

Cities without slums? China's land regime and dual-track urbanization

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ABSTRACT

China's urbanization has avoided the expansion of slums despite the influx of rural migrants. What might explain this phenomenon? We argue that Chinese urbanization is driven by two tracks rooted in the country's land ownership: 1) a state-led track relying on land financing and expropriation, facilitated capital accumulation, infrastructure construction, and the provision of public goods; 2) an informal track based on collective land ownership and self-governance resulted in *informal* "urban villages" that provide affordable housing and services to migrants. China's urbanization underscores the credibility thesis, which posits that institutional form follows from function, as the urban villages – as informal settlements – fulfil a credible function in driving urbanization by accommodating the migrant population. However, Chinese urbanization is challenged by issues of sustainability and inclusiveness, and its current credibility might not last. In this context, local policy innovations may highlight possibilities to integrate the tracks and achieve a new type of urbanization by "formalization of the informal." Put differently, the inclusion of *that what is done* into law, which should be critically distinguished from privatization through titling. At this point, one could consider the Credibility Scales and Intervention (CSI) Checklist, a "toolbox" of policy interventions predicated upon the credibility thesis.

1. Introduction

While only 19.6% of China's population lived in cities in 1980 the number reached 57.4% in 2016,¹ which means a total of 260 million Chinese have changed their status from rural to urban over the past three decades (World Bank, 2014: 5). Rapid urbanization is often associated with the proliferation of slums, as the government is usually unable to meet the demand for housing, infrastructure, and service by a drastically increasing urban population (Davis, 2006). In Brazil, for example, with the country's urbanization level rising from 36.5% in 1950s to 87.7% in 2015, 26.9% of its population lives in informal settlements. In Rio de Janeiro, although the city's total population grew only 3.4% over the last decade, the favela population has grown by 27.7%.² In India, 29.4% of its population lives in slums, while the

percentage of slum dwellers reached 42% in Mumbai, the largest city and financial capital of the country (MTSU, 2015: 11). However, China has seemingly avoided the problem despite the influx of vast numbers of migrant workers (Solinger, 1999a; Miller, 2012: 19; Wallace, 2014).

In an article entitled "Where are the Slums in China?" Wei (2014: 1) noted that "[c]ompared with megacities like Mumbai and Rio de Janeiro, Chinese megacities appear remarkably slum-free." Wei's observation is echoed by others (Yusuf, 2008: 8; Xin, 2017). Having said this, China does have extensive "urban villages" (or *chengzhongcun*).³

The urban villages are a form of informal and irregular settlements because the construction and operation of the rental housing is not subject to any planning regulation. Many buildings in urban villages are slum-like due to the high density and, substandard housing conditions (Buckingham & Chan, 2018; Tian, 2008). However, urban villages are

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¹ The urbanization rate of 19.6% in the 1980s was measured by urban *hukou* population, whereas the urbanization rate of 57.4% in 2016 is measured by urban resident population, which includes urban population with and without local *hukou*. By the end of 2016, the urbanization rate by urban *hukou* population is 41.2%. The current approach to population calculation was adopted in the fifth national census in 2000, by which anyone who has lived in a given urban area for 6 months or longer is considered urban population (chang zhu ren kou). There are two categories within the urban population: *hukou* population (hu ji ren kou) and non-*hukou* population (fei hu ji ren kou).

² Data are collected from census data distributed by Instituto Brasileiro de Geografia e Estatística. See <https://ww2.ibge.gov.br/home/estatistica/populacao/estimativa2011/default.shtm>.

³ According to Chung (2010), the term "urban village" is developed in the United Kingdom and refers to upscale residential areas and neighborhoods. Hence, villages-in-the-city is a more proper name for this kind of spatial arrangement on rural land in China.

not slums in that villagers have legal title to the land on which the housing is built. Moreover, urban villages generally do not consist of shanties and shacks, but of brick houses. Lastly, whereas slums often lack reliable sanitation, supply of clean water, electricity, law enforcement, and other basic utilities or infrastructure, these are generally present in Chinese urban villages.

What might explain China's rapid urbanization without a large-scale proliferation of slums? We argue that China's current model of urbanization is driven by two tracks that are rooted in the country's distinct land regime of collectively owned land in the countryside, and state-owned land in the cities. On the one hand, we can see a state-led track of urbanization that relies on land expropriation and land financing of which capital accumulation has led to an infrastructure boom, the provision of public goods, and urban expansion. On the other hand, there is also an informal track of urbanization predicated upon collective ownership and rural self-governance, which has resulted in the proliferation of the aforementioned "urban villages" that provide affordable housing and a variety of services to migrants. The two tracks are entwined and interrelated in the sense that the former provides the capital and infrastructure needed for urbanization, whereas the latter accommodates migrant labor as the backbone of urban social and economic development. While this dual-track urbanization is propelled by a variety of political, economic, and social institutions, including taxation policies and the *hukou* system⁴ we emphasize that China's divided urban-rural landownership has played an even more critical role in enabling its functioning. Specifically, and as demonstrated elsewhere in this special issue (Sun and Ho, *this volume*), it is the informal housing market on rural collective land that has provided and still provides affordable housing and services to migrant workers, thus mitigating the discriminative impacts of the *hukou* system, maintaining social stability, and preventing the proliferation of slums.

Against the backdrop of the above, it might be ascertained that China's dual-track urbanization by and large has been functional, therefore, credible. Or, as credibility has been defined elsewhere, it has evidently rallied a significant "perceived social support at a given time and space" (Ho, 2017: 81). Having said this, credibility is also time and space dependent, and the two tracks have in recent years been growing increasingly divergent from one another, thus creating certain problems for the long-term sustainability of China's urbanization (Pils, 2018; Zeuthen, 2018). In the face of such challenges, new approaches might be needed to safeguard the rights to migrants, lower the rural-urban divide, and effectively address the issue of social inclusiveness. It is at this point that one could consider a "checklist" of policy tools as developed under the Credibility Thesis (Ho, 2014). As depicted in Table 1, this "Credibility Scales and Intervention" (CSI) checklist describes, on an ideal-type scale, the potential institutional interventions and non-intervention (or, the developmental "no go"). In relation to the existing levels of credibility that institutional arrangements may rally, these interventions include, but may not be limited to: 1) Ordaining, or commanding what must be done; 2) Prohibiting, or dictating what cannot be done; 3) Facilitating, or supporting what needs to be done; 4) Co-opting, or formalizing what is done; and 5) Condoning, or accepting daily praxis.

When institutional credibility shifts towards medium-high or neutral, "accepting praxis by non-intervention" might no longer suffice, for which reason we conjecture that coopting or "formalizing what is already done" could be a viable option to consider. In this context, we examined two cases that not only represent a critical policy innovation in the Chinese context, but also typically relate to what can be called a

formalization of the informal. It needs emphasis that this approach needs to be clearly distinguished from an approach of (imposed) privatization through titling (Table C.1).

The cases are: Nanhai District in Foshan, Guangdong Province, and a project of 50 urban villages in peri-urban Beijing. One of the authors has been involved in the design and implementation of the pilots in the two places since the early 1990s and gathered firsthand information. The two cases are chosen not only because of the accessibility of data, but also due to their importance and policy implications for other cases. Nanhai is one of the first places nationwide where the use of collective land by industries outside the village collective (and in fact, for a substantial part also coming from outside the countryside) was formalized and legalized. In that capacity, Nanhai might provide a roadmap for other rural communities to launch industrialization and urbanization while maintaining their collective landownership. The 50 urban villages in the periphery of Beijing show the possibility of building rental housing on collectively owned land and thus formalizing the village-based rental housing market. The successful experiences of these villages directly led to the launching of a national pilot program that allows the construction and transaction of rental housing on collectively owned land in 13 cities. As two pioneering cases, they demonstrate the alternatives of urbanization that differ from the current model driven by local government's land expropriation. Their experiences have been applied to many other cities across the country and shaped the national policy agenda on urbanization and land use.⁵

Data employed in the paper are from two major sources: government documents and fieldwork. Data on state-led urbanization are primarily from government documents, including Statistical Yearbooks of the Ministry of Housing and Urban-Rural Development, Statistical Yearbooks of Land and Resources, land use statistics distributed by the former Ministry of Land and Resources (since 2018, the Ministry of Natural Resources), and data provided by the Ministry of Finance. By synthesizing these data, we examined the relations between land expropriation, local government revenue, infrastructure investment, and changes in housing price, and thus illuminate the mechanism through which the land regime shapes the trajectory of urbanization. In addition to using secondary data, we conducted fieldwork in the urban villages of Beijing and Guangdong from 2010 to 2015. Firsthand evidence is used in the paper to construct the informal track of urbanization and to better understand the policy innovation on mitigating the gaps between the two tracks.

Following the introduction, the first part reviews the literature on China's urbanization and presents our argument on dual-track urbanization. The second and third parts discuss the mechanisms and impacts of the state-led track and the collective, informal track of urbanization, respectively. After explaining the mechanisms of the dual-track urbanization, in the fourth part we interrogate recent policy innovations at the local and village levels in an effort to mitigate the gaps between the two tracks. Based on the recognition of the credibility of land tenure arrangements by the local communities, these experiments shed light on new approaches to urbanization. The paper concludes in the fifth part by discussing the implications of the dual-track urbanization on China and beyond.

1.1. Urbanization and institutional credibility in the Chinese context

Studies of urbanization in China can be divided into two broad categories: land-focused studies and labor-focused studies. There is a robust body of land-focused studies on China that offers detailed analyses on a number of different but interrelated topics, including China's land reform in both urban and rural areas, land commodification and the development of urban land markets, land expropriation in rural and peri-urban areas, and land finance (Ho, 2000; Ho & Lin, 2003; Hsing,

⁴ *Hukou* is a system of household registration in mainland China. It originates in ancient (pre-imperial) China and registers the members of a household as a resident of a certain area. The *hukou* system also establishes someone as having a rural or an urban *hukou*, with different rights to housing, education and social welfare benefits (see Cheng & Selden, 1994).

⁵ For background information on Chinese governance, see (Shue, 2018).

Table C.1
Scales of credibility and intervention.
Source: [Ho \(2017\)](#): 245–6).

Credibility level/trend	Institutional intervention	Desired effect
High	Condoning	Accepting praxis by non-intervention
Medium high	Co-opting	Formalizing what is done
Neutral	Facilitating	Supporting what needs to be done
Medium low	Prohibiting	Dictating what shall not be done
Low	Ordaining	Commanding what must be done

2006; Lin, 2009; Wu, Yongle, & Siqi, 2015; Xu, Yeh, & Wu, 2009). As the studies show, a major driving force of China's rapid urbanization is the local governments' desire to expropriate and lease land. Lin (2014) coined the term 'landed urbanization' to characterize the popular practice of urban development in China, in which "land commodification has been actively pursued as a means of revenue generation to finance the project of urbanization and contest state power reshuffling under neoliberalization (p. 1815)". Such a notion challenges the Western-centric knowledge showing that urban and regional development is not driven by human capital or advanced technology, but by land.

On the other hand, the labor-related studies investigate issues including the rural to urban migration (Zheng, Gu, & Zhu, 2019), the household registration system (*hukou*), and the enhanced socio-economic inequality in urban China. A rich body of literature elaborates the mechanisms and impacts of China's *hukou* system (Chan, 1994; Chan & Zhang, 1999; Wallace, 2014). While some studies of rural-to-urban migrants focus on their social dimensions, such as their social network, positions on the labor market, and relations with the locals (Solinger, 1999a; Zhang, 2001), others investigate the living space of the migrants. As migrant workers suffer from limited housing supply in cities due to their lack of local household status, many of them rent villagers' self-built housing encircled by urban expansion, in the so-called "urban villages". There is a growing body of literature documenting the formation, expansion, and persistence of urban villages in both the inner-city and peri-urban areas of China (Liu, He, Wu, & Webster, 2010; Tian, 2008; Wang, Wang, & Wu, 2010; Webster, Wu, Zhang, & Sarkar, 2016; Wu, 2002; Wu, 2009).

These parallel but distinct research traditions have addressed two separated aspects of China's urbanization: land and labor. In our effort to develop a more comprehensive understanding of China's urbanization, especially to address the puzzles of how China has achieved such rapid urbanization and why there is little proliferation of slums in the process, we seek to synthesize the two aspects through an argument on dual-track urbanization. We ascertain that China's drastic urbanization in the last 40 years is driven by two tracks that are rooted in the country's unique land regime. On the one hand, a state-led track relying on land expropriation and land financing has led to urban expansion and an infrastructure boom. On the other hand, an informal track through collective landownership has resulted in the proliferation of urban villages that provide affordable housing and services to migrant workers. The two tracks are interrelated and demonstrate a unique feature of China's urbanization. The dual-track system has enabled China to achieve rapid urbanization while avoiding the expansion of slums, a problem many developing countries have encountered. However, the two tracks are increasingly divergent from one another and present challenges of sustainability and inclusiveness. New policy approaches to integrate the two tracks are urgently needed.

There are other studies that used the term of dual-track urbanization, but their usage of the term has different meanings than what is proposed in the paper. For instance, Shen, Wong, and Feng (2002) argue that urbanization in the Pearl River Delta of South China is driven by two tracks separated by the *hukou* system: a state-sponsored urbanization concerning nonagricultural population and spontaneous urbanization concerning agricultural population. Similarly, Buckingham and Chan (2018) highlight China's dual system of urbanization as based

on the separation between and unequal treatment of the rural and urban sectors. From a different perspective, Lin (2002) considers China's urbanization shaped by a superimposed dual-track system, which consists of the Maoist legacy of large city dominance at the top and the rapidly expanding system of small cities and towns in the bottom. While Shen et al. (2002) and Buckingham and Chan (2018) refer to the dual-track urbanization as a rural-urban dualism, Lin (2002) refers to it as the divide between big cities and small cities and towns. These are different from our definition of the dual-track urbanization, which refers to the coexistence of a state-led track and an informal track based on China's land regime and associated financial issues.

Some argue that an alternative explanation as to why Chinese cities have not had the phenomenon of the proliferation of slums is because the *hukou* system restricts an uninhibited rural-to-urban migration. According to Chan (1994) and Chan and Zhang (1999), Chinese cities under Mao have removed all city walls but built the *hukou* system as an invisible wall that effectively separates the urban and the rural population. Along the same line of inquiry, Wallace (2014) argues that China is able to achieve rapid urbanization without slums because the Chinese regime's urban bias and *hukou* system have constrained internal migration. It is important to recognize the importance of the *hukou* system in creating an urban-rural divide and locality-based inequality. At the same time, however, the *hukou* system alone cannot account for the absence of slums in Chinese cities as a significant number of rural migrants have moved to cities for jobs despite the lack of housing and welfare support. Markedly, a rich body of literature shows that a large proportion of these migrants live in rental housing in the urban villages (Tian, 2008; Webster et al., 2016; Wu, 2009). In other words, the informal track of urbanization fulfills a critical function in housing the migrant laborer who serves as the backbone of China's rapid urbanization, thus preventing the proliferation of slums as seen in other developing countries.

A distinction needs to be made between Chinese urban villages and slums. As the rest of the paper will further elaborate, urban villages are villages encircled by urban expansions and they are a unique spatial outcome of Chinese urbanization. As the following sections show, collective property ownership defined by China's land regime is a major factor that distinguishes urban villages from slums or other forms of informal settlements. It also provides the foundation for the mechanisms of self-governance in urban villages through the village committees.

China's dual-track urbanization provides evidence to the Credibility Thesis. According to the Credibility Thesis, institutional form is subordinate to function. It is the use and disuse of institutions over time and space that matters for understanding their persistence, not their appearance (Ho, 2014, 2016). It also argues that the effect of intervention is influenced by the level of credibility. Hence, when designing approaches of intervention, policy makers need to take into account the credibility of informal housing; otherwise intervention is likely to cause tension and inefficiency (Ho, 2016). China's urbanization demonstrates the importance of moving beyond the formal-informal dichotomy, as urban villages – as a form of informal settlements – fulfil crucial economic and social functions for boosting China's urbanization and accommodating migrant population. As the rest of the paper shows, China's current mode of urbanization is largely credible in that the first track enables capital accumulation and provides financial resources for

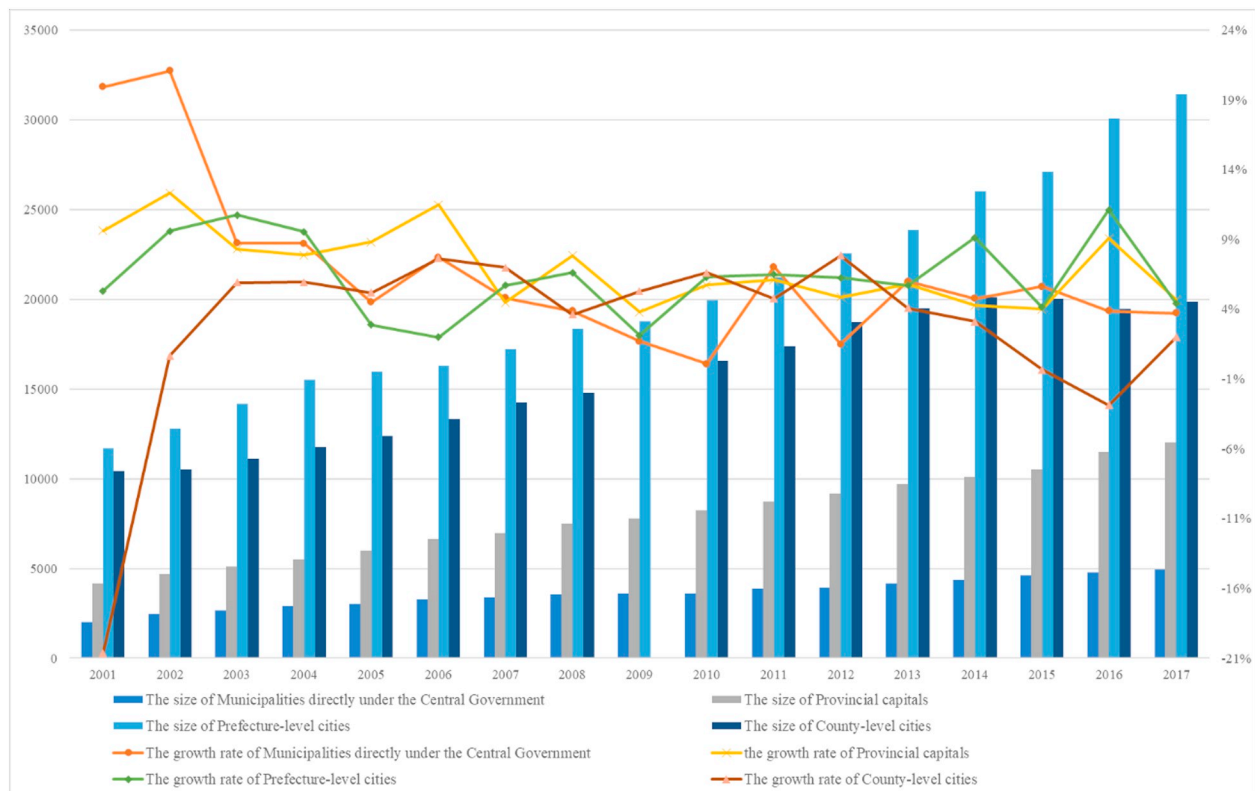


Fig. 1. Increase of urban built-up areas of different types of cities in China (km², %).

Source: China Urban Construction Statistical Yearbook, China County Construction Statistical Yearbook.

infrastructure and public goods, whereas the second track offers cheap housing and basic services to migrant labor. However, institutional credibility is time and space dependent. The increased divergence between the two tracks presents challenges to sustainable urban development and the credibility of urbanization, and hence calls for reform that takes into account the credibility of urban villages and integrates the two tracks.

The rest of the paper investigates the state-led and informal tracks of urbanization in China, followed by the discussion of a possible merging of the two tracks. Through the first track, the state has rapidly expropriated land and constructed a significant amount of urban infrastructure. These actions serve the purpose of generating revenue and promoting economic growth. However, as the second track shows, the state provides insufficient social support to villagers and migrant workers who have moved into cities in search of employment, urban facilities, and better opportunities. As a result, they rely on the informal development of housing and services in urban villages as a way to sustain themselves. The land-based capital accumulation and village-based informal housing development blend together and explain China's model of "rapid urbanization without slums."

1.2. The first track: state-led urbanization

The first track of China's dual-track urbanization is led by the state. Specifically, the municipal governments promote the expansion of urban territories and create urban infrastructure by changing urban plans, adjusting jurisdictional boundaries, and manipulating the provision of land. In most countries, municipal governments have to obtain land through the market and they share the added value of land by collecting property tax. In China, by contrast, the unique rural-urban dual landownership allows the local governments to generate revenue through land financing. To understand the mechanism of the state-led urbanization, we must start from China's land regime.

China's unique land regime has the following characteristics. First, while rural land is collectively owned by village collectives, urban land is owned by the state, and the power to manage the land is largely in the hands of municipal and county governments. Second, it is through the expropriation by the state that rural land is converted to urban land. Villagers whose land is expropriated receive compensation from the government, which is, at a maximum, thirty times the average value of the previous 3 years' agricultural production. Third, any non-agricultural activities must only take place on urban land that is owned and supplied by the state. Thus, the state monopolizes the primary land market. To ensure there is sufficient agricultural land to protect national food security, the central government has developed a quota system to regulate land conversion and new functions of land. Nonetheless, the specific mechanisms of transaction and usage of urban land is decided by local governments. Fourth, local governments have become the main actor in capturing the income from land transactions. By expropriating villagers' land and selling land use right through auctions, local governments have capitalized land and gained significant profits. Fifth, local governments use land as collateral to raise money from banks, thus financing urban development and the construction of urban infrastructure (Tsui, 2011). Specifically, in an effort to cope with the 2008 global financial crisis, the central government allowed local governments to create various forms of "local government financing vehicles" that use state-owned land as a means of financing.

Under this land regime, local governments have tried all means to expropriate land and promote the expansion of cities. From 2001 to 2015, the nation-wide urban built-up areas increased 2807.68 km², which equals an annual increase of 5.68%. Over the same period, the size of the four Municipalities directly under the Central Government – Beijing, Tianjin, Shanghai, and Chongqing – has increased 2036 km² at an annual rate of 6.05%. The size of provincial capitals has increased 6237 km² at an annual rate of 6.8%. Prefecture-level cities have increased 15,403 km² at an annual increase rate of 6.19% (Fig. 1).



Fig. 2. Area of land expropriation.
Source: China Economic Information Network.

An important driving force of urban expansion is state land expropriation. Fig. 2 shows the area of land expropriation from 1999 to 2015. Before 2003, local governments could sell land use rights to private developers through negotiation. A new regulation was enacted in August 31, 2003, requiring that the land use right of all commercial land must be sold through open auction (in Chinese *zhao biao*, *pai mai*, and *gua pai*) to increase transparency and avoid corruption in land sales. Hence, there land expropriations peaked in 2002 when local governments hurried to acquire and sell as much land as possible before the implementation of the new regulation.⁶

Land expropriation is closely related to local government revenue (Hsing, 2006; Wu et al., 2015; Zheng, Wang, & Cao, 2014). By expropriating land from villagers at a lower price and leasing the land to developers at a significantly higher price, local governments can capture huge profits from land transaction. Since the early 2000s, the land conveyance fee (*tu di chu rang jin*)⁷ has become an important source of local government revenue, and its share has become remarkably high since local governments launched land bidding in 2003 (Fig. 3).

Urbanization creates high demands for infrastructure. The revenue collected from land transaction helps local governments meet such demands. From the early 1980s to 2008, the central government's investment in urban infrastructure decreased from 26% to 1.1%, so that local governments now shoulder the main responsibility in providing its own infrastructure.⁸ The arrangement has been further institutionalized since the 1994 tax reform, which established the tax sharing system between the central and local governments (Wong, 2013). Since 2000, local governments have relied on land conveyance fees, land reserve centers, and various financing vehicles to raise money for the construction of infrastructure (Table 1). The capital needed for urban infrastructure construction comes from three parts: government finance, bank loans,

and private investment. Taking the investment of urban infrastructure in 2008 as an example, the three parts count for 32.2%, 29.6%, and 28.7, respectively, all heavily relying on the capitalization of land.

After 2008, the central government increased the money supply and relaxed the restriction on land supply as a way to cope with the global financial crisis. As a result, the local government-backed financing vehicles expanded to a total of 8221 all over the country, ranging from big cities to smaller ones, including townships. Interestingly, the major source of capital for urban infrastructure construction was no longer the land conveyance fee, but shifted to land as collateral. Bank loans often use the land use right as collateral and paid with future land revenue.⁹ As Table 1 shows, since 2008, the share of the land conveyance fee in the budget of urban infrastructure declined from 29.58% to 10.49% in 2015. By contrast, the size of land as collateral and the amount of loans based on this has rapidly increased. The size of land as collateral increased with 5437, 000 mu over the same period, whereas land collateral payments increased from 1810.7 billion RMB in 2008 to 11,330 billion RMB in 2015. Land as collateral has become the main source of capital for urban development.

Based on the expropriation and capitalization of land, the track of state-led urbanization has resulted in the rapid expansion of cities and construction of urban infrastructure; simultaneously, however, it has also caused numerous problems. First and foremost, the urbanization of land is decoupled from, and actually faster than the urbanization of the population. If we take into account the difference between people with an urban residency and those with an urban household status (*hukou*), the gap is even more salient. In 2010, China's urbanization level based on the population with an urban residency was 49.95%. But the level was only 33.77% when measured by the number of people with an urban household status. While urbanization has attracted large numbers of migrant workers to work and live in cities, migrants do not have equal rights as people with urban household status in terms of healthcare, social welfare, education, and employment opportunities. They are almost treated as second-class citizens under many circumstances (Solinger, 1999b; Zhang, 2001). Meanwhile, the local government's heavy reliance on land as revenue has enormous economic and social risks.

⁶ <http://bj.leju.com/p/2005-07-15/034484218.html>.

⁷ Land conveyance fee (*tu di chu rang jin*) is the government's net income from land expropriation. It is achieved from the deduction of land expropriation costs (*zheng di fei*) and land development costs (*kai fa fei*) from the transaction price for land conveyance (*tu di chu rang cheng jiao jia kuan*). For more information on land conversion in China, see Lin (2009).

⁸ See National Government Financial Accounts, 1980–2008 (<http://yss.mof.gov.cn/zhengwuxinxi/caizhengshuju/>).

⁹ <https://www.economist.com/news/china/21731406-xi-jinpings-enormous-power-still-has-limits-what-debt-crisis-provinces-says-about>.

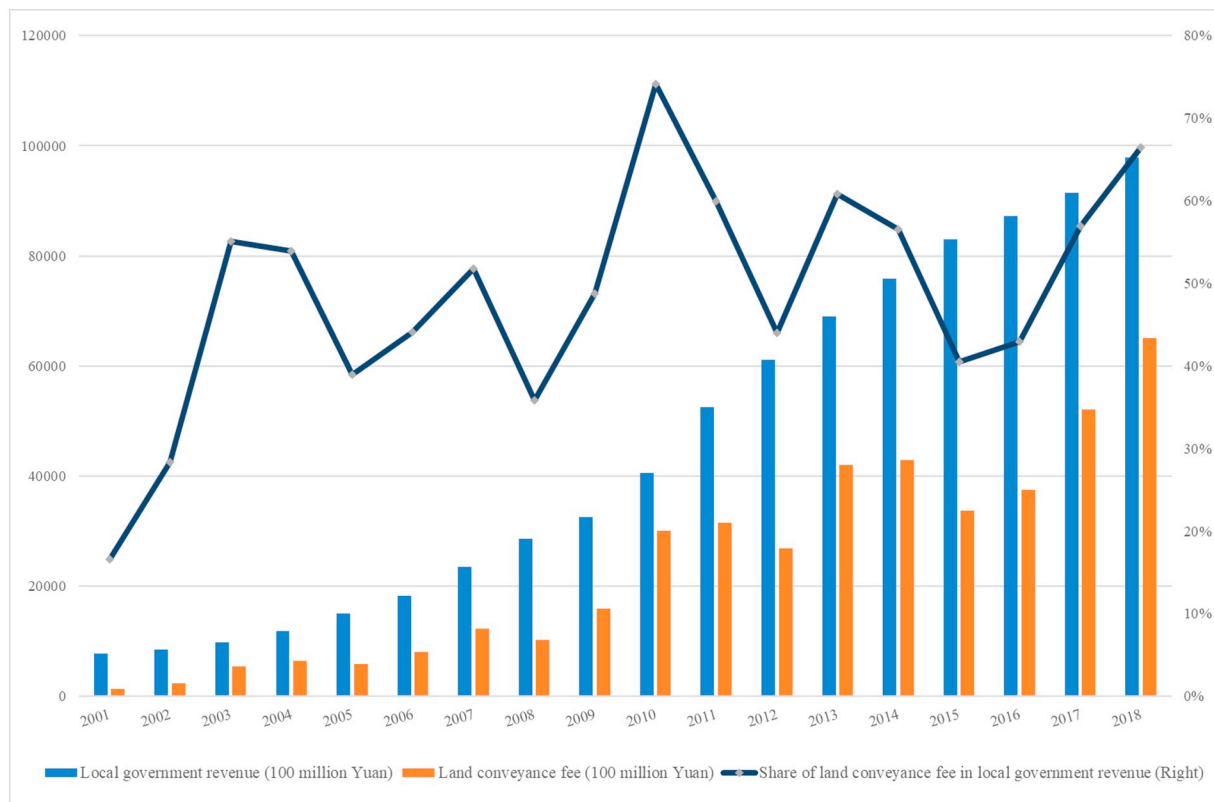


Fig. 3. Share of land conveyance fee in local government revenue.

Source: China Land and Resources Bulletin.

Table 1

Land mortgage, land conveyance fee, and their share in the expense of urban infrastructure.

	Land mortgage (100 million Yuan)	Land conveyance fee (100 million Yuan)	Land conveyance fee in expense of urban infrastructure	
			Amount (100 million Yuan)	Share (%)
2008	18,107	10,259.8	3035.32	29.58%
2009	25,856	15,910.2	3355.42	21.09%
2010	35,300	30,108.93	7621	25.31%
2011	48,000	31,500	5564.88	17.67%
2012	59,500	26,900	3204.15	11.91%
2013	77,600	42,000	3775.14	8.99%
2014	95,100	42,940.3	4063.02	9.46%
2015	113,300	33,657.73	3531.53	10.49%

Source: China Land and Resources Bulletin, China Land Transfer Payment Status.

The second problem is the increase of local government debt. A key to China's rapid urbanization is that local governments are able to obtain land at a relatively low price, and they use the land conveyance fee for urban development and infrastructure provision. However, with the increasingly limited land stock and villagers' rising recognition of and struggles for their rights, the cost of land expropriation has significantly increased. Since 2008, the cost of local government land expropriation in some places has reached 50 or 60% of land revenue. As a result, government's net income from land has decreased, and it decreased to approximately 20% in 2016 (Ministry of Finance, 2000–2016). Facing the decrease in land revenue, local governments are still increasing the investment in infrastructure, with more and more money coming from land as collateral. Despite the financial challenges, new towns and new districts of cities are still expanding. Due to the decrease in land revenue and increase in land as collateral, there is increased debt and financial risk for local governments.

In recent years, in order to maintain the pace of urban development and construction of infrastructure, the absolute value of local government debt has substantially increased. According to the reports of the IMF, China's debts to GDP ratio has been constantly above 200% since 2014, and even reached 253% in 2017, which is the highest among all emerging economies (IMF, 2018: 48). The source of local government debt and the means to pay off debt heavily rely on land. Through land financing, local governments use new debt to pay off old debt. By the end of 2010, the debt that was supposed to be paid off by land conveyance fees counted for 37.96% of debt for all levels of government (National Audit Office, 2000–2016). In 2011, the Central Bank increased the threshold for getting loans through land, but land transaction has remained the main source for local governments to pay off debts. However, the constant decrease in land conveyance fees increases the financial risk for local governments. Since banks are the major capital provider to local governments, the decline of land revenue will weaken the ability of local governments to pay off debt and in turn increase the financial risk for banks.

Third, under the government's manipulation of land, the housing price has rocketed causing more and more real estate bubbles. From 1997 to 2015, the annual increase of the acreage of land for housing construction reached 25.9%, the share of real estate investment in fixed asset investment increased from 16.07% to 21.95%, and the annual increase of housing sales reached 24.7% (Ministry of Housing and Urban-Rural Development, 1997–2015). Although the government implemented macro-control over the housing market, this was not effective. In this context, the increase of housing prices in big cities is illustrative. For instance, the housing prices in Beijing increased 4.9 times from 2003 to 2011.¹⁰ The rapid increase of housing prices is not only the consequence of increased demand caused by urbanization, but

¹⁰ <http://www.chinanews.com/estate/2011/11-11/3453508.shtml>

also the function of China's land regime and government behavior. In order to obtain high profit from land lease, municipal governments reduced the land supply for housing, leading to the limited supply of housing and, consequently, a severe increase of housing prices. As a result, some residents use housing as a tool for investment and speculation, further increasing the unbalance between the supply and demand of housing.

1.3. The second track: informal urbanization

In addition to the state-led urbanization, there is also another informal track of urbanization. With the shrinking of the agricultural sector and the decline of non-agricultural economic activities in the countryside, a large percentage of the rural population has left their homes and become migrant workers in the cities. They do not have access to various welfare benefits in the cities due to the lack of local household status, while they generally also cannot afford to purchase housing on the formal market. As a result, many of them live in informal rental housing in the urban villages or – as the other paper in this special issue shows, have opted to buy informal housing known as “Small Property Rights Housing” (Sun and Ho, this volume).

These villages are products of the expansion of cities and exist in both inner cities and urban peripheries. After their land was expropriated by the local government in the process of urban expansion, many villagers make a living by building multi-story housing on the remaining land and renting them to migrant workers. There is a robust body of literature documenting the formation, the internal governance logic, and the redevelopment of the urban villages (Li, Lin, Li, & Wu, 2014; Tian, 2008; Webster et al., 2016; Wu, Zhang, & Webster, 2013).

We call this track informal urbanization because it is the spontaneous effort of local villagers and rural migrants and it is based on the housing development and service provision that is beyond state control or regulation. From 2000 to 2016, China's level of urbanization increased from 36.22% to 57.35%. On average nine million migrants have moved from rural areas to cities each year from 2000 to 2010 (Chan, 2012: 76). The total number of urban residents without local household status has increased from 136.6 million in 2000 to 223.1 million in 2014 (Chan, 2018: 11). Fig. 3 shows the gap between urbanization levels measured by the two different groups of urban residents. Since the policy priority of the local governments is to expropriate land and construct urban infrastructure, instead of providing services and support to migrant workers, the majority of the migrant population has to find their accommodation in urban villages.

Due to their informal or illegal status, there is little systematic census data on the number, size, and population of urban villages nationwide. However, existing data show that the scale of informal urbanization is huge. For instance, in Shenzhen, which case is extensively described in the following paper in this volume (Chen, in press), there are 340 urban villages whose entire land area is 338.4 km², which is approximately 37% of the urban built-up area. While Shenzhen has a total population of 10.4 million according to the 2010 census, the population living in urban villages exceeds 5 million (SMBUR and SUPLRRC, 2017: 10). Guangzhou has 258 urban villages whose total land area is 471.60 km², which accounts for 38% of the total 1237.55 km² urban built-area (GMBUR, 2017: 1) (Fig. 4). These urban villages house a population of roughly 5.47 million, including 1.30 million with local residency (GMBUR, 2017: 2). In other words, 4.17 million, or over 3/4 of the residents, are migrant tenants without local residency. In the nation's capital, Beijing, one may find 346 urban villages that account for 190 km², while the size of the city's migrant population is over 7 million.¹¹

There are insufficient official data on urban villages in other cities, but various news reports provide a general picture of the large scale of

urban villages in major Chinese cities.¹² As the data demonstrate, although not all migrants in those cities live in urban villages, the majority of them, especially those who take low-end jobs and newly arrive in cities, tend to live in urban villages because of the affordability of housing there.

This informal track of urbanization has its root in the urban-rural dual landownership. After agricultural land is expropriated by the government, villagers still have the land of their homestead. In addition, the government returns some land to the village collectives as compensation, termed Economic Development Land (*jingji fazhan yongdi*), which can be significantly capitalized by conducting non-agricultural activities. Villagers build rental housing on the remaining land or lease the land to migrants or enterprises. This kind of housing construction – i.e. the Small Property Rights Housing – is beyond government control or planning regulation, thus creating an informal housing market on villagers' collectively owned land (Sun & Ho, 2018). Since the urban villages are the main concentration of migrant workers in cities, there is a high ratio between migrant tenants and indigenous villagers in the villages. In most urban villages in Beijing, for example, the ratio between migrant tenants and villagers is 1.2 to 1. The ratio is even higher in Guangzhou and reaches 1.58 to 1 (Liu, 2012). By providing affordable housing to migrant workers, urban villages help cities house sufficient labor for economic development at a relatively low cost. They also offer a means for villagers to make a living and enjoy the benefit of urbanization by collecting rents.

In addition to the provision of low-cost housing, urban villages have provided social services to both indigenous villagers and migrant tenants although to a limited degree. Urban villages in general suffer from an under-provision of public goods. The municipal government has no jurisdiction in urban villages, as it neither owns the land nor does it have a responsibility for territorial governance. As a result, village committees have long taken the responsibility of infrastructure and public service provision by using the resources from the village collective economy. The goods and services they provided include road construction, streetlights, water supply, garbage collection, and security services (Tang, 2015: 736).

In Shenzhen, the municipal government launched an administrative transition in urban villages in 1992 by converting villagers' household status from rural to urban and replacing village committees with residents' committees. A similar transition was implemented in Guangzhou in 2002 (Tang, 2015). Nevertheless, a collective economy remains and shareholding companies have been created in most villages in Guangzhou and Shenzhen to manage economic activities on collectively owned land. Despite the effort to integrate urban villages into the municipal administrative system, the role of the newly formed residents' committees is largely symbolic because of their inadequate budget and the fact that villagers consider these committees outsiders (Tang, 2015). As a result, it is still village shareholding companies that play the major role in providing community infrastructure and services in urban villages. For instance, many village shareholding companies in Guangzhou take the responsibility of renovating facilities in the local primary schools and community parks, which are used by not only villagers but also by migrant tenants and the public (Tang, 2015: 737; Huang & Jiang, 2011: 35).

Urban villages fulfil an important function in providing cheap housing and services to migrant workers, thus offering an entry-point for them to try and build a productive urban life (Wu et al., 2013: 1926). In Guangdong Province, for instance, nearly 70% of migrant workers live in urban villages. The total residential population in urban villages in Guangdong is 22.6 million, among which 4.05 million are

¹¹ See http://www.ccd.org.cn/csp/201305/16/t20130516_748225.shtml; http://www.ccd.org.cn/csp/201305/16/t20130516_748230.shtml.

¹² For information on urban villages in other Chinese cities, see http://www.xinhuanet.com/local/2016-05/28/c_129022874.htm; <http://news.163.com/photoview/00AP0001/2207768.html#p=C4ABRJUV6VVV0001>; <http://finance.people.com.cn/n1/2016/0116/c1004-28060332.html>.

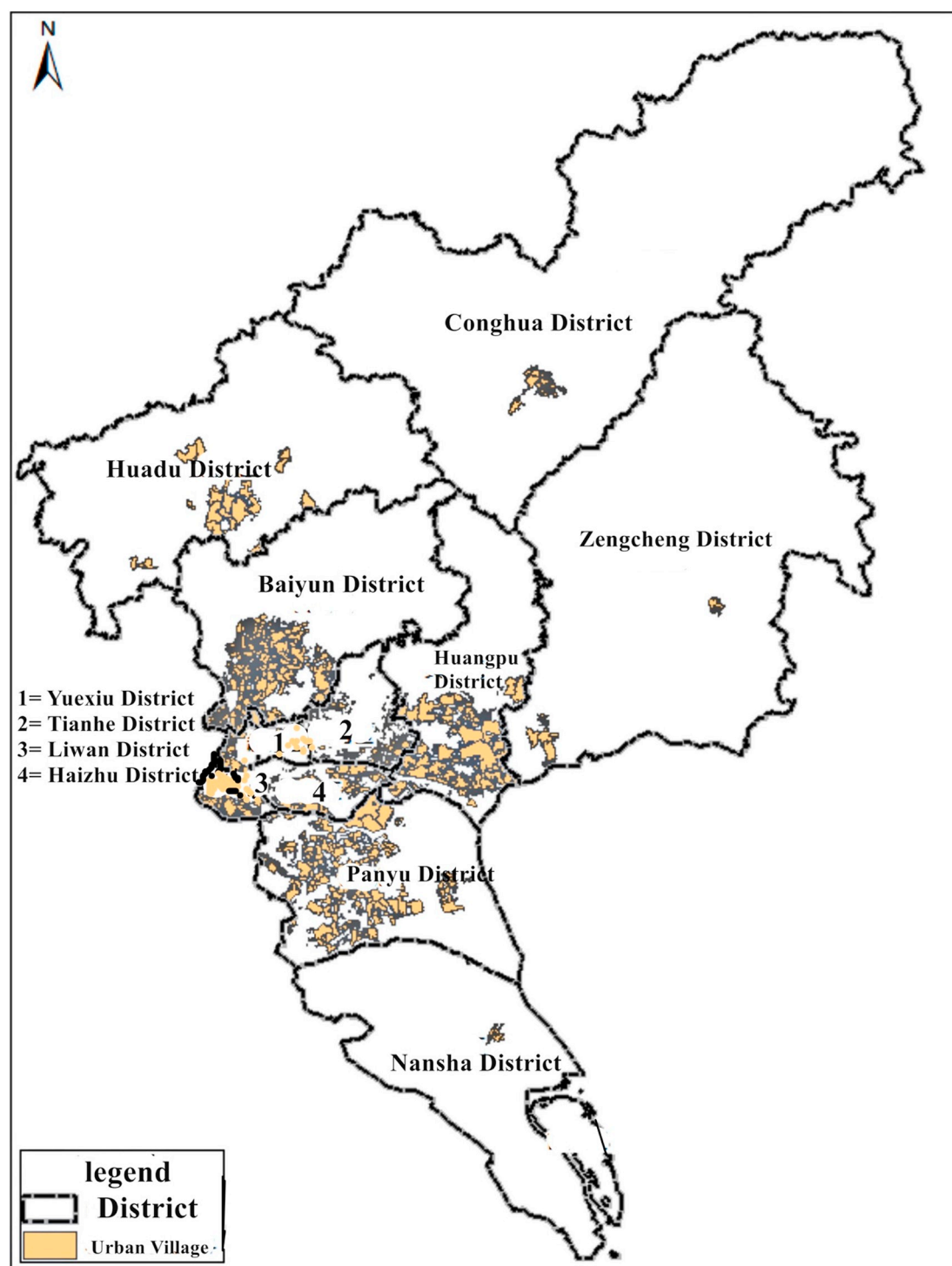


Fig. 4. Map of Guangzhou urban villages

Source: GMBUR, 2017, p. 2.

villagers accounting for 18% of the population, whereas more than 80% of the residents are migrant tenants. In the Pearl River Delta, approximately 86% of the 21.2 million residents are migrants. Due to their function of affordable housing and service provision, scholars describe urban villages as “an informal and low-income version of the privately governed commodity housing estates built on the farmers' former fields” (Wu et al., 2013: 1924). These functions demonstrate the credibility of urban villages.

Despite the important functions of urban villages, it is important to note the problems of the informal mode of urbanization. First, the

housing conditions in urban villages are precarious and the density is high, as a result of which those living in urban villages suffer from many problems including poor sanitation and the risk of fire. Second, due to the limited resources and expertise of village collectives, the self-provided infrastructure and services are limited and not comparable to those provided by local governments. Third, due to the high density and the transient nature of the tenants, many urban villages have faced the risks of crime (Tian, 2008; Gransow, 2001; Liu & Yang, 2004). In sum, although urban villages are spatially within city boundaries, they are excluded from plans of urban development and the system of urban

governance. The housing development and commercial activities in urban villages are largely informal. Neither the indigenous villagers nor the migrant tenants enjoy the equal welfare, healthcare, and pension benefits that urban residents do. Hence, despite its large scale, this track of informal urbanization is likely unsustainable in the long run.

1.4. The third road: integrating the two tracks through local innovation

While the current model of dual-track urbanization has contributed to the construction of infrastructure and economic growth, it faces certain long-term problems. A series of projects have been launched to redevelop the urban villages in recent years, as an effort to mitigate the two tracks and obtain more land for development. However, most projects have followed a forceful pattern of institutional imposition whereby entire villages are demolished and replaced with expensive housing and commercial facilities. As documented in a number of studies, this approach has completely dismantled the village community and pushed the migrant tenants out of the city as they are unable to afford the rents after redevelopment (Lin, 2015; Liu, Geertman, Van Oor, & Lin, 2018; Liu, Wu, Liu, & Li, 2017). Apparently, such redevelopment efforts have not resolved the unsustainability of the land-based model of urbanization and reinforced problems of spatial and social inequalities.

Innovative reforms of the land regime and urban governance model are urgently needed to solve the problems of the dual-track urbanization. Some experiments at the local level have illuminated a possible, third road to urbanization. This section discusses two cases: Nanhai District in Foshan, Guangdong Province, and a project on 50 urban villages in the peri-urban area of Beijing. In the former case, collectively owned land is allowed to enter the market (which, in fact, has already occurred), hence creating a model of urbanization and industrialization on land owned by the village. In the latter case, the municipal master plan formally includes the urban villages into the urban system and provides them with legitimacy to carry out redevelopment projects, especially the construction of rental housing. Despite their different locations, local characteristics, and reform mechanisms, the two cases illustrate in different ways the fact that institutional interventions are posited on a scale. Differently worded, as the CSI Checklist (Ho, 2017) ascertains there are more options for urban policy between “accepting praxis by non-intervention” or “commanding what must be done.” Depending on the level of credibility that existing institutions rally, one of these options might be the formalization of the informal. Here we will demonstrate that that is not tantamount to privatization through titling, but that the experiments of landownership reform can potentially lead to an alternative road to urbanization and benefit local villagers and the migrant population.

1.5. The Nanhai case: formalizing the informal

Nanhai is a district of Foshan City, Guangdong Province. Different from other rural communities whose land is expropriated by local governments and converted into urban land, Nanhai has launched a particular process of urbanization through industrialization on collectively owned land. Nanhai has non-agricultural land of 797,500 mu, with 565,500 mu owned by the village collectives, accounting for 71% of the total non-agricultural land; additionally, it also has homestead land of over 170,000 mu, taking up close to 22% of the non-agricultural land.¹³

In the early 1990s, some urban and village-external enterprises came to Nanhai in search of land to establish new factories. While Township and Village Enterprises have exited in China for a long time, the emergence of the enterprises funded by urban and village-external resources is a new phenomenon. Most of the enterprises are funded by

individual entrepreneurs, including Hong Kong based ones. Under the auspices of local authorities, the village collectives started to (informally) lease their land to enterprises in 1992, leading to an industrial boom in the area. By launching industrialization on village collective land, Nanhai averted the legal requirement of government expropriation, while the benefits generated from industrial development could be used to improve the physical and living conditions in the villages. In 2009, the total assets of the village collectives reached 23.712 billion RMB, with an income of 4.327 billion RMB.¹⁴ The income allowed the collectives to provide public goods and services to villagers. Meanwhile, individual villagers were entitled to bonuses from land lease, with some using these funds to invest in local industries and commerce. Among over 70,000 industrial and commercial enterprises, 85% of them were invested in by the locals.

With the development of industries, land became an increasingly scarce resource in Nanhai; meanwhile, the existing old villages and factories occupied the land in a relatively inefficient manner. With the endorsement of the then Ministry of Land and Resources and the Guangdong Provincial Government, Nanhai District proceeded to redevelop the old urban area, factories, and villages in 2010, known as the “Redevelopment of the Three-Olds” (*sanjiu gaizao*). After redevelopment, most land maintained collective ownership, while legally speaking, the land used for real estate and commercial activities actually has to be converted into publicly owned land. To solve this issue, the local government would issue use rights certificates and allow collective land to be legally redeveloped on the condition that it had been used for non-agricultural activities before January 1, 1999. By legalizing the informal status of this kind of land, the redevelopment of collective land is facilitated. From 2007 to the present, Nanhai launched and completed 774 redevelopment projects on 52,700 mu, with a total investment of 144 billion RMB.

By allowing collective land to enter the market, Nanhai created a new model of urbanization and industrialization. The essence of the model consists of the recognition of hitherto informally used collective land for non-agricultural activities and redevelopment. By doing so, the Nanhai authorities empowered the village collectives and enabled an improved integration between a state-led and informal track of urbanization. Moreover, the Nanhai experiment also significantly increased the revenue of village collectives and the income of individual villagers, thus contributing to local economic growth.

1.6. A case of 50 urban villages in peri-urban Beijing

To solve the problems in the peri-urban areas and assist villagers in the urban villages to better accommodate to urban life, Beijing Municipality started an experiment in 2010 in a total of 50 urban villages in the peri-urban fringe (Fig. 5). The area of the 50 urban villages covers 85.3 km², encompassing 200,000 villagers and a total population of over 1.2 million. The number of migrants living in these villages accounts for over 85% of migrants in the whole city.

To break away from the established pattern of government expropriation and positively alter the rural-urban dichotomy, the municipality implemented a series of new approaches. First and foremost, the municipality included all 50 villages into the Municipal Master Plan while drawing specific redevelopment plans for each village. Among the 45 km² of land included in the plan,¹⁵ 7.8 km² is set aside for the construction of relocation housing for villagers, 3.3 km² for the development of collectively owned enterprises, 13 km² for green space, 4 km² for the construction of public facilities (such as hospitals and schools), and the remaining 16.9 km² for commercial land lease with the revenues reserved for the redevelopment of the villages.

¹⁴ Ibid.

¹⁵ The entire area of the area is 85.3 km², while the development plan includes a land area of 45 km².

¹³ Data collected from fieldwork in Nanhai, 2010–2015.

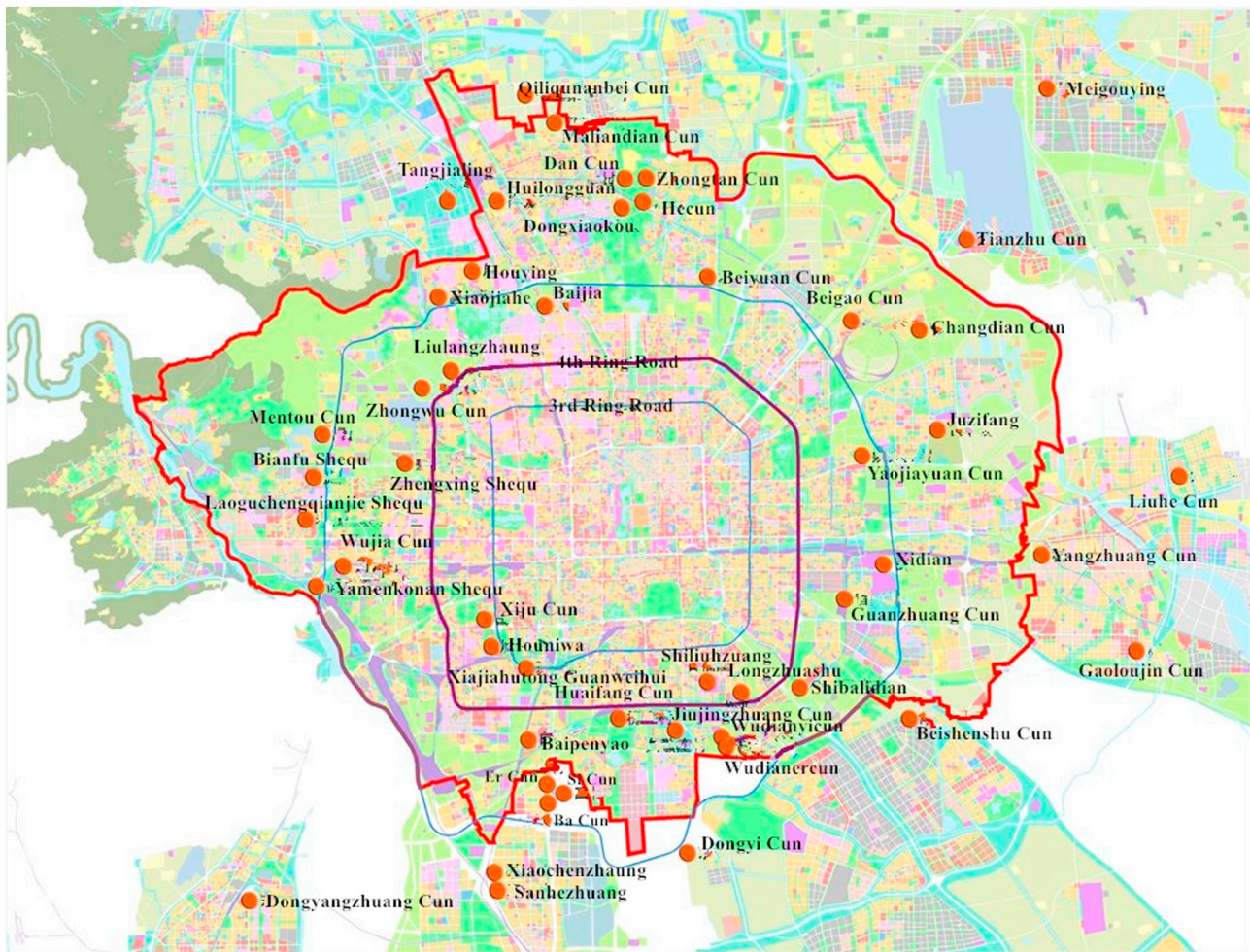


Fig. 5. Location of the 50 urban villages under reform in Beijing.
Source: Beijing Municipal Office of Urban-Rural Junction.

While the Municipal Master Plan formally includes the urban villages into the city's system providing legitimacy to the redevelopment, the key to the innovation lies in land regulation. Each villager is given 50 square meters of non-agricultural land as to allow for the development of economic activities outside of agriculture provided that the collective land ownership is not changed. Most importantly, the Ministry of Land and Resources allows the redeveloped villages to build rental housing on collective non-agricultural land, which in fact, boils down to a formalization of the informal housing market in urban villages. In this way, the existing credibility of the informal housing sector is recognized thereby providing a more secure institutional environment for villagers to continue housing development. Based on the experiences of these 50 urban villages, the national government announced a new policy in August 2017 to experimentally allow the construction of rental housing on village collectively owned land in 13 cities.¹⁶ While it may still be too early to assess the results of the policy, the pilot program may have great potential in facilitating more efficient and sustainable land use.

By the end of 2015, construction was completed in the majority of the villages. Of the 50 villages, 40 had completed relocation, among

which 35 had been integrated into the municipal administration under the jurisdiction of the street office or sub-district (known in Chinese as the *jiedao banshichu*), a level of urban government comparable to the (rural) township. While the urban resident committees are under the control of street office, village committees are under the control of township. A total of 21,390,000 square meters of housing, including relocation housing and commercial housing, had been constructed, able to accommodate approximately 680,000 persons. Compared to the population of 1.2 million prior to redevelopment, the population density was substantially reduced.¹⁷

In terms of governance, the village committees of the urban villages had been transformed into urban resident committees (or *chengshi jumin weiyuanhui*). The household status of the villagers was changed from rural to urban to enable them to enjoy equal social welfare benefits as urban citizens. Lastly, reportedly 69,000 villagers had also become shareholders of the newly established collective economy. The total assets of the collective economy is 8.06 billion RMB, and the average assets is 117,000 RMB per person; the net assets is 3.91 billion RMB, and the average net assets is 57,000 RMB per person.¹⁸ Although it is often claimed that the experiment has brought economic and social benefits to villagers, additional research needs to be conducted in this

¹⁶ The policy is named Pilot Plan for Rental Housing Construction on Village Collectively Owned Land (*liyong jiti jianshe yongdi jianshe zulin zhufang shidian fangan*). The 13 cities include Beijing, Shanghai, Shenyang, Nanjing, Hangzhou, Hefei, Xiamen, Zhengzhou, Wuhan, Guangzhou, Foshan, Zhaoqing, and Chengdu.

¹⁷ Data collected from fieldwork in Beijing, 2010–2015.

¹⁸ Ibid. Total collective assets are the sum of the income made from the leasing of collective owned land. Net assets are the total collective assets minus the cost of land development and the dividends given to shareholders.

area to validate this.

1.7. Conclusion and discussion: rethinking the credibility of dual-track urbanization

In this paper, we ascertained that China's urbanization is driven by two tracks. The first track is state-led focusing on the spatial expansion of cities and the construction of urban infrastructure through the expropriation and capitalization of land. The second track is an informal urbanization initiated by local villagers who lost their land due to urban expansion. After their agricultural land is expropriated by the state, villagers build housing on the remaining collective land, which is subsequently rented out to migrant workers. The model of dual-track urbanization features a considerable degree of credibility in that it has contributed to China's significant economic growth, the construction of urban infrastructure, and provision of public goods. It has engendered a rapid urbanization while prohibiting the expansion of slums as what can be witnessed in other developed countries. However, the model of dual-track urbanization also faces major problems of sustainability and inclusiveness. The heavy reliance on land financing increases the debt of local government and causes serious risks to the urban economy. Meanwhile, rapid urbanization takes place by undermining the interest of the rural population and migrant workers, thus increasing spatial and social inequality and segregation.

Rooted in China's particular land regime of state-owned land in the cities versus collectively owned land in the countryside, the dual-track urbanization illuminates the importance of distinguishing form from function to better understand the operation and impacts of new institutional arrangements. As a spatial result of the dual-track urbanization, urban villages have emerged as a form of informal settlements. They fulfil a crucial function in housing and accommodating the migrant labor who has significantly contributed to China's urbanization but are left behind by the formal system. Despite their informal nature according to the formal planning regulation, urban villages are by and large credible due to the important economic and social functions that they serve. Apparently, China's current model of urbanization rallies sufficient credibility as it has generated rapid economic growth and met the demand of various actors – from local officials to villagers to migrant tenants. However, the credibility might be limited to a certain period of time, and appears to be evidence of an increased divergence between the two tracks which is now presenting challenges to the credibility of the model (Pils, 2018; Zeuthen, 2018).

The pilot projects in Nanhai and Beijing highlight the importance of recognizing the credibility of the informal track of urbanization and of integrating the two tracks into one. In different ways, the two cases underscore the point that urban planning needs to be seen in relation to

different levels of credibility (as depicted in the CSI Checklist; Ho, 2017). Put differently, they ascertain that there are more options for informal settlements apart from an outright prohibition or eradication. Both for the Nanhai case as well as for the Beijing case, an approach of formalizing what is already being done has been undertaken. In the former case, this occurred by the formalization and legalization of the use of collective land by industries outside the village collective. In the latter case, this was effectuated by including 50 urban villages into the municipal planning, while allowing the redeveloped villages to build rental housing on collective non-agricultural land. It remains up to future research to establish the credibility of these new policy interventions, the methodology of which has been developed through various other studies on the credibility thesis (Celhay and Gil, this volume; Fan, Yang, Liu, & Wang, 2019; Nor-Hisham & Ho, 2016).

China's urbanization has entered a new stage. On the one hand, as the Chinese economy is now evidently slowing down, the over-reliance on land financing increases the levels of local government debt and presents huge risks to the economy (Lin, 2009). On the other hand, more migrant workers have chosen to stay in cities instead of going back to their hometown. Under such circumstances, urban policies must be able to address the new challenges and promote a more sustainable pattern of urbanization. The study offers the following major policy implications for urban planning and urban governance.

First, the government needs to reform and integrate the divided urban-rural landownership, which is the foundation of the dual-track urbanization. It is important to follow the Law of Land Administration passed in 2019, acknowledging the legitimacy of legal non-agricultural economic activities on village collectively owned land. The government should also allow villagers' homestead to be traded on the market. Meanwhile, the government needs to explore new measures to channel or shift the current patterns of land-driven development. It is critical for the central government to restructure the perverse incentives of the current land management system and implement stricter controls over the planning and development of new urban districts and towns. Second, it is crucial to reform the *hukou* system by giving the migrant population more equal rights vis-à-vis the urban residents and including them in urban life. In this context, important issues are migrant workers' rights to housing and their children's rights to education. Third, local governments should facilitate the redevelopment of urban villages and include the villages in cities' master plans. Municipalities and the village collectivities can collaborate to provide the infrastructure in urban villages. It is also imperative to make specific policies about the distribution of land appreciation income. Through such procedures, it is hoped that the two tracks of urbanization could be more meaningfully integrated, establish more equal "rights to the city", and make Chinese cities more livable and inclusive.

Appendix A

Data for Fig. 1 Increase of urban built-up areas of different types of cities in China (km², %)

Year	Municipalities directly under the Central Government		Provincial capitals		Prefecture-level cities		County-level cities	
	Size	Growth rate	Size	Growth rate	Size	Growth rate	Size	Growth rate
2001	2022	19.93%	4186	9.61%	11,678	5.31%	10,427	−20.62%
2002	2448	21.07%	4702	12.33%	12,799	9.60%	10,496	0.66%
2003	2662	8.74%	5093	8.32%	14,175	10.75%	11,115	5.90%
2004	2894	8.72%	5494	7.87%	15,528	9.54%	11,774	5.93%
2005	3024	4.49%	5978	8.81%	15,975	2.88%	12,383	5.17%
2006	3257	7.71%	6664	11.48%	16,294	2.00%	13,329.07	7.64%
2007	3414	4.82%	6962	4.47%	17,220.79	5.69%	14,259.63	6.98%
2008	3546	3.87%	7508	7.84%	18,359	6.61%	14,776	3.62%
2009	3606	1.69%	7792.1	3.78%	18,748.82	2.12%	15,557.51	5.29%
2010	3609	0.08%	8239	5.74%	19,928	6.29%	16,585.47	6.61%
2011	3863	7.04%	8740	6.08%	21,222	6.49%	17,376.69	4.77%
2012	3921	1.50%	9166	4.87%	22,547	6.24%	18,739.92	7.85%
2013	4156	5.99%	9695	5.77%	23,831	5.69%	19,503.28	4.07%

2014	4354	4.76%	10,108	4.26%	26,004	9.12%	20,111.25	3.12%
2015	4599	5.63%	10,513	4.01%	27,081	4.14%	20,043.07	−0.34%
2016	4776.98	3.87%	11,466.74	9.07%	30,087.92	11.10%	19,466.6	−2.88%
2017	4954.95	3.73%	12,002.99	4.68%	31,416.45	4.42%	19,854	1.99%

Source: China Urban Construction Statistical Yearbook, China County Construction Statistical Yearbook.

Data for Fig. 3 Share of land conveyance fee in local government revenue.

	Local government revenue (100 million Yuan)	Land conveyance fee (100 million Yuan)	Share of land conveyance fee in local government revenue
2001	7803.3	1295.89	16.61%
2002	8515	2416.79	28.38%
2003	9849.98	5421.31	55.04%
2004	11,893.37	6412.18	53.91%
2005	15,100.76	5883.82	38.96%
2006	18,303.58	8077.64	44.13%
2007	23,572.62	12,216.72	51.83%
2008	28,649.79	10,259.80	35.81%
2009	32,602.59	15,910.20	48.80%
2010	40,613.04	30,108.93	74.14%
2011	52,547.11	31,500.00	59.95%
2012	61,078.29	26,900.00	44.04%
2013	69,011.16	42,000.00	60.86%
2014	75,876.58	42,940.30	56.59%
2015	83,002.04	33,657.73	40.55%
2016	87,239.35	37,456.63	42.94%
2017	91,448	52,059	56.93%
2018	97,904.5	65,096	66.49%

Source: China Land and Resources Bulletin.

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