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Uneven land reform and urban sprawl in China: the case of Beijing

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Urban sprawl has been at the center of current debate on urban structure. Compared to the rich literature on urban sprawl in Western cities, relatively little is known about whether Chinese urban expansion is excessive or inefficient. This paper provides an integrated analysis of two seemingly contradictory phenomena in China's urban development in recent two decades, namely development zones and semi-urbanized villages, and presents Beijing as a case study. Both types of urban expansion cannot be easily explained by traditional theories of either normal suburbanization or excessive urban expansion in the West. First, Chinese local governments have set up a large number of 'development zones' that are often so large and discontinuous from cities, especially when considering the mass transportation mode in China, that they can best be characterized as leapfrog development at macro-level. Despite their fancy titles, the boasted impact of these development zones on the local economy is doubtful and large amount of land inside these development zones remains vacant.¹

The second type of urban expansion is the expansion of urban population, especially migrant workers and temporary urban residents such as students, and accompanying 'illegal' construction into rural villages on the urban fringe that gradually become ghetto-like, sprawling migrant enclaves. While these places still physically look like rural villages and lack urban infrastructure and services, most of their residents work in cities and have an urban lifestyle. Population growth in these villages is not accommodated by new development but rather by crowding of

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¹ This paper focuses more on development zones set up by local governments than on those by the central government. The latter are obviously related to national interest that is beyond a city or region. Nevertheless, different types of development zones may more or less share the same problems given their similar spatial patterns.

peasant houses and illegal construction. We call them semi-urbanized villages in the sense that urban development lags behind population expansion. Many undesirable consequences of semi-urbanization, such as crime, illegal construction and public health problems, have become big headaches for municipal governments.

The under-development of semi-urbanized villages and the over-development of development zones pose a paradox. Why are not those crowded 'semi-urbanized' villages being developed into urban areas given their relative proximity to urban centers? Alternatively, why are there few constraints on local governments that can prevent the development 'fever'? Market or market failure is often blamed for excessive urban expansion in the US.² Since no land speculators or real estate developers are allowed or at least legally visible in the conversion of rural land to urban land in China, any explanation of this paradox must go beyond market. It is the goal of this paper to examine the emergence of these two types of development in Chinese cities from the perspective of the on-going land reform in China, with the support of empirical evidence from Beijing. Both phenomena demonstrate inefficient spatial patterns of urban expansion that can be called urban sprawl.³ Among many factors contributing to these two phenomena, uneven land reform that arbitrarily segregates urban land and rural land is the key to understanding this paradox.

Although the exact meaning of urban sprawl in the Chinese context remains largely unexplored, the term of 'sprawl' has been sometimes invoked to describe Chinese cities (see, for example, [Fung, 1981](#); [Wu and Yeh, 1999](#); [Lin, 2001](#)). In the literature of urban planning or urban economics, there is a big debate on even the definition of urban sprawl itself, let alone its causes and impacts ([Gordon and Richardson, 1997](#); [Ewing, 1997](#); [Fischel, 1999](#); [Brueckner, 2001](#)). Generally, the definition of urban sprawl (for both sides of the debate) appears to be that, first, it has to be an inefficient or excessive urban expansion, which certainly involves some benchmark of 'normal' or efficient urban structure; second, if determined inefficient or excessive, the spatial pattern may be in leapfrog development, low density, or some other forms. Most scholarly discussions do not simply equate sprawl to suburbanization. The debate is really about the existence of that excessive part, its magnitude, and whether or not it is possible to mitigate the problem with some planning methods.

In this paper, we use the term 'urban sprawl' to describe inefficient patterns of urban expansion in China, as measured by the benchmark of monocentric urban structure. Since China is now more or less a market economy, spatial structure or urban expansion needs to be measured by the criterion of market efficiency in addition to other factors. For most Chinese cities, especially medium-sized and small ones, a monocentric structure is still the most efficient due to current under-sizes of Chinese cities ([Au and Henderson, 2002](#);

² Even exclusionary zoning, as a probable cause of urban sprawl ([Fischel, 1999](#)), can be regarded as a result of the market of local public finance ([Tiebout, 1956](#); [Hamilton, 1976](#); [Fischel, 2001](#)).

³ Throughout this paper, we use the term 'urban sprawl' to describe inefficient urban structure or spatial pattern in Chinese cities. It does not refer to suburbanization, polycentric structure or dispersed metropolis per se. See our later discussion on the definition of urban sprawl in Chinese context.

Pan and Zhang, 2002) and their ground transportation technology.⁴ The under-size of Chinese cities means agglomeration economy has not reached the peak compared to various congestion costs. Largely homogeneous population also rules out the ‘flight from blight’ theory. In addition, bus and bicycle are still the major modes of passenger transportation, although cars are increasingly adopted by the richest strata in big cities. All these factors point to the efficiency of a monocentric city (Mieszkowski and Mills, 1993). If it is premature to describe American cities as in dispersed spatial form (Anas *et al.*, 1998), most Chinese cities may be even quite far from polycentric cities.

This paper is organized as follows. Chapter 2 discusses relevant studies on development zone, semi-urbanized village and land reform. Chapter 4 introduces the analytical framework on these two types of urban sprawl and analyzes why uneven land reform is an important factor that contributes to these particular forms of urban sprawl. Chapter 5 discusses empirical evidence from Beijing. Chapter 6 includes some further discussion and conclusion.

⁴ A monocentric structure in market economy is very different from the pancake-style structure of socialist cities, such as Beijing before the reform. The former is characterized by declining density from the CBD (Mills and Hamilton, 1988), while the latter features flat or even rising density (Bertaud and Renaud, 1994).

Existing studies on relevant issues: a critique

For the purpose of this paper, two general approaches can be identified among existing studies on development zones. The first approach takes the official titles of many development zones more or less at face value and is concerned about their effectiveness as local economic development tool. For example, Lu (1993) studied the planning and design issues of development zones. Ge (1995) included China's development zones in his general analysis of enterprise zones. The other approach is more interested in real estate speculation and farmland loss that are often blamed on development zones. Huang and Yang (1996) studied the boom of development zones and real estate speculation from the political perspective. Cartier (2001) argued that inconsistencies in China's land use regime lead to 'zone fever,' arable land loss and real estate speculation. Linking development zones to real estate speculation and farmland loss also corresponds to many Chinese urban planners' view (Zhou, 1992; Liang and Zhou, 1993) and the public outcry over development zones on Chinese media in mid-1990s. Deng (2003b) pointed out that the missing link in this line of thinking is Chinese local governments who are the real speculators behind development zones. Given their different emphases, it is not surprising that the first approach focuses more on development zones set up by the central government while the second approach is mostly interested in local ones. In some sense, they represent two important forces behind the development zone phenomenon—local government's desire for economic development and their thirst for fiscal revenue from public land leasing. The zone concept from SEZs is obviously a conceptual template for the first force. The second force is related to China's decentralized fiscal system and the changing structure of local public finance (Deng, 2003c).

A separate body of literature on semi-urbanized villages has also developed along two different veins. In the first vein, researchers are more interested in social aspects of these villages such as ethnicity and culture. Xiang (1993) was an early study on Zhejiangcun ('village of people from Zhejiang Province') in Beijing. Ma and Xiang (1998) and Wang (2000) are among a large volume of following studies on this type of villages around big cities. These researchers often use terms like 'peasant enclaves,' 'ethnic enclaves,' and 'migrant villages' to describe the demographic composition and social networks of those villages. One of their central arguments is that place of origin, kinship or local culture shapes migrants' location decision and business network. The second approach is more closely associated with scholars in geography and planning who emphasize spatial perspective. Liu and Wei (1997) studied the micro-level spatial pattern of land use and various design issues in Zhejiangchun. Leaf (2002) looked at those villages from a broader perspective of rural urbanization. In a study on metropolitan development and spatial restructuring in the Pearl River Delta, Lin (2001) also argued that urban expansion is largely driven by rural industrialization. This argument is linked to one school in geography that emphasizes the uniqueness of rural industrialization and rural–urban transition in Asian countries (McGee, 1989; Ginsburg, 1990). *Desakota*, a term coined by them, is basically a form of urbanization of the countryside, where rural people do not need to move to cities. Although this model is helpful in understanding many

unique features of urbanization in China, it is derived from a broader spatial scope than urban fringe. In the case of semi-urbanized villages, the issue is no longer about whether or not rural people move to cities; instead, it is about why they cannot move into cities or live in urban environment after long-distance migration. It is apparent that existing studies on development zones and semi-urbanized villages are quite separate. A macro spatial perspective that links the two phenomena in the context of urban structure is missing in the literature. Since any inquiry on urban structure, especially urban fringe, inevitably has to deal with how rural land is developed into urban land, China's land reform becomes an important factor to our analysis.

There has accumulated a large volume of studies on China's land reform and land use change, with topics ranging from land price to environmental protection. Among them, two branches of literature are important for our purpose. The first group focuses on institutional and political forces behind China's land reform. For example, a systematic study by [Ho and Lin \(2003\)](#) investigates the evolution of land use system in China, from socialist era to current market economy. [Deng \(2003a,c\)](#) explored the role of public land leasing in mitigating the uncertainty from a non-democratic state and its beneficial impact on local public finance. Studies on rural land reform are usually separate from that on urban land reform and places more emphasis on its impact on agriculture or the countryside. [Liu et al. \(1998\)](#) tried to justify current property rights structure in the countryside. Institutional ambiguity of land ownership may also help preserve maneuver space for government in the future ([Ho, 2001](#)). The separate treatment of urban land and rural land in these studies suggests their interface—urban fringe—is not paid enough attention.

The second group of researches emphasizes urban land use change and the restructuring of socialist cities. Given their interest in urban structure, these studies sometimes invoke the term of urban sprawl. [Fung's \(1981\)](#) paper was probably the first that used the term to describe pre-reform urban development in the socialist era. He attributed 'urban sprawl' to government's 'squandering' behavior and emulating soviet regulations in land development. [Wu and Yeh \(1999\)](#) and [Yeh and Wu \(1996\)](#) occasionally described some specific development patterns on urban fringe as 'urban sprawl'. It appears that urban sprawl was used to refer to discontinuous and often leapfrog development at micro level that is often illegal transaction between the farmer and developer.⁵ An interesting observation was made by [Liu and Wei \(1997\)](#) who identified leapfrog and infill development with socialist planning and market force, respectively. In general, it appears that most studies on Chinese cities use the term urban sprawl quite casually; it is often employed to describe discontinuous or leapfrog development pattern at micro level.⁶ One possible problem with this definition is that discontinuous or even leapfrog development at micro level may be necessary for higher density or more efficient urban structure in the future

⁵ Although they did not provide a definition of urban sprawl, they clearly ruled out development zones as a type of sprawl ([Yeh and Wu, 1996: 345](#)). This appears to be in contrast to [Fung's \(1981\)](#) use of the term.

⁶ Definition of urban sprawl was often not explicitly provided in many studies. The way the term is used often suggests equating sprawl with suburbanization. [Gordon and Richardson \(1997\)](#) provided arguments why this definition may be misleading.

(Mills and Hamilton, 1988). In that case, land speculation might actually have some beneficial impact. Hence, even at the micro level, it is important to identify what causes a particular spatial pattern.

Existing studies on land reform, development zones, and semi-urbanized villages are not well connected. A macro spatial perspective on urban structure can help to build an integrated analysis of these seemingly separate phenomena.

The paradox of land development in Chinese cities

From spatial perspective, development zones and semi-urbanized villages pose a paradox. The latter is under-developed in spite of its proximity to cities and existing urban infrastructure, while the former is over-developed at concentrated locations discontinuous from the city. This paradox points to inefficient resource allocation on the fringe of Chinese cities.

Development zones are 'planned' by local governments. In the early 1990s, there was an explosive boom of development zones in Chinese cities. From big cities to small towns and from inland areas to coastal harbors, local governments set up numerous development zones with all kinds of fancy titles, such as Economic and Technological Development Zone (ETDZ), High Technology Development Zone, and so on. According to the State Land Administration (SLA), there were 2700 development zones at the end of 1992 compared to only 117 at the end of 1991 (Liang and Zhou, 1993). Their sizes vary from a medium-sized city to several parcels of land. They also have different levels of judicial approval, from central government, province, city, to town and county. Many are even without approval from higher-level government. Local governments have invested heavily in these zones to provide public services and urban infrastructure such as land grading, electricity, gas, water and roads. In mid-1990s the central government began to clean up the mess and about 1200 development zones were cancelled and 2 million *mu* of vacant land were returned to agricultural use (Tang, 2000). In general, national development zones are better planned and managed while provincial ones and unapproved ones have more problems. Table 1 shows that in 1996 vacant land in provincial-level zones accounts for 42.8% of total vacant land in all development zones. Those zones without approval had 44.2% of vacant land. A large portion of vacant land is farmland, especially in the Eastern Region.

Although the first wave of development zones subsided in mid-1990s, they continue to pop up whenever there is some government initiative for economic development. In recent years many new development zones were officially approved by the central government in the face of new national strategy to develop Western China (Peng, 2002). The number of development zones below the provincial level also exploded again. According to the Ministry of Land Resources, there are now 3837 development zones among which only 6% are approved by the State Council and 26.6% approved by the provincial governments.

Table 1
Land Use Statistics of Development Zones in 1996

Level	Planned area (km ²)		Actual occupied land (km ²)		Developed land (km ²)		Vacant Land (km ²)	
	Total	Farmland	Total	Farmland	Total	Farmland	Total	Farmland
National	1999	721	503	296	438	253	53	33
Provincial	7540	2613	1109	620	907	521	174	100
Unapproved	2818	1206	710	367	507	277	180	82

Data source: Li, Hong, "Analysis of Development Zones' Location and Land Use", *China Land Science*, no. 3, 1998. Quote from Tong (2000).

Most of them, 2586 in total, are below the provincial level. Many newly set-up development zones are also much bigger than before, often reaching 10 or 20 km². An informal statistic puts the total area of development zones to 36 000 km², more than the total urban built area (Ren, 2003). It is then not surprising that the central government issued two new decrees in the summer of 2003 to stop approving any new development zones and clean up the existing ones.

Except some high-tech zones and small zones, most development zones are discontinuous from the built area (Tang, 2000) and located on urban fringe, where land has to be expropriated from peasants and local government needs to invest in basic infrastructure. Including industrial, commercial, and residential land uses and occupying large amount of farmland (sometimes over 80%), they are often like a huge expansion of the old city in one direction and around a new center. The best characterization of this type of urban structure is twin-cities or dual-centers, one old and one new. Some development zones are located in far distance from the city, often close to harbors or transportation nodes. Examples include Yangpu in Hainan and Qingdao's Huangdao. In contrast to local governments' enthusiasm, a large portion of the land inside development zones is probably still vacant. A worse situation is that they remain vacant after they are graded and urban infrastructure has been built. Beihai's spectacular expansion from 1992 to 1995 is a good example of this type of development.

An important question is why there is this persistent zone pattern whenever development opportunity comes. The zone concept from SEZs is often cited as the reason for development zones, but it is not very helpful for understanding their persistence. For instance, although development zones are often intended or at least labeled for local economic development, especially in high technology, its real effect is doubtful given many studies that show limited or no effects of enterprise zones or science parks in the West (Erickson and Friedman, 1989; McDonald, 1993; Amirahmadi and Staff, 1993). Even foreign direct investment, which is often the official target of most development zones, may not be as important as often believed in economic development (Braunstein and Epstein, 2002). Although development zones may have helped the start of urban land reform and the emergence of real estate market, large-scale urban renewal in Chinese cities since mid-1990s is counter evidence of the efficacy of development zones' spatial location.

There are at least two reasons that can explain the persistence of the zone pattern. First, socialist style economic development strategy still dominates many local officials' mind.⁷ The zone pattern of urban development reminds us of those big work-unit compounds or large-scale developments in the socialist era that are also 'zones.' Many zones set up in the waves of 'zone fever' do not have good planning (Tang, 2000) and are sometimes the result of local officials' personal ideas. Many media reports like to point finger at real estate speculation. Given that real estate investment is restricted within development zones and local government completely controls the conversion of rural land to urban land, it is really the local government that is betting on development zones.

⁷ It is possible that some planning principles may also help to justify the zone pattern. But, they do not necessarily provide direct link to it. For example, outside the green belt, development can still be continuous and does not necessarily result in a new center.

Second, special interests are behind the ‘zone fever,’ which is basically part of the privatization process of land asset. Although public land leasing is still a form of partial government ownership of land, the exact owner of land remains ambiguous. Revision of the Land Administration Law and other related laws and regulations in last decade shows the tensions on this topic between different government agencies and different levels of government.⁸ Hence, *de facto* landowners enjoy huge benefits from the land privatization process and different interest groups are strongly motivated to grab a share. This may be why governments at different levels, from province to city districts or towns, or different agencies of the same government all want to set up their own development zones even in the same city. In this sense, development zones are indeed a ‘land enclosure movement.’ In summary, local development zone’s spatial pattern does not necessarily support its stated purpose of economic development; what it really does, such as real estate development, does not justify its location.

Semi-urbanized villages are sprawl of urban population. Another important phenomenon on the urban fringe is the emergence of semi-urbanized villages. Most residents in these villages are migrants or people who need temporary residence such as students.⁹ Migrants from the same province tend to live together in the same village, often forming a distinctive ethnic community (Ma and Xiang, 1998). Most of them are engaged in urban work. But, because traditional welfare-oriented socialist housing system exclude migrants from accessing urban housing (Huang and Clark, 2002), they have to rent rooms or houses from local peasants, who often enjoy relatively spacious housing even though housing quality may be inferior or rural in nature. Compared to urban residents who traditionally relied on public housing, peasants have more flexibility in building their own houses. In many cases, peasants ‘illegally’ build more houses to lease to migrant renters; sometimes, rich migrants ‘illegally’ lease land from peasants and build apartment complexes or big compounds for rent. With the influx of migrants, the population profile of these villages has undergone dramatic changes. Yet, infrastructure and physical landscape in these villages are still nothing but rural. The buildings are still low-density bungalows; there is no basic urban infrastructure such as paved roads, tap water, and sewage and drainage system. These semi-urbanized villages are neither urban nor rural. Their locations are pre-determined by existing villages on the urban fringe. They are not continuous expansion of existing urban areas. But, it appears that semi-urbanized villages are more symmetrically distributed on all sides of the city than development zones. In some cities that have experienced rapid urban expansion, many semi-urbanized villages are encircled by newly developed urban areas and become ‘urban villages.’¹⁰

⁸ For example, in the early 1990s the central government tried to grab 30% of land leasing revenue from the cities. But, this act largely failed because local governments can effectively hide their revenue. So, the new Land Administration Law allows local government to keep revenue from leasing land in existing urban area while central government can obtain some percentage of revenue from leasing newly expropriated rural land.

⁹ We use the term ‘migrants’ to refer to people who do not have legal urban resident status, i.e. urban *hukou*. Here, ‘local people’ refers to those who have urban *hukou*. For description and analysis on China’s *hukou* system, see Cheng and Selden (1994).

¹⁰ This is even stronger evidence supporting our arguments given the definitely urban location and rural infrastructure and services of ‘urban villages.’

‘Informal urbanization’ is sometimes used to describe the ‘illegal’ and spontaneous nature of developments in these villages (Liu and Wei, 1997; Leaf, 2002). But, the definition of ‘informal urbanization’ or ‘informal housing’ is very broad and may include fully serviced urban development that is illegal. Given our interest in the spatial pattern of urban development, we use the term ‘semi-urbanized villages’ or ‘semi-urbanization’ to emphasize the fact that they are not fully urbanized in terms of physical environment and urban services even though most residents are engaged in nonagricultural activities and live an urban life style. In other words, the normal link of urbanization between the migration of people from countryside to city and the development of urban infrastructure and services is broken or weakened in the case of semi-urbanized villages.

Semi-urbanization also reveals some unique features of the spatial microstructure of urbanization in China. Semi-urbanized villages are new urban workers’ un-urbanized bedroom places or even work places, their new ‘villages’ that are close to the city. At the macro level, peasants move from the countryside in their home provinces to big cities. This picture fits into traditional theories of urbanization in the developing countries. But, at micro level, in spite of their long-distance migration, they are still ‘peasants’ in terms of residential location. They live together with local peasants in the existing rural villages on the urban fringe. In this sense, the ‘invisible wall’ (Chan, 1994) between the countryside and the city still remains even though it may have become more and more porous. Chinese government has been promoting ‘leaving the land but not the village’ (*li tu bu li xiang*) to transfer surplus rural labor and to deter massive migration to cities. In the case of semi-urbanized villages, while migrants have left the land as well as their home village, they end up in another village around the big city—a twisted version of ‘leaving the land but not the village’.

There are many reasons for the emergence of ‘semi-urbanized’ villages. First, since even some urban residents with legal urban *hukou* (Household Registration) live in these villages, Chinese housing system is an important factor for this phenomenon.¹¹ The traditional housing system in China is in fact a dual system with subsidized public housing in cities and unsubsidized private housing in the countryside. In cities, housing was considered a welfare benefit that is provided by the government or work units. Only people with permanent urban *hukou* are qualified for public housing while migrants who usually have rural or temporary *hukou* are not qualified. A consequence of this type of ‘free’ good is unlimited demand and almost zero vacancy rate. Even young people with urban *hukou* may have a hard time finding shelters, let alone migrants from the countryside. With the progress of economic reform, more and more migrants show up in Chinese cities (Fan, 1999). Few urban households can contribute to private rental housing given the generally

¹¹ The *hukou* system is a household registration system in China, which was developed in 1950s for surveys of the population at that time but later became an important tool for government control (Cheng and Selden, 1994). Some scholars call it ‘an internal green card’ system because it is a key institution that defines individuals’ socio-economic status and opportunities (Chan, 1994). Every Chinese is born with a *hukou* classification and *hukou* location. In terms of *hukou* classification, it divides Chinese into a population with urban *hukou* and a population with rural *hukou* mainly based on birthplace. And according to *hukou* location, it divides the population into one with local (permanent) *hukou* and the other with non-local *hukou* based on the place of registration. In general, only people with urban and permanent *hukou* are qualified for state welfare benefits, such as subsidized housing, free medical care and pension.

low housing supply in Chinese cities (per capita living space 8.8 m² in 1997) (Editorial Committee of China Real Estate Statistical Yearbook (ECCRESY), 1999: 87) and various restrictions and heavy bureaucracy involved in the process. In contrast, as a result of private provision of housing and the need of farming activities, peasants' houses are usually more spacious but of inferior quality. With a high demand for housing and the lack of private rental housing in cities, rural villages on the urban fringe naturally become the ideal place for migrants as well as some local people who are in desperate need for housing.

Yet, peasants cannot effectively provide necessary supply in response to the rising market demand, as shown by low construction density in these villages. In general, there are two types of response from peasants to the housing demand. First, in addition to subleasing their spare rooms, peasants may crowd themselves in more limited space to maximize space for rent. So, migrants and landlords often live in not so different housing condition (Xiang, 1993). Second, many peasants build shacks next to their houses or along roads. These so-called illegal buildings are mostly for rent, but they encroach public space and deteriorate the general living condition in the villages. Apparently peasants are constrained in 'urbanizing' the villages due to lack of legal property rights and capital.¹² Even when official peasant collectives, such as natural or administrative villages, build rental houses, they are not regarded as legal construction by the city government (Liu and Wei, 1997).

More importantly, the illegal or informal nature of these market responses makes it more difficult for the residents to make collective decisions to provide various public goods that are essential for a livable urban environment. That is why semi-urbanized villages are plagued by lack of paved roads, obsolete sanitation system, and crime. Although in many cases migrants form their own organizations to find solutions to collective problems, they are usually limited to place-based identities (Ma and Xiang, 1998) and can easily deteriorate into mafia-like organizations.

Two questions arise. First, why could not these spontaneous organizations extend beyond migrants' identities of their native place? Most existing studies focus on kinship or cultural heritage. Although we accept their arguments, we believe the illegal or informal nature of developments in semi-urbanized villages further strengthens the importance of kinship, culture, language (dialect) and identities with native place. Absence of formal property rights or lack of protection of private property rights will, first of all, restrict the range of trade (Woodruff, 2000). People are then more likely to trade with their relatives, friends, or people of similar background. However, in this way more beneficial (both socially and privately) trading opportunities among strangers are forgone. From this perspective, it is then not surprising that many semi-urbanized villages in Chinese cities gradually evolve into native place-based ethnic enclaves. The second question is: why do not these villages become developed into residences for middle-upper class urban residents, as in the suburbanization of many Western countries? This type of suburban developments does occur in some rural areas (Zhou, 1997), but they are very limited, mostly owner-occupied, and not located inside rural villages. Most of the owners are

¹² In his recent book, Hernando de Soto (2000) makes an argument linking capital formation and formalization of property rights.

newly rich people, especially famous artists and other social celebrities who desire rural environment but not rural villages. They are also illegal constructions, but the high social status and power of their owners can significantly lower the risk. For large-scale developments of relatively high-quality housing that target ordinary urban residents, the risk from government intervention on illegal construction is very high. This may be an important reason why semi-urbanization is mostly associated with low-income migrant workers and inferior housing quality.¹³

Development zones and semi-urbanized villages pose a paradox. On one hand, the growth of semi-urbanized villages demonstrates the demand for urban development close to the city and in a more or less symmetric monocentric pattern, but supply response is limited to low-density, inferior-quality housing in a rural environment that lacks urban infrastructure and services. On the other hand, large amounts of public money are spent converting rural land in distant areas into development zones, and the result is that a large portion of land in the development zones remains vacant or is developed into residential or commercial use that is different from the stated purposes. This paradox is dynamic in the sense that a particular development zone may include redevelopment of some villages and a particular village could be demolished and developed. The essence of the issue remains unchanged: one or several development zone(s) cannot include all semi-urbanized villages because of the spontaneous nature of the latter; temporary residents in a village still need to find another village to live because the 'official' demolition or redevelopment is not to solve their housing needs; and peasants still have to protest due to low compensation and involuntary nature of expropriation. Are these two spatial phenomena efficient urban expansion? If they are inefficient, one will inevitably ask why those villages could not be developed and why local governments can engage in large-scale speculative developments.

¹³ Simultaneous with semi-urbanization in rural villages, suburbanization in the form of ordinary urban housing development is also expanding in Chinese cities, albeit in the officially approved sites such as development zones.

Urban sprawl and uneven land reform

The concept of urban sprawl has been widely used in the planning literature to indicate inefficient urban expansion. We employ this concept to evaluate development zones and semi-urbanized villages and explore some fundamental reasons behind Chinese-style urban sprawl.

How to evaluate the two phenomena? Development zones and semi-urbanized villages are both inefficient patterns of urban expansion in Chinese cities. In this sense, we regard them as two forms of urban sprawl that arise from China's particular institutional environment on the urban fringe.

Development zone is a type of leapfrog development at macro level. Their planned density is not low, but their locations are often discontinuous from existing cities and concentrated in one direction. Many people who work in these development zones still live in the old cities, or vice versa, and their commuting is not short based on available transportation modes (mostly buses and bicycles). One spatial consequence of large-scale development zones is that many cities now look like 'twin cities' with an old city and a new development zone miles away (Deng *et al.*, 1994). The two centers are not so close as to form a CBD corridor and they are neither so far away to be considered two separate cities. Economically, socially, and politically, these development zones are still part of the old city. The best characterization for this type of urban structure may be dual-centric city.

Most Chinese cities, especially medium and small ones, are still at the stage of monocentric structure given the lower-than-optimal sizes and ground transportation technology. Against this benchmark, the dual-centric structure is not efficient because it creates unnecessary commuting and increases costs of urban infrastructure and services. Compared to the monocentric structure, it may negatively affect more rural land and may even hinder the redevelopment of old downtowns where urban infrastructure had been poorly supplied in the era of planned economy. The biggest problem with this dual-centric structure is that it is imposed by local officials, who make location decisions based on some obsolete socialist planning principles or even personal preferences, with ambiguous effect on local economy. Vacant land inside many development zones is clear evidence of inefficiency. This is why we regard them as urban sprawl, in the same spirit of Fung (1981).

Meanwhile, semi-urbanized villages represent another type of urban sprawl in Chinese cities. Their distinctive feature is low (construction) density and lack of urban infrastructure. Even though a few of them may not show significant 'physical' sprawl, the change of population profile in these villages indicates expansion of urban population.¹⁴ Because they are limited to existing rural villages that are discretely located, they also show a pattern of leapfrog, if not with so big jumps as in development zones. Given the large volume of migrant population and the strong demand for housing, low density and leapfrog locations of semi-urbanized villages are not a reflection of people's preferences,

¹⁴ Although we emphasize population sprawl in the case of semi-urbanized villages, they also involve illegal construction by peasants or peasant collectives. This is consistent with the often 'physical' definition of urban sprawl.

which is the dominant factor for suburbanization in the West. It is rather an inefficient result of the constraints imposed by political institutions. In this sense, it is also a form of urban sprawl, albeit sprawl of urban population into low-density rural villages.

Uneven land reform and chaotic development in Chinese cities. Conceptually, China's current stage of economic development and ground transportation technology do not warrant Western style 'urban sprawl'. Even if we do not regard Chinese cities' current growth as 'natural' expansion of a monocentric city (Mieszkowski and Mills, 1993), at most we can only talk about suburbanization or polycentric city. But, the inefficient spatial patterns of urban expansion, as demonstrated by the paradox of development zones and semi-urbanized villages, do point to the true meaning of 'urban sprawl'—inefficiency in spatial resource allocation on urban fringe. If American style of urban expansion could be partly justified by transportation autonomy and consumer sovereignty (Gordon and Richardson, 1997), this does not apply to ordinary Chinese people who ride bicycles or take bus to work. The key behind these unique patterns of urban sprawl is China's uneven land reform between the city and the countryside.

China's rural land reform started in 1978 when the 'Household Responsibility System' was introduced. Under this system, farmland owned by the former communes was allocated to each peasant family. This was the first important step in China's economic reform, but it is also the only significant one on rural land in the past two decades. China's current constitution stipulates that rural land belongs to peasant collectives such as villages and towns. Each peasant has the use right of farmland and the land for his house, but cannot alienate the use right. Only administrative allocation once every 10 or 15 years can adjust land use among peasants. *Land Administration Law* clearly stipulates that 'for peasant collective-owned land, land use right cannot be sold, transferred or leased for non-agricultural construction' (Pu and Li, 1998: 176). Although there have been voices for further reform in rural land, several obstacles remain. The biggest obstacle is political stability and equity concerns. A traditional belief is that private property rights in the countryside will inevitably lead to land concentration, and inequality and poverty will follow. Liu *et al.* (1998) demonstrated the state's fear of granting peasants more rights to the land. The official explanation (Pu and Li, 1998) for why rural land cannot be transacted for non-agricultural use includes two reasons. First, 'zone fever has resulted in large amount of vacant urban land' (1998: 176) and, therefore, allowing transaction of peasant-collective owned land would cause more vacant land. This argument obviously pays attention only to the quantity of land and ignores its location. Nevertheless, it officially supports our argument about the development zones. Protecting farmland is the second official reason, which is doubtful given that development zones have wasted so much farmland.

Urban land reform started late but at a faster pace toward private property rights. On September 9, 1987, the Shenzhen City government leased the first parcel of land although land transaction was still illegal according to the Constitution. In 1988 the Constitution was amended and 'land use right can be transacted according to the law.' The formal framework of public land leasing was established in 1990 in the form of two decrees from the State Council. All urban land still belongs to the government, but private individuals or

developers can lease the land from government for several decades and can further alienate the use right, such as sale, sublease or mortgage.

The conversion of rural land to urban land is completely controlled by local government through eminent domain. Village leaders play an important role in the whole process. But, because rural land is ‘officially’ owned by three levels of peasant collectives (Pu and Li, 1998), it is not clear which level of collectives really owns the land: natural village, administrative village, or town? Since these leaders are appointed and paid by local government, they are really not independent and behave more in the interest of local government than in the interest of peasants (Ho, 2001). Individual peasants have only a passive role in many important decisions that will affect their lives forever. Furthermore, the compensation to peasants is very low. For example, *Land Administration Law* stipulates that, in addition to compensation for attachments, crops and vegetables, compensation for farmland should be 3–6 times (later raised to 6–10 times) of previous three years’ average of annual agricultural production value (Pu and Li, 1998). Given the fact that agricultural price has historically been very low in China, this compensation standard is very low, let alone comparing to soaring urban land price. This compensation principle also does not make any sense in a market economy.¹⁵ Although there may be bargaining over compensation by village leaders, no one knows how much benefits go to their own pockets instead of peasants. Numerous scandals and peasant upheavals reported on news media are clear evidence of inequity in land conversion processes.

It is evident that the reform progresses on urban and rural land are uneven given their fundamentally different property rights structures. This arbitrary segregation of urban land and rural land can even be traced back to 1950s when a reform in the opposite direction was taking place: private property rights of urban land were abolished much faster than those of rural land. One important reason for this segregation is Chinese leadership’s persistent concern about the lives of peasants who consist of 80% of population. Although the segregation of urban land and rural land may help reforms in the city and the countryside, respectively, it maintains an envelope inherited from the era of planned economy. Because the dynamics of urban expansion lies exactly at the interface between the city and the countryside, uneven land reform inevitably leads to distortions of Chinese cities’ urban structure.

Uneven land reform is the key to understand Chinese-style urban sprawl; it is also the necessary condition to the paradox posed by development zones and semi-urbanized villages. With omnipresent political power and extremely cheap compensation to peasants, local governments can do almost whatever they want in converting rural land to urban land.¹⁶ The mighty power of eminent domain is no longer constrained by economic cost—market price of land. Furthermore, the big gap between urban land price, which is determined by the market, and rural land compensation, which is artificially low, generates

¹⁵ Ren (2003) reports that, in Sichuan, the land compensation for a highway project should be calculated based on annual production value of 1014 yuan, but local government forces to use 650 yuan. In the early stage of Pudong development zone, land compensation was only about 20 000 yuan per mu, local government’s development cost was about 60–70 thousand yuan per mu, but the final land sale price was more than 300 000 yuan per mu.

¹⁶ Even when Ho (2001) tried to justify institutional ambiguity of China’s rural land ownership, he cautioned that ‘the local government would welcome a legitimization of its common practice: robbing the natural village from its land ownership’ (p. 421).

strong motivation for local government to develop urban land. Behind vacant lots in development zones are often heart-breaking stories of peasants (Guo, 2001).

Chinese government has repeatedly called for preservation of farmland (State Land Administration, P. R. China, 1998). However, development zones are probably one of the biggest sources of wasting farmland. Given the artificially cheap price of rural land, local governments often enclose the best farmland for development zones in order to save on other costs (like land grading, road, and other infrastructure). Almost 'free' rural land also inflates their appetite that results in more land expropriated than necessary. This pattern of development is a legacy from socialist cities (Bertaud and Renaud, 1994).¹⁷ What is interesting is that development zone is in turn used as the official excuse for restricting rural land reform (Pu and Li, 1998).

Absent the right to transfer or develop the land, the peasants can only build illegal shacks or lease their extra rooms to accommodate people like migrant workers and young urban couples. On one hand, economic efficiency is compromised because optimal density cannot be achieved at the right locations and investors tend to under-invest in risky and illegal developments. Since they cannot alienate their rights to the land, peasants strongly resist eminent domain for government-sanctioned development. This is one important reason for the phenomenon of urban village. On the other hand, inequality between the city and the countryside is not reduced and the 'invisible wall' still exists. In this sense, peasants' rights over their land represent more efficient urban development and the demand for housing from migrants and urban residents.¹⁸ The result of their severely restricted rights is under-developed urban infrastructure, low density and leapfrog of semi-urbanized villages.

If urban sprawl is inefficient excess to the natural expansion of cities in the West, Chinese style sprawl is unintended consequence of political manipulation of land development on the urban fringe. In the case of development zones, the intention of local governments might be to respond to their perceived market demand but the result is a big extra. In the case of semi-urbanized villages, their intention might be to control development, but urban population still sprawls out.

¹⁷ For example, in Bertaud and Renaud (1994: 5) analysis of Soviet city, they pointed out that 'socialist land use process creates sizable enclaves of 'fallow' or 'dead' land.'

¹⁸ In a sense, this type of sprawl shares some common features with urban sprawl in American cities. When Fischel (1999) analyzed why American zoning causes urban sprawl, he argues that the antidote to urban sprawl is to restore the development rights of owners of undeveloped land because these landowners represent the interests of future residents.

The case of Beijing

As one of China's biggest cities, Beijing's urban development in recent two decades shares similar patterns with other Chinese cities in spite of many issues unique to the capital city of a 'socialist market economy.' Both development zones and semi-urbanized villages have become important phenomena on Beijing's urban fringe. Before economic reform started in 1978, Beijing was the model city of socialist planned economy in China. Strong planning control has been the prominent feature of its urban land use, resulting in pancake-style (*Tan Da Bing*) spatial structure. Beijing's urban built-up area has increased from about 62.5 km² in 1949 to 391 km² in 1988 and 488 km² in 1996, but its inner city area had largely remained intact before the 1980s or even before the 1990s (Beijing Statistical Bureau, 1999). This pancake-style structure is typical of socialist cities (Bertaud and Renaud, 1994) and is completely different from a monocentric city in market economy. As one of the largest cities in China, Beijing may be moving toward a polycentric structure, but strong statistical evidence is still absent.¹⁹ Urban land reform in Beijing started relatively late when compared to coastal cities. In 1992 the first case of public land leasing was reported in Shangdi Information Industry Base, a development zone in Haidian District. There are many problems in the public land leasing system (Deng, 2003a). The tip of iceberg of rampant corruption was a scandal that resulted in the former mayor being jailed and the vice-mayor committing suicide.

As in other cities, development zones began to boom in Beijing after 1992. There are now about 26 development zones. Big ones like Beijing Economic Development Zone has a planned area of about 15 km²; small ones range from about 1 km² to several square kilometers. Table 2 includes some aggregate statistics about development zones in Beijing. In total, 46.94 km² of farmland has been expropriated up to 1998, about one tenth of the city's built-up area. The total planned area of development zones is 113.44 km² (Beijing Housing and Land Administration Bureau, 1996), about one fourth of existing built-up area. These development zones were set up by different levels of governments or different government agencies. There are five zones approved by the State Council, 10 by the city, 11 by the lower-level governments. For example, Beijing Economic Development Zone is a national one; Shangdi, Fengtai, Changping were approved by the Ministry of Science and Technology. Besides several zones set up by the city and the districts, almost every county has one or more development zones. Their titles vary from hi-tech, economic development, to tourist, real estate, and agricultural development. What they do is probably very different from these fancy titles. In contrast, those national or even city-level zones are better managed. Zhongguancun, China's 'silicon valley,' may be a good example (Wang and Wang, 1998).

The actual development of these zones usually lags behind their grand plans. For example, planned area for the five hi-tech development zones in 1998 is 8.97 km², while the expropriated area is 6.33 km². The total planned area for the four tourist and real estate development zones is 25.99 km², while total expropriated area is 9.37 km² (Meng *et al.*, 1998: 218). Even land that has already been expropriated from the peasants may be far

¹⁹ For example, Wang and Zhou (1999) studied the population density of Beijing and could not find any statistically significant subcenters.

Table 2
Land Expropriation, Development, and Investment Statistics of Beijing Development Zones

Year	Accumulated land expropriation	Accumulated land development		Accumulated land for attracting investment			
		Completion (km ²)	Expropriated (%)	Total (km ²)	Expropriated (%)	Sanzi (km ²)	%
1992	15.65	3.57	22.8	3.4	21.7	2.24	65.9
1993	36.85	14.22	38.6	13.44	36.5	4.09	30.4
1994	41.76	18.32	43.9	15.03	36.0	4.88	32.5
1995	43.14	21.72	50.3	16.09	37.3	5.04	31.3
1996	44.02	26.86	61.0	16.79	38.1	6.11	36.4
1997	45.31	28.02	61.8	17.87	39.4	6.37	35.6
1998	46.94	29.99	63.9	18.58	39.6	6.65	35.8

Data source: *Beijing 50 Years*, Beijing Statistical Bureau, 1999.

from actually developed. Table 2 shows that accumulated land expropriation increased very fast in early 1990s and gradually stabilized after 1994. The percentage of accumulated completion among expropriated land area was about 23% in 1992 up to 64% in 1998. In other words, despite the control of ‘zone fever’ in mid- and late 1990s, more than one third of the large-scale land enclosure from 1992 to 1994 has not been digested yet. The waste of land resource is obvious. Fig. 1 illustrates the locations of major development zones in Beijing. Probably because of the presence of the central government in Beijing and the large size of the city, development zones are relatively not so big as to form new city centers, as in many small and medium cities. Nevertheless, they are still big in absolute size, with concentrated zone pattern, and many county- or town-level ones are far from the city.

Do these development zones really promote local economy by attracting foreign investment? The answer is at most ambiguous. Table 2 shows how much land is used by investments attracted (*zhao shang*) to the development zones in Beijing. The accumulated percentage starts from about 21% in 1992 to almost 40% in 1998. The majority of land is not occupied by the labeled target-investment attracted, among which foreign investment (*san zi* firms, including those from Hong Kong, Macau, and Taiwan) accounts for only about one third. These statistics demonstrate that the real motivations for development zones are not limited to the stated goal of attracting foreign investment.

Compared to the loud promotion of development zones by local governments, the transformation of many villages on urban fringe is much quieter. However, when problems surface, they become a big headache to the government. Zhejiangcun is probably the most famous example. Beijing City government’s heavy-handed attempt to wipe out the village in 1995 was widely reported in domestic and foreign news media. Some other villages, such as Henancun and Xinjiangcun, are also reported and studied. Fig. 2 shows the locations of some well-known villages.

Inside these villages, migrants from the same province tend to live together, forming a distinctive community that is characterized by place-based network and culture (Ma and Xiang, 1998). While some commute to work in the city everyday, others set up small

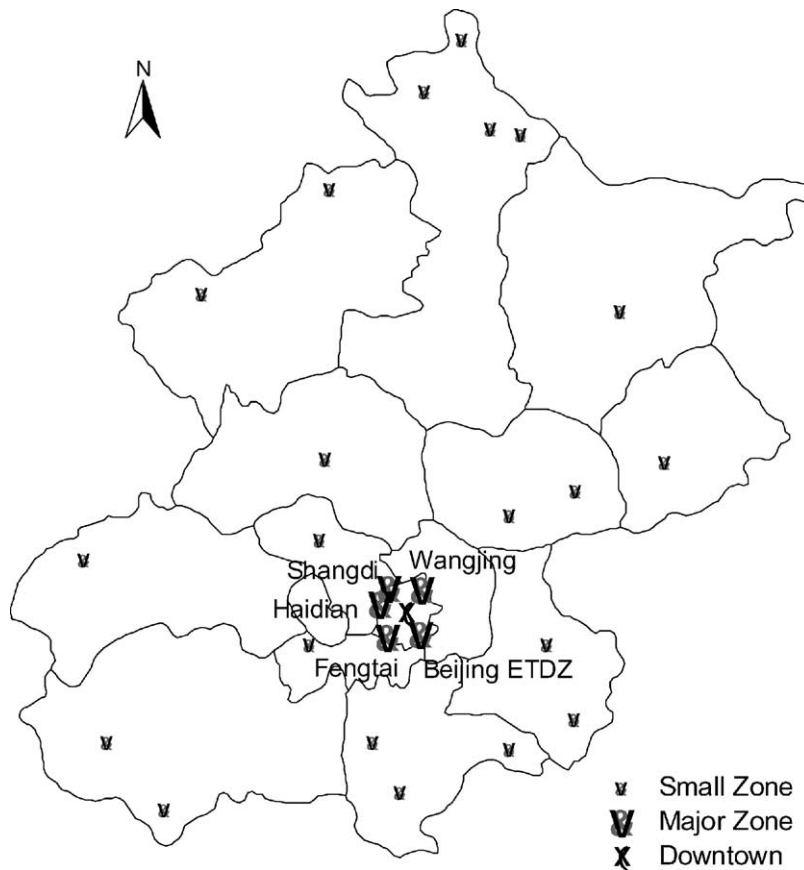


Fig. 1. Development Zones in Beijing.

family workshops and sell their products in the city. Many migrants in Zhejiangcun are engaged in apparel industry, while those in Henancun often do manual work such as collecting garbage. In addition to leasing rooms in their own houses, many peasants 'illegally' build more houses for lease. Sometimes, rich migrants 'illegally' lease land from peasants and build apartment complexes or big compounds to accommodate fellow migrants from the same province such as 'big yard' in Zhejiangcun. Although the population profile in these villages has experienced dramatic changes, their infrastructure and physical landscape are still nothing but rural. The buildings are still low-density bungalows, roads are unpaved, clean tap water is limited, sewerage and drainage system is obsolete, and there is even no private toilets (Liu and Wei, 1997). Spatially, they are also still villages in the sense that they might still be surrounded by farmland. Many problems, such as crime, public health, and illegal businesses, have begun to emerge in these villages. More important, city government and city residents start to view these villages as ghettoized areas that need to be 'cleaned'. Beijing City government, with the help of the central government, tried several times in the 1990s to wipe out Zhejiangcun

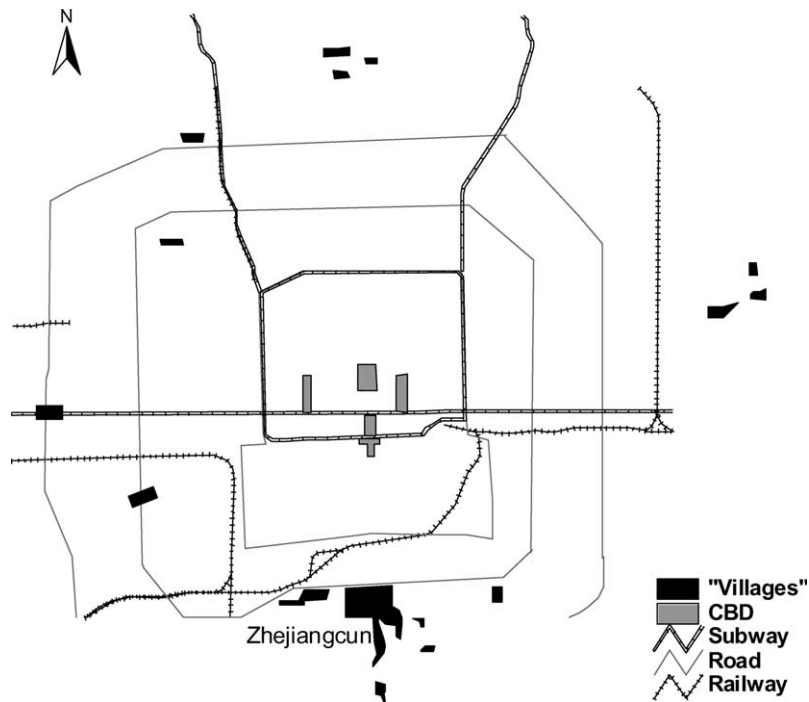


Fig. 2. Some Major Semi-Urbanized villages in Beijing.

and forcefully send the migrants back to their hometowns. Despite some temporary effects, the long-term effectiveness of these actions appears limited.

These semi-urbanized villages are not continuous expansion of existing urban areas; instead, they are limited to existing rural villages close to the city. Beijing City government's heavy-handed actions against illegal constructions and their residents in the 1990s should be a reminder of the risks to illegal construction. When migrant population growth creates new demand for housing, semi-urbanization then leapfrogs to the next rural village. For example, after government dismantled many illegal constructions in Zhejiangcun, many migrants moved to other villages further away. When many villages in Henancun are now dismantled in the preparation for the Olympic Game, existing residents are also dispersing toward surrounding villages.

Detailed statistics for these semi-urbanized villages are not readily available since they do not fall into official statistical scope. Most existing research relies more on case studies. However, a large-scale census on migrant population in Beijing that was conducted in 1997 ([Beijing Migrant Population Census Office, 1998](#)) provides a glimpse into some aspects of semi-urbanized villages. [Table 3](#) summarizes the distribution of housing types for migrant population in Beijing. The biggest source of housing (>60%) for migrant population is from employers, including renting, living in dormitory, work place, etc. The percentage of this housing type does not change much from inner city to suburbs to distant counties. Those who rent rooms from peasants (i.e. living in semi-urbanized villages)

Table 3
Housing for Migrant Population in Beijing (1997)

	Rent from peasants (%)	Rent from urban residents (%)	Self-built (%)	Self-owned (%)	From employer ^a (%)	Other (%)
Inner city	0.01	20.04	0.66	0.32	56.16	22.81
Suburban districts	16.05	14.48	2.97	0.26	59.16	7.08
Distant districts	14.82	10.64	4.91	1.59	64.01	4.03
Distant counties	17.43	5.48	5.49	2.31	65.95	3.34
Total	13.65	13.71	3.10	0.67	60.02	8.85

Data source: Beijing Migrant Population Census 1997.

^a Including several categories of housing that are related to the employers such as rent from work unit, work unit dormitory, work place, and employer's house.

account for 13.65%, almost as much as those renting from urban residents (13.71%). But, these two housing types have rather opposite trends in terms of spatial locations. The percentage of renting from peasants increases sharply from inner city to suburban districts, then stabilizes in distant districts and counties. In contrast, the percentage of renting from urban residents keeps falling when moving further away from the inner city. These statistics confirm the significance of semi-urbanized villages to migrants' housing needs and also demonstrate that most semi-urbanized villages are located on the urban fringe (in suburban districts).

Beijing is a good example of the paradox posed by the co-existence of development zones and semi-urbanized villages. The spontaneous development of semi-urbanized villages occurs around the city more or less evenly, while the locations of development zones are largely determined by administrative boundaries and local 'planning.' Behind this phenomenon is the land expropriation process on urban fringe. There are usually several components to the land price that investors pay in development zones, including land leasing premium, urban infrastructure fee, land expropriation fee, etc. Land leasing premium is what local government can obtain without any out-of-pocket cost. It ranges from about 700–1000 yuan/m² for residential land use and from about 100–300 yuan/m² for industrial use.²⁰ In contrast, the compensation to peasants (the land expropriation fee) is only around 150 yuan for cropland and 450 yuan/m² for vegetable land in the suburbs. Compensation for farmland in the distant counties is much lower. The compensation for demolition of residents' houses in existing towns and villages is more expensive, about 7800 yuan/m² (Meng *et al.*, 1998: 223). The big difference between compensations for farmland and demolition of peasants' houses in land expropriation is one important reason for so-called urban villages. In other words, it is much cheaper for local governments to expropriate farmland than villages. No matter whether their houses are preserved or demolished, peasants' welfare is greatly affected by land expropriation. As some Chinese expert pointed out, the local government would be a fool if it does not create development zones given the huge profit from land expropriation (Ren, 2003).

²⁰ These ranges of land leasing premium are obtained from a list of cases within several years (1993–97) in Meng *et al.* (1998).

Discussion and conclusion

China's economic reform in the past two decades has followed the approach of partial and gradual reform (Naughton, 1995). There has been a big debate between proponents for partial reform and those against it. Byrd (1987) argued that there can be a meaningful short-run solution for the two-tier plan/market system. On the other hand, Murphy *et al.* (1992) analyzed the pitfalls of partial reform that can result in inefficient resource allocation at the interface of different sectors. In general, partial reform may be good at maintaining reform momentum and political stability, but it has its costs.

Urban sprawl in Chinese cities, as demonstrated by both development zones and semi-urbanized villages, is a cost of the uneven land reform. It manifests the pitfalls of partial reform. The 'envelope' between urban land and rural land is maintained by traditional socialist-style land expropriation, i.e. *eminent domain* based on planned and artificially low compensation. Hence, undesirable consequences emerge on urban fringe.

Development zones and semi-urbanized villages are good examples of the inefficient resource allocation on the urban fringe. On one hand, although development zones help an urban land market to grow from the traditional socialist city, they waste resources and create an inefficient spatial structure. Although better coordination between urban sector and rural sector through local government may be a plausible solution, it is difficult to implement if we consider the incentive structure and political power of Chinese local governments and long-time discrimination against peasants. On the other hand, given their good locations and demonstrated market demand, semi-urbanized villages could not get adequate investment from both private and public sectors. With the risk of being wiped out by local governments, even illegal housing constructions are limited in scale and quality. Urban population expansion is restricted to existing villages on urban fringe. Allowing peasants to develop or sell their land will certainly encourage investment or redevelopment of semi-urbanized villages and discourage local government's speculative investment in development zones.

A related point is that the conversion of farmland to urban land does not need to be in the form of direct government control. There are two plausible arguments for current form of government control on land expropriation. The first argument is that high price of urban land reflects the capitalization into land rent of urban infrastructure and other public goods provided by local government. Hence, government control of the urbanization process is both efficient and equitable. This is basically the story of Henry George (1879).²¹ However, there are two flaws in this argument as applied in the context of China. They are not about the capitalization theory itself but rather how that theory leads to the conclusion. First, there are many mechanisms that can help local government to get back its share without direct intervention in the development process. Examples include property tax, development impact fee, and various types of exaction. The second problem with the capitalization argument is that it totally ignores the efficiency of a decentralized market in resource allocation on urban fringe. The efficiency of market allocation has been

²¹ Deng (2002) argues that the integration of landowner and collective goods provider can also internalize the political hold-up problem.

demonstrated in urban land reform and rural land reform, respectively. Then, why could not we reform their interface too?

The second argument is related to the repeated warnings about farmland loss. The argument goes like this: since farmland is our precious asset, the government should control their conversion into urban land (Pu and Li, 1998). If this is a real danger to China's food supply and environment, then development zones have shown that local governments may have already generated much more damage than any peasants can.²² Even if peasants are allowed to sell or develop land, urban planning is still a necessary regulation on land market. But, when local government becomes the (sole) land developer, it is difficult for the planner to resist his boss.

²² Also see Ash and Edmonds (1998) and Smil (1999) for detailed analysis on the issue of farmland loss. The consensus appears to be that urban land use is not the biggest factor for farmland loss, at least not as serious as often reported on Chinese news media.

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References

- Amirahmadi, H., Staff, G., 1993. Science parks: a critical assessment. *Journal of Planning Literature* 8, 107–123.
- Anas, A., Arnott, R., Small, K.A., 1998. Urban spatial structure. *Journal of Economic Literature* XXXVI, 1426–1464.
- Ash, R., Edmonds, R.L., 1998. China's land resources, environment, and agricultural production. *The China Quarterly* 156, 836–879.
- Au, C., Henderson, V., 2002. How migration restrictions limit agglomeration and productivity in China? NBER Working Paper 8707.
- Beijing Housing and Land Administration Bureau, 1996. *Guide to Public Land Leasing in Beijing*. Beijing..
- Beijing Migrant Population Census Office, 1998. *1997 Beijing Migrant Population Census*. China Commerce Press, Beijing.
- Beijing Statistical Bureau, 1999. *Beijing 50 Years*. China Statistics Press, Beijing.
- Bertaud, A., Renaud, B., 1994. Cities without land markets: lessons of the failed socialist experiment. World Bank, Washington, DC.
- Braunstein, E., Epstein, G., 2002. Bargaining power and foreign direct investment in China: Can 1.3 billion consumers tame the multinationals? Political Economy Research Institute (PERI) Working Paper Series, no. 45, University of Massachusetts Amherst.
- Brueckner, J.K., 2001. Urban sprawl: lessons from urban economics. In: Gale, W.G., Pack, J.R. (Eds.), *Brookings-Wharton Papers on Urban Affairs 2001*, Brookings Institution Press, Washington, DC.
- Byrd, W.A., 1987. The impact of the two-tier plan/market system in Chinese industry. *Journal of Comparative Economics* 11, 295–308.
- Cartier, C., 2001. Zone fever, the arable land debate, and real estate speculation: China's evolving land use regime and its geographical contradictions. *Journal of Contemporary China* 10 (28), 445–469.
- Chan, K.W., 1994. *Cities with invisible walls: reinterpreting urbanization in post-1949 China*. Oxford University Press, Hong Kong.
- Cheng, T., Selden, M., 1994. The origins and social consequences of China's Hukou System. *The China Quarterly* 139, 644–668.
- de Soto, H., 2000. *The mystery of capital: why capitalism triumphs in the west and fails everywhere else*. Basic Books, New York.
- Deng, F., 2002. Ground lease-based land use system versus common interest development. *Land Economics* 78 (2), 190–206.
- Deng, F., 2003a. The political economy of public land leasing in Beijing. In: Bourassa, S., Hong, Y. (Eds.), *Leasing Public Land: Policy Debates and International Experiences*, Lincoln Institute of Land Policy, Cambridge, MA.
- Deng, F., 2003b. Development zones and urban land reform in China. *Asian Geographers* in press.
- Deng, F., 2003c. Public Land Leasing and the Changing Roles of Local Governments in Urban, China. *Annals of Regional Science* in press.
- Deng, F., Li, B., Zhang, Z., 1994. Urban land use and land price in Xiamen city after economic reform. *Urban Problems* 4, 19–23.
- Editorial Committee of China Real Estate Statistical Yearbook (ECCRESY), 1999. *China Real Estate Statistical Yearbook*. China City Press, Beijing.
- Erickson, R.A., Friedman, S.W., 1989. *Enterprise zones: An Evaluation of State Government Policies*. US Economic Development Administration, Washington, DC.

- Ewing, R., 1997. Is Los Angeles-style sprawl desirable? *Journal of American Planning Association* 63, 107–126.
- Fan, C.C., 1999. Migration in a socialist transitional economy: heterogeneity, socioeconomic and spatial characteristics of migrants in China and Guangdong Province. *International Migration Review* 33 (4), 950–983.
- Fischel, W.A., 1999. Does the American way of zoning cause the suburbs of metropolitan areas to be too spread out? . In: Altshuler, A., (Ed.), *Governance and Opportunity in Metropolitan America*, National Academy Press, Washington, DC.
- Fischel, W.A., 2001. *The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies*. Harvard University Press, Cambridge.
- Fung, K.I., 1981. Urban sprawl in China: some causative factors. In: Ma, L.J.C., Hanten, E.W. (Eds.), *Urban Development in Modern China*, Westview Press, Boulder, CO.
- Ge, W., 1995. The urban enterprise zone. *Journal of Regional Science* 35, 217–231.
- George, H., 1879. *Progress and poverty*. The Robert Schalkenbach Foundation, New York.
- Ginsburg, N., 1990. *The Urban Transition: Reflections on the American and Asian Experiences*. The Chinese University Press, Hong Kong.
- Gordon, P., Richardson, H., 1997. Are compact cities a desirable planning goal? *Journal of American Planning Association* 63, 95–149.
- Guo, X., 2001. Land expropriation and rural conflicts in China. *The China Quarterly* 166, 422–439.
- Hamilton, B.W., 1976. Capitalization of interjurisdictional differences in local tax prices. *American Economic Review* 66, 743–753.
- Ho, P., 2001. Who owns china's land? Policies, property rights and deliberate institutional ambiguity. *The China Quarterly* 166, 394–421.
- Ho, P., Lin, C.S.G., 2003. Emerging land markets in rural and urban China: policies and practices. *The China Quarterly* 175, 681–706.
- Huang, Y., Clark, W.A.V., 2002. Housing tenure choice in transitional urban China: a multi-level analysis. *Urban Studies* 39 (1), 7–32.
- Huang, Y., Yang, D.L., 1996. The political dynamics of regulatory change: speculation and regulation in the real estate sector. *Journal of Contemporary China* 5 (12), 171–185.
- Leaf, M., 2002. A tale of two villages: globalization and peri-urban change in China and Vietnam. *Cities* 19 (1), 23–31.
- Liang, Y., Zhou, Y., 1993. Preliminary study on urban development zones (Cheng Shi Kai Fa Qu De Chu Bu Yan Jiu). *City Planning Review (Cheng Shi Gui Hua)* 4, 27–30.
- Lin, G.C.S., 2001. Metropolitan development in a transitional socialist economy: spatial restructuring in Pearl River Delta, China. *Urban Studies* 38 (3), 383–406.
- Liu, X., Wei, L., 1997. Zhejiangcun: social and spatial implications of informal urbanization on the periphery of Beijing. *Cities* 14 (2), 95–108.
- Liu, S., Carter, M.R., Yao, Y., 1998. Dimensions and diversity of property rights in rural China: dilemmas on the road to further reform. *World Development* 26 (10), 1789–1806.
- Lu, Y., 1993. Planning and development of high-tech industrial development zones (Gao Xing Chan Ye Kai Fa Qu De Gui Hua Yu Kai Fa). *City Planning Review (Cheng Shi Gui Hua)* 4, 31–34.
- Ma, L.J., Xiang, B., 1998. Native place, migration and the emergence of peasant enclaves in Beijing. *The China Quarterly* 155, 546–581.
- McDonald, J., 1993. Tax expenditures for local economic growth: an econometric evaluation of the illinois enterprise zone program. *Public Budgeting and Financial Management* 5, 477–505.
- McGee, T.G., 1989. Urbanisasi or Kotadesasi? Evolving patterns of urbanization in Asia. In: Costa, F.J., (Ed.), *Urbanization in Asia*, University of Hawaii Press, Honolulu.
- Meng, X., Mo, T., Zhang, J., 1998. *Beijing Real Estate Yearbook 1998–1999*. China Planning Press, Beijing.
- Mieszkowski, P., Mills, E.S., 1993. The causes of metropolitan suburbanization. *Journal of Economic Perspective* 7 (3), 135–147.
- Mills, E.S., Hamilton, B., 1988. *Urban Economics*. Scott, Foresman and Company, Glenview, IL.
- Murphy, K., Shleifer, A., Vishny, R.W., 1992. The transition to a market economy: pitfalls of partial reform. *Quarterly Journal of Economics* 107, 889–906.
- Naughton, B., 1995. *Growing Out of the Plan: Chinese Economic Reform, 1978–1993*. Cambridge University Press, Cambridge, MA.

- Pan, Z., Zhang, F., 2002. Urban productivity in China. *Urban Studies* 39 (12), 2267–2281.
- Peng, S., 2002. *China Economic Development Zone Yearbook*. China Financial and Economic Press, Beijing.
- Pu, Y., Li, Y., 1998. *Explanations for P.R. China Land Administration Law*. Law Press, Beijing.
- Ren, B., 2003. The end of new land enclosure movement (Xin Quan Di Yun Dong Mo Lu). *Caijing Magazine* 16, 50–55.
- Smil, V., 1999. China's agricultural land. *The China Quarterly* 158, 414–429.
- State Land Administration, P. R. China, 1998. The change of farmland in recent years and the trend in the mid-term. *China Social Science* 109, 75–90.
- Tang, Z., 2000. *A Comparative Study on China Urban Land Development Models (Zhong Guo Cheng Zhen Tu Di Kai Fa Li Yong Mo Si Bi Jiao Yan Jiu)*. Center of Real Estate Studies, China People's University.
- Tiebout, C.M., 1956. A pure theory of local expenditure. *Journal of Political Economy* 64, 416–424.
- Wang, C., 2000. Social network in mobility: Wenzhou people's behavior pattern in Paris and Beijing (Liu Dong Zhong de She Hui Wang Luo: Wen Zhou Ren Zai Beijing He Ba Li de Xin Wei Fang Shi). *Sociological Research (She Hui Xue Yan Jiu)*, 87.
- Wang, F., Zhou, Y., 1999. Modelling urban population densities in Beijing 1982–90. *Urban Studies* 36 (2), 271–287.
- Wang, J., Wang, J., 1998. An analysis of new-tech agglomeration in Beijing: a new industrial district in the making? *Environment and Planning A* 30 (4), 681–701.
- Woodruff, C., 2000. Review of de Soto's the mystery of capital. *Journal of Economic Literature* (4), 1215–1223.
- Wu, F., Yeh, A.G.O., 1999. Urban spatial structure in a transitional economy: the case of Guangzhou, China. *Journal of the American Planning Association* 65 (4), 377–394.
- Xiang, B., 1993. Beijing has a Zhejiang village (Beijing You Ge Zhe Jiang Cun). *Sociology and Social Survey (She Hui Xue Yu She Hui Diao Cha)* (3), 68–74.
- Yeh, A.G.O., Wu, F., 1996. The new land development process and urban development in Chinese cities. *International Journal of Urban and Regional Research* 20 (2), 330–353.
- Zhou, D., 1992. Several issues in the planning of development zones (Kai Fa Qu Gui Hua De Ji Ge Wen Ti). *City Planning Review (Cheng Shi Gui Hua)* (5).
- Zhou, Y., 1997. On the suburbanization of Beijing. *Geographical Science (Di Li Ke Xue)* 7 (3), 208–219.