plan (1953–1957). The plan included an urban development policy of ‘constructing key projects, making steady progresses’, which promoted China’s urbanization. A large number of peasants migrated to towns, cities, and industrial and mining areas to seek employment. Parallel development took place between urban and rural areas, industry and agriculture, urban growth and economic growth. The type of urbanization is called ‘synchronurbanization’ (Gu *et al.*, 2015). Cities were conceived as production cities, in which consumption was minimized so that investment in industrial development can be maximized. The spatial configurations of the socialist economic activities, especially new ones, reflected Soviet influence. Housing space was minimized with public spaces used for kitchens, canteens, washing and cleaning rooms (Zhao, 2007).

With the recovery of the national economy and industrialization, China’s urbanization level increased with an annual growth rate of 70.5%, and 63 new cities were established, mainly in Heilongjiang, Inner Mongolia, Hebei, Anhui, and Fujian provinces. The total urban population in China reached 1×10^8 , the level of urbanization reached 15.4%, and the number of cities increased from 136 in 1949 to 178 in 1957 (Gu, 1992).

However, the policies of the Great Leap Forward movement exaggerated rural industrial development and caused rural migration into urban areas. About 3×10^7 people entered cities between 1958 and 1960. Urban population reached 1.27×10^8 in 1961, the urbanization level was 18.4%, and the number of cities was 339. It was a period of what we can term ‘over-urbanization’, considering the level of economic and social development at that time.

2.4 The first anti-urbanization movement (1961–1965)

In the early 1960s, the country fell into an economic disaster because of the unrealistic economic goals that

distorted the ordinary relationships between economic sectors during the Great Leap Forward movement, three years of bad climatic conditions between 1959 and 1961, and the sudden end of Soviet aid in the summer of 1960 due to the Sino-Soviet split. The central government therefore implemented a policy of ‘Readjustment, consolidation, strengthening and improvement’ in 1961. This prioritized agriculture and light industries while compressing the scale of heavy industry, reducing the number of workers in the state-owned enterprises and the size of urban population through the household registration system (*Hukou*). As a result, China’s urbanization and industrialization processes were suddenly suppressed. A total number of 2.9×10^7 urban workers were laid off between 1961 and 1964, and 90% of them returned to rural areas. At the same time, official criteria for setting up cities and towns were adjusted to decrease urban population in 1964. At the end of 1965, China’s urban population decreased to 14% of the total population and the total number of cities was reduced to 169, 7 cities fewer than in 1957.

2.5 The second anti-urbanization movement (1966–1977)

The Central Government launched the Great Proletarian Cultural Revolution in 1966 in order to attempt a fundamental change in Chinese culture, led by cohorts of young ‘Red Guards’ (Cook and Murray, 2001). Meanwhile, the Cold War and the tensions with the Soviet Union led to the implementation of the geostrategic ‘Third line Construction’^① (Li, 2016) with a main principle of ‘Dispersion to Mountain and Cave’ (Fig. 1). These two movements reduced Chinese industrialization and urbanization processes again. 4.0×10^7 high schools and college students were moved from cities to the countryside, and a number of cadres in the central or local governments were also moved into the rural area to work for their ideological remolding. These activities directly led to the second anti urbanization movement. The annual increase rate of the urban population was 1.3%, less than the population natural increase rate of 1.75% in the same period. There were only 4.8×10^6 non-agricultural populations in urban areas in 1975. Only 21 new cities were established and on average only 1.7 cities were established annually. In 1978, the

① The Third line is the military strategy to concentrate crucial industries in Sichuan, away from the vulnerable areas

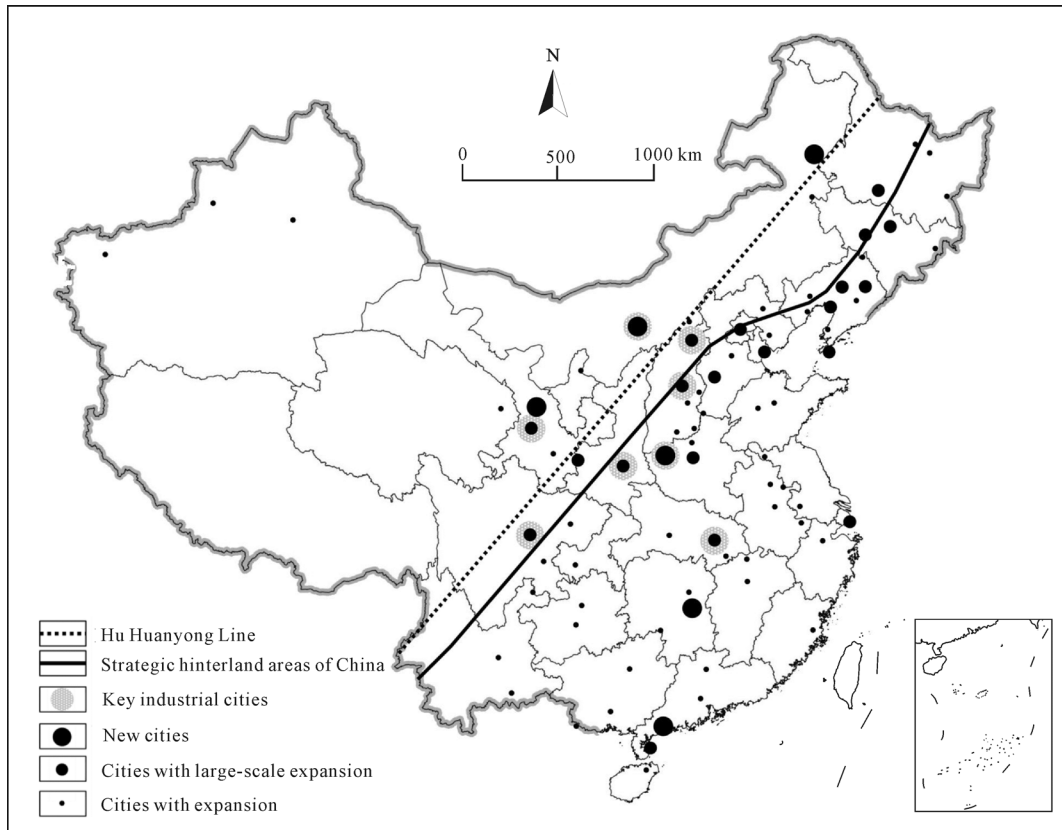


Fig. 1 The 156 major industrial projects and urban re-construction in the 1950s. Source: Li, 2016

urbanization level was 17.9 %, the same as in 1965. The net increase in the number of cities was only 19 and there were 188 cities in China in 1977 (Gu *et al.*, 2008).

3 Economic Reform and Market-led Urbanization (1978–1995)

In 1976, China's national economy was on the verge of collapse. Change and reform became key, plus opening up to the outside world. In the late 1970s and early 1980s, the reform involved de-collectivization of agriculture, opening up the country to foreign investment, and permitting private enterprises. Peasants were given user-rights of farmland and were allowed to work separately on their designated farmland. This promoted agriculture productivity. The further reform in the late 1980s and early 1990s involved lifting price controls and privatization of state-owned enterprises. A new step in the market reform was initiated in 1993. The socialist

market system was officially announced as a national economic policy by the central government after Deng Xiaoping finished his famous tour in South China in 1992 (Cook and Murray, 2001). Consequently, China's economy and urbanization started new waves of rapid growth (Gaubatz, 1995). In detail, we can identify several main periods:

3.1 Rural reform and Township enterprises (TVEs) industrialization (1978–1984)

In 1978, 17 farm families in Xiaogang Village, Anhui Province signed a household-contracting document with their fingerprints, and the document was considered the symbol of China's second wave of land reform. The Third Plenary Session of the 11th Central Committee of the Communist Party of China officially launched rural economic reform in December 1978. A new Household Responsibility System^①, supported by Deng Xiaoping, spread quickly to most rural areas in China in the early

① The rural land user rights are equally divided and distributed among all members within a village, and the distribution of land between village members is adjusted periodically. These lands could not be transferred, traded, or used as collateral under the existing law. Farmers created new ways to transfer their land within the limit of the law. Migrated farmers subcontracted or leased their land-use rights to other farmers.

1980s. The system dramatically increased the agricultural productivity and solved the problem of food shortage in a few years. China's agriculture production set new records continuously for several years. When the pressure for food production was released, a large number of rural laborers were freed, and they could join non-agricultural industries and the new urbanization process. Consequently, the development of collectively-owned enterprises in towns or rural areas (Towns and Village Enterprises, TVEs) and the growing trade between urban areas and their surrounding rural areas encouraged the growth of non-agricultural sectors. As a result, urbanization accelerated when this rural land reform freed the rural labor force for industrialization. In the 1980s, collectively-owned enterprises in towns employed over 1×10^8 rural laborers. In some newly industrialized areas along the Pacific Coast, collectively-owned enterprises were encouraged to cluster in industrial parks, in towns around medium-sized or large cities, generating economies of scale (Chang, 1981).

3.2 Urban reform and activated production (1984–1992)

The rural reform successfully encouraged agriculture production and foreign investment, but state-owned-enterprises (SOEs) were not as successful. The excess rural labor force moved first to small towns. Students who were moved to the countryside during the Cultural Revolution were allowed to move back to the cities. Urban residents increased about 7×10^7 from 1978 to 1984, and the urbanization level jumped to 23% in 1984. A mass pressure on urban employment increased suddenly, and therefore the focus of reform turned from rural areas to the cities. Some reforms in the urban areas were also launched while the growing rural enterprises in the 1980s employed about 1×10^7 rural laborers and strengthened the confidence in building new towns. The original single public ownership economy was shifted into an economy with public ownership as the main body with diverse forms of other types of ownership. State-owned enterprises separated their original government elements from enterprise management, gradually expanding their autonomy in production and operation. Distribution based on work is dominant in the system with diverse forms of ownership. The streets-community-owned-enterprises (SCOEs) became a new kind of collective ownership enterprise. The number of

cities increased from 193 in 1978 to 479 in 1991, and the urbanization level increased to 26.4%, but the percentage of non-agricultural population was only 18.5%. Farmers in the rural areas were still not allowed to freely choose to live and work in cities.

3.3 Administrative reform for rural urbanization (1986–1994)

A municipality in China is an administrative division within the government system and the mayor of a city is actually nominated by, and reports to, the upper level government. All cities were set up via the bureaucratic system. The application to establish a city needs to be approved by the higher echelon of government. This is quite different from the system that prevails in the West.

Since 1980, new policies were adopted, such as city governing town, town upgrading to city, opening the urban trade markets, state-owned enterprises employing farm laborers, and enlarging the commodity market by allowing diverse ownership. These administrative reforms also promoted the process of urbanization in China.

Secondly, the opening-up policy encouraged a large amount of government investment into the coastal region to launch new Economic and Technical Development Zones (ETDZs) and high-technology parks. 'Industrialized areas' were mainly developed in coastal areas during this time to attract foreign capitals and techniques. Special economic zones were established in Shenzhen, Zhuhai, and Shantou in Guangdong Province, Xiamen in Fujian Province in 1979, and 14 coastal cities—Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Shanghai, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang and Beihai—were opened to overseas investment in 1984. Beginning in 1985, the central government decided to expand the open coastal areas, extending the open economic zones to the Yangtze River Delta and the Pearl River Delta as well as the entire province of Hainan in 1988. Export-led industrialization was key; fuelled by a combination of state-led (often province-led) investment in infrastructure, plus foreign investment which increased dramatically, making the coastal region once again the growth center of China's urban development. In particular, some metropolises have more comparative advantages than small and medium-sized cities (Gu and Chan, 1994). This export-oriented industrialization ac-

celerated the urbanization process in China's eastern coastal area. Urban population increased to 3.12×10^8 in 1991, 80.9% higher than that in 1978.

Thirdly, in the reform years, the central government deregulated the designated cities by changing the definition of non-agricultural population. Three new models of setting up new cities were developed, changing the original definition based on population mainly in towns and counties, the administrative measures to expand the number of cities include three types: turning prefectures into cities, designating rural counties as cities, and transforming suburban counties into urban districts. In 1984, the standards to define a town were adjusted, and more townships were upgraded to towns. The number of towns increased from 2968 in 1983 to more than 10 000 in 1991. Meanwhile, these changes met the need of urbanization in rural areas and promoted the development of China's designated cities. The number of cities rose from 353 to 622 between 1986 and 1994, partly due to the adjustments of the standards and regulations over the designation of new cities. In other words, 267 new cities were set up in the whole country in 8 years. It is the fastest growth period of new cities since 1949, with most of them set up in the coastal areas, including provinces of Guangdong, Shandong, Jiangsu, Zhejiang, and Hebei. Meanwhile, many existing county-level cities were upgraded from prefecture-level cities that incorporated one or more counties and/or towns.

3.4 Capital-led urbanization under the socialist market economy

A new manufacturing system was established, but it was detached from the domestic economy albeit connected to the global economy (Sit and Yang, 1997). With foreign direct investment (FDI) flowing into the open coastal areas, a manufacturing system emerged, particularly with growing processing trade. Chinese producers imported all or most of the raw materials, parts, and components of products and exported the final products after processing or assembly. Such a production process involved FDI and cheap domestic labor from the countryside. It was almost totally foreign market oriented, and thus it was called the export-oriented economic system. To create a friendly environment for foreign enterprises and joint venture capitals, the Chinese Communist Party formally endorsed the development strategy to move from the planned economy into a so-

cialist market economy in 1992. Capital-led urbanization has become a new type of urbanization in China since then.

3.5 Outstanding labor advantages

Since 1984 China's economic reform has extended from rural areas to urban areas, promoting the urban economy. The rural population was first allowed to work in private firms in the service sectors in cities, such as in vegetables markets, retailing and other temporary contract work. In 1986, the 7th Five Year Plan (1986–1990) was approved, and the plan launched a policy to 'avoid the over-growth of large cities, and selectively develop some medium and small-sized cities'. An urban development strategy was implemented 'to control strictly the growth of the metropolitan areas, to develop moderately medium-sized cities, and to promote actively the growth of small cities'. To attract foreign investment and to encourage transnational corporation setting up manufacturing plants, the central government loosened the control over rural-urban migration based on the hukou, creating an abundant and cheap supply of the labor force in the coastal areas. The rural labor force freed from agriculture became the main advantage in China's urban development. The government increased investment in urban maintenance and infrastructure construction as well as utilizing special funds as housing allowances to drive urban construction. Such construction attracted the rural labor force into cities.

3.6 Fast urbanization with a growing number of cities

In this period, the numbers of cities increased rapidly, from 193 in 1978 to 300 in 1984 and 570 in 1993. The urban population of China increased from 1.72×10^8 in 1978 to 2.40×10^8 in 1984 and 3.31×10^8 in 1993. The level of urbanization grew from 17.9% in 1978 to 23% in 1984 and 28.14% in 1993.

4 Economic Globalization and Global-local Urbanization (1996–2010)

China's entrance into the World Trade Organization in 2001 and the Beijing Olympic Games in 2008 signified the success of export-oriented growth plus the rapidly growing Chinese market for domestic and foreign products. Between 1990 and 2013, GDP increased nine fold.

Although the number of cities remained stable (there were 660 in 2003 and 653 in 2014), population and constructed areas soared. Urban constructed areas increased from 12 856 km² in 1990 to 40 058 km² in 2010. Metropolises increased their population by merging with suburban counties. As a result, the administrative areas of metropolises have expanded.

4.1 Surging import and export trade

In the previous period, the Open Door policy mainly targeted importing foreign technology to eliminate bottlenecks in the economy and achieving import substitution, while export merely aimed to earn necessary foreign currencies. Foreign investments only started to grow significantly after 1992. Trade followed a similar pattern: the amount of import and export was about 5.0×10^{10} U.S. dollars respectively in the early 1990s, but it reached 2.0×10^{12} U.S. dollars in 2013. The trade amount has been continuously substantial since 1994 and has stayed above 1.5×10^{11} U.S. dollars since 2006. Overall, China has experienced industrialization, producing a large variety of products from shoes to parts for Boeing. The value of industrial products in GDP was 1.61×10^{13} yuan (RMB) in 2010, 40.1 % of the same years' GDP.

4.2 Development of the tertiary industry and rapid growth of the middle class

The development of the tertiary industry (such as financial services, education, and retailing) has overtaken manufacturing in leading economic growth and urbanization (Gaubatz, 1999). The export-oriented manufacturing system includes production, distribution, and marketing. Because a part of the process relies on the financial and insurance systems from foreign countries, transaction costs of these foreign companies have been reduced dramatically since 1999. Economic development zones built in the previous decades started to generate profits from investments and production and have become important urbanized areas (Gu *et al.*, 2013).

The urbanization level rose from 26.4% in 1990 to 49.95% in 2010, while the share of the tertiary industry increased from 31.5 % to 43.2 % (Table 2). The shares in added value increased for all sub-sectors, including trade and catering services, transport, post and tele-

communications, banking and insurance, real estate trading, and personal and social services. Personal and social services, banking, and real estate trading had much larger shares in value-added.

These dramatic changes have introduced new social groups especially to large cities: a rapidly growing middle class improves its consumption level with economic growth, and conspicuous consumption of the new rich and the creative class that sustains innovations, marketing and culture, underpins the economic success of the country. China's middle class has increased from about 1.00×10^6 in the late Twentieth Century to 1.09×10^8 in 2015, which has a wealth of 7.4×10^{12} U.S. dollars.

4.3 Accelerated growth in large cities and megacities

Although their growth was slower compared to the export-oriented sector since 2008, domestic industrial sectors have made steady progress. Many cities grew very quickly with the expansion of urban economy and urban population (Wu, 2007). A large number of non-state owned businesses launched and became active in the domestic market. A silent privatization of small and mid-sized SOEs happened in the late 20th and early 21st centuries. Medium sized and large cities have accommodated most of the urban population growth, and such population growth made mega-cities possible (Gu and Han, 2010). In 1999, urban population in large cities and mega-cities^① was 1.55×10^8 , about 40% of the total urban population, but there were 124 large cities and

Table 2 Structure of GDP and urbanization level in 1978–2015 (%)

Year	Primary industry	Secondary industry	Tertiary industry	Urbanization level
1978	28.2	47.9	23.9	17.92
1990	27.1	41.3	31.5	26.41
1995	19.9	47.2	32.9	29.04
2000	15.1	45.9	39.0	36.22
2005	12.5	47.5	40.0	42.99
2010	10.1	46.7	43.2	49.95
2015	9.0	40.5	50.5	56.10

Source: 1) Based on National Bureau of Statistics (2012); 2) <http://www.bjzq.com.cn/dpfx/ShowArticle.asp?ArticleID=3773020>

① Large cities are over 1×10^6 inhabitants. Megacities count at least 1×10^7 inhabitants. These are Beijing, Shanghai, Guangzhou, Tianjin and Shenzhen

mega-cities with a population of one million or more in 2010, compared to nine in the United States for example. In 2012, urban population in large cities, including mega-cities, was 3.25×10^8 , about half of the total urban population. Growth is concentrated in the large cities because they benefit from effective global linkages to local development, whereas smaller cities lack the means to sustain such linkages (Ning, 1998).

4.4 The rise of global cities

Japan's Research Institute of Economy, Trade, and Industry (2004), showed that one-third of China's industrial production was the product of half a trillion dollars of foreign money that had flowed into the country since 1978. In the early 21st Century, China became the second-largest country in the world for inward and outward FDI. China had inward FDI 1.26×10^{12} U.S. dollars and non-financial direct investment 1.18×10^{12} U.S. Dollars outward FDI for 155 countries/regions, 6532 foreign enterprises in the world in 2015. This process has contributed to the transition of some metropolitan areas to international cities. The development process of China's urban system over the last two decades can be evaluated based on the New International Division of Labor (NIDL), which contrasts with the traditional thinking of a global division of labor. Urban growth in China was largely confined to major cities at the national or provincial levels. FDI, multi-national corporations, and production services are pushing the previous Chinese dual urban system of pre-industrialization and industrialization to a triple urban system with elements of pre-industrialization, industrialization, and post-industrialization.

It is worth noting that three trends of globalization are impacting on China's urban development (Logan, 2001). The first trend is the emergence of mega-city regions. The 'hot-spots' of development in China include the Pearl River Delta region, the Yangtze Delta region, the Beijing-Tianjin-Tangshan region, and the Southern Liaoning Province region. The second trend is rebuilding a closer tie between the Chinese urban system and the global urban system through development of world (global) cities and international cities. Metropolises such as Beijing and Shanghai are now among the global pacesetters, known worldwide for their dramatic urban landscape changes and international influences. The third trend is the unequal development in the hinterlands and peripheries around advanced economic regions.

Foreigners reappear in cities with advanced economy, signifying the integration of China into the global economy. An example is the ethnic enclaves of Africans in Guangzhou, and these enclaves serve as hubs for import/export activities between China and Africa (Li *et al.*, 2009; Li *et al.*, 2012).

4.5 Migrations peak and urban village (*Chengzhongcun*)

Globalization and the fast Chinese economic growth triggered rapid urbanization in well-developed coastal regions, and hundreds of millions of rural surplus labors migrated to these regions (Wong *et al.*, 2007; Gu *et al.*, 2008). In Guangdong Province where the manufacturing industry boomed, extraneous labor grew from 1.0×10^6 to 1.2×10^7 between 2001 and 2010 (Halsall and Cook, 2013). In 2001, 8.0×10^7 rural migrants lived in cities for more than half a year. This number rose to 1.5×10^8 in 2009. In 2011, the number of migrant workers reached 2.52×10^8 , including 1.58×10^8 living in different cities from their hometowns and 9.4×10^7 in the cities of their hometowns. Table 3 showed that China's floating population reached its peak in 2011. A report from the National Bureau of Statistics in China in 2015 showed that the total number of floating population reached 2.47×10^8 , 17.96% of the total population of the country.

Further, the development of Chinese higher education enables rural youth to leave the countryside. Chinese colleges recruited only 0.3×10^6 students in 2001, while in 2013 the number was 6.5×10^6 (Gu *et al.*, 2013). One

Table 3 Floating population in 1982–2015

Year	Total population (10^6)	Floating population (10^6)	Proportion of floating population to total population (%)
1982	1016.54	6.57	0.65
1987	1072.33	18.10	1.69
1990	1143.33	21.35	1.86
1995	1211.21	70.73	5.84
2000	1267.43	102.29	8.07
2005	1307.56	147.35	11.27
2010	1340.91	221.43	16.51
2011	1395.33	252.78	18.12
2012	1354.04	236.00	17.43
2015	1374.62	247.00	17.96

Source: 1) Based on National Bureau of Statistics (2012); 2) <http://www.bjzq.com.cn/dpfx/ShowArticle.asp?ArticleID=377302>

outcome is that a new group of migrants have moved into *Chengzhongcun* in metropolitan regions. Unlike the original residents, they have high education levels and aspiration to climb up the social ladder with high education. They are called the ‘Ant Tribe’ (Chen *et al.*, 2006; Lian, 2009; He *et al.*, 2011), mainly because of their concentrations in *Chengzhongcun* and their hardworking behavior (Gans, 1962; Gu and Sheng, 2012; Gu *et al.*, 2013).

5 Land Economic-led Urbanization (2010–2015)

In the past 30 years, urban government reform has emphasized marketization and decentralization, devolution, downsizing and deregulation worldwide. Decentralization and local government-led urbanization become two main characteristics in recent decades in China. The 1994 tax reform stabilized the central government’s revenue, but the revenue share of the local governments was not commensurate with the increased local responsibility, and local governments’ incentives to industrialization were reduced. For some time after the reform, a large number of local governments have faced budget problems. Since land is a scarce resource in urban China compared to the abundant labor supply, selling land through rapid urban spatial expansion can meet the financial demands of local governments. For this reason the land economy has become a main driving force in China’s urbanization in the 2010s.

5.1 Financial system reform and local government land-related taxes

From the 1970s to 1993, a system of *Baogan* (contract or franchise) defined the financial relationship between the central government and local governments. Under this system, the central and local governments signed contracts which set up quotas of financial transactions^① during a certain period. The system stimulated local governments’ incentive to create more revenue. In 1993, the central government implemented a tax reform to adjust the financial relationship. The new tax division system was implemented in 1994, which included: 1) Dividing the responsibilities of public good provision

between the central and local governments. Specifically, the central government controls national defense, foreign relations, and macroeconomic adjustments; local governments provide local economic development, security, and education. 2) Dividing the rights of tax collection between the central and local governments. The central government collects tariff, consumption tax collected by customs, corporate tax from central government-owned SOEs and banks. Local governments collect business tax, corporate income tax from local government-owned SOEs, personal income tax, and small taxes related to real estate. The value-added tax, resource tax, and security trade tax were shared between the central and local governments. The value-added tax became the most important tax of the local government at the time.

Under the new tax division system, local governments have no stable financial resources, and therefore a large part of local governments’ revenue has to be land-related income, including income from land leasing and land related tax (Table 4). The taxes include five housing-specific taxes (and housing property tax for foreign firms): housing property tax (not implemented nationwide), urban land use tax, land appreciation tax, farmland occupation tax, and deed tax; five housing-related taxes: business tax, firm income tax, personal income tax, urban maintenance and construction tax, and stamp tax; and many fees: land management fees, vegetation development funds, public service project development fees, and land use rights fees. It is estimated that the five tax-specific taxes increased more than ten times from 2003 to 2015. Currently in China, most land-related taxes are collected in the transaction stage.

5.2 Local government finance and land leasing revenue

After some years of experimenting, local governments found that land requisition and public land leasing could be an important source of revenue. Local governments buy land from the peasants, paying low requisition fees, and then lease the land to developers for a higher fee. Due to their monopoly positions in land requisition and the large margin between purchasing and selling prices,

① A province with a surplus had to turn over the amount of revenue defined by the contract to the central government, while a province with a deficit could receive a subsidy defined by the contract from the central government. The quotas for different local governments varied according to their fiscal performances. The contracts were negotiated for several years and sometimes renewed every year

Table 4 Local government land-related taxes

Tax	Rates
Urban housing property tax	1.2% of the remaining value of the house or 12% of the rent
Urban land use tax	0.6–30.0 yuan (RMB)/m ²
Land appreciation tax	30%–60%, progressive rate
Farmland occupation tax	5–50 yuan (RMB)/m ²
Deed tax	3%–5%
Business tax	3%–5%, 5% for real property transfer
Urban maintenance & construction tax	1%, 5%, 7%, depending on the size of city
Stamp tax	0.005%–0.1%

Source: State Administration of Taxation. <https://zhidao.baidu.com/question/104927140.html>

local governments do not need to pay attention to land use efficiency. Currently, local governments' revenue for land leasing, a non-budgetary revenue called 'the secondary revenue', accounts for a large portion of their total revenue. The proportion increased very quickly from 18.82% in 2008 to 30.56% in 2014. It was reduced to 22.14% in 2015 due to the recession (Table 5). This financial system incentivizes local governments to sell more land.

5.3 Irrational city construction, high housing prices, and real estate bubble

Since the early 1980s, Chinese cities have experienced fast growth in construction (Ma *et al.*, 2008). The growth was faster still in the first decade of the 21st Century. Urban built-up areas increased from 12 856 km² in 1990 to 52 102 km² in 2015, with a 6.8% increase annually. The increase in built-up area was largely the result of construction campaigned by local governments. As a result, a large number of cities of various forms were created, with decreasing population density. The population density in the built-up area decreased from 19 000/km² in 1981 to 10 000/km² in 2008 and 7570/km² in 2015 (Table 6).

Local governments often lease lands to large national or international companies in order to attract these companies. Housing prices soared because local governments need to generate more revenue from selling lands for initial land development in newly-developed areas. Young people, particularly unmarried men who seek marriage, also faced pressure from Chinese cultural tradition, which emphasizes home ownership for families. As a result, investing in housing became an easy and quick way to accumulate wealth, compared with other investments. Companies of all kinds opened real

estate divisions, expecting higher profits than from their alternative core businesses. In the late 1990s, most prime real estate in Pudong, the new business area in Shanghai, was sold at the price of 1000–2000 yuan (RMB)/m². By 2007, real estate price in Pudong started at 13 000 yuan (RMB)/m² and reached 33 023 yuan (RMB)/m² in 2016. Similarly, the average housing price in Suzhou, a mid-sized city near Shanghai, was about 500 yuan (RMB)/m² in 2001, 7000–8000 yuan (RMB) by 2007 and by 2016, it increased to more than 15 300

Table 5 Land leasing revenue

Year	Financial revenue (10 ⁹ yuan (RMB))	Land leasing revenue (10 ⁹ yuan (RMB))	Proportion of the land leasing revenue to the total financial revenue (%)
2008	6.13	0.97	15.82
2009	6.85	1.59	23.21
2010	8.31	2.70	32.49
2011	10.37	3.15	30.38
2012	11.72	2.69	22.95
2013	12.91	3.91	30.29
2014	14.04	4.29	30.56
2015	15.22	3.37	22.14

Notes: Financial revenue includes general budget revenue and government funds revenue. Source: 1) <http://finance.qq.com/a/20160129/044883.htm>; 2) http://blog.sina.com.cn/s/blog_665dd84d01012zv8.html

Table 6 Urban spatial expansion 1981–2015

Year	Urban built-up areas (km ²)	Annual average change (km ²)
1981	7438	
1990	12856	541.8
2000	22439	958.3
2010	40058	1761.9
2015	52102	2408.8

Source: 1) Based on National Bureau of Statistics (2012); 2) <http://www.bjzq.com.cn/dpfx/ShowArticle.asp?ArticleID=3773020>

Yuan (RMB). The housing price per floor area in Beijing increased from about 6000 yuan (RMB)/m² in 2009 to 35 218 yuan (RMB)/m² in September 2016. Unsurprisingly, many residents can not afford to buy a house of their own on the open market today. Likewise, the rental price of housing is also increasing. In the first quarter of 2016, the average rental price of a housing unit rose to 6000 yuan (RMB)/month, over 100% higher than that in 2008. The increasing land and housing prices raised developers' and consumers' expectation of continuously soaring housing prices. Considering social stability, the central government wanted to control the housing price but failed. One reason is the local governments' reliance on land revenue.

5.4 Ghost towns and reliance on land-leasing revenue

New towns and new development zones have become a tool for land acquisition, because local government-led urban construction and land finance were a driving force. In June 2016, the number new towns and new development zones was more than 3500 at county level or above. Problems emerged in developing new towns or new development zones, such as planning of an excessive amount of land supply, homogenized land use functions, over reliance on real estate development, growing 'empty cities', 'sleeping cities', and 'ghost towns'. For example, the Beijing-Tianjin New Town, a villa district located between the two cities, planned to build 8000 villas in an area with the size of 33 Tiananmen Squares. Only 1000 villas were built and 90% of them were still empty five years after the construction started. At the same time, local governments had also borrowed money through local construction investment corporations from the National Development Bank and other financial institutions. A large amount of the payment towards the local government debts depends on land-leasing revenue. A report from the central government's auditing administration shows that, at the end of 2012, four provinces and 17 provincial capital cities had 7.75×10^{11} yuan (RMB) of debt, or 55% of total debt in China, and the debts were promised to be paid from land-leasing revenue. The total debt to be paid by land-leasing revenue in these provinces and cities in

2012 was 2.32×10^{11} yuan (RMB), 1.25 times their total land-leasing revenue. Different government agencies and officials estimated that the total local government debt was more than 2.0×10^{13} yuan (RMB) to January 2016.

6 Discussion and Conclusions

The China's urbanization between 1949 and 2015 exists four stages with four kinds of drive forces, they are: 1) economic re-construction and industrialization-led urbanization (1949–1977); 2) economic reform and market-led urbanization (1978–1995); 3) economic globalization and the global-local urbanization (1996–2010); and 4) land-economic-led urbanization (2010–2015).

In 2015, China's urbanization level reached a remarkable level of 56.10% with 7.71×10^8 urban population. This significant achievement of more than half of Chinese population living in cities is an accumulative outcome of rapid urban growth after 1949 (Zhang and Han, 2009). Nevertheless, China's urbanization level is still lower than the average level in developed countries where 80% of their population is urban. It is also lower than the average level of 60% in the developing countries that have similar per capital income. Even worse, the Chinese economy might slow down, and the economic growth based on manufacturing and real estate development could be weakened. The Chinese government has increased the efforts to promote national-level urbanization^①. But what is the future of urbanization in China?

In the future, it is possible that China's process of urbanization before 2050 will be divided into three stages. By 2020, the urbanization level will reach about 60%, and new growth centers, new cities and urban agglomerations will emerge. By 2035, China will be an urbanized society with an urbanization level more than 70%, and will complete the process of urbanization. By 2050, an urbanized society will be formed through green and equitable development provided that current issues of urban debt and other issues can be resolved (Table 7). It is also possible that main driving forces will from development of global city and national central cities as well as the green development, inclusive urbanization.

① The central government in China launched *the National New Urbanization Plan* (2014–2020) in 2014; urbanization level in 2020 will reach at 60%, and about 1.0×10^8 rural population will become new urban residents

Table 7 Forecast of future urbanization level in 2015–2050

Year	Urbanization level (%)
2020	60.4
2025	64.2
2030	67.4
2035	70.0
2040	72.1
2045	73.6
2050	74.5

Source: Gu *et al.*, 2017

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