



## CHAPTER 39

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# URBANIZATION IN JAPAN, SOUTH KOREA, AND CHINA: POLICY AND REALITY

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## INTRODUCTION

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Urbanization is one of the most dynamic and challenging development processes because of large-scale, low-income, rural-urban migration and increasing population concentration in limited geographic areas. Geographic concentration of population not only presents opportunities and the potential for economic growth but also creates numerous issues and problems. Urban agglomerative economies drive a city to grow while congestion, urban environment, urban infrastructure and public services, and public health and safety affect the well-being of business activities and urban residents.<sup>1</sup> In addition, pressures on providing adequate employment opportunities and affordable houses for low-income rural-urban migrants are enormous during periods of rapid urbanization.

1. Marshall (1920) identified three sources of agglomeration economies: knowledge spillovers, input sharing, and labor pooling. These sources generate urbanization economies and localization economies, enhancing population concentration and industrial clustering. Many empirical studies have provided evidence for urban agglomerative effects (e.g., see the review by Rosenthal and Strange 2004).



This chapter examines urbanization in Japan, South Korea, and mainland China (China). These three countries offer interesting cases that deserve a thorough examination for the following reasons. First of all, they share similar features in urbanization. Both Japan and South Korea experienced rapid urbanization in the second half of the twentieth century while China is currently in the era of rapid urbanization. Second, urbanization in these three countries is largely driven by industrialization, and so they do not face problems resulting from overurbanization as in Latin American countries. Third, all of these three countries have national policies and programs to manage urbanization and urban growth. Finally, although the three countries are distinct from each other in many aspects such as economic structure, growth stage, natural endowment, and institutional arrangements in managing urban growth, they share common features such as objectives and goals, policy instruments, and approaches in urbanization management. It would be very interesting to line up these three countries that are currently at different economic development stages and to examine the interaction between policy response and urbanization reality. It would also be of great importance to understand how effective the policy and planning efforts in these countries are and what lessons can be learned for other developing countries.

This chapter attempts to examine the following three questions: (1) What are the urbanization patterns, and to what extent are they linked to economic growth during rapid urbanization periods? (2) What sorts of policy instruments have been introduced to manage urbanization at both national and local levels? (3) How effective are these policies, and what lessons can be learned?

The chapter is organized as follows. Section 2 describes urbanization and urban growth. Section 3 presents policy and planning efforts in managing urbanization and urban growth while section 4 conducts an assessment. Section 5 concludes with final remarks.

## URBANIZATION AND URBAN GROWTH

One common feature shared by Japan, South Korea, and China is that they all have experienced fast urbanization in the second half of the twentieth century. In a historical perspective, Japan took the lead, followed by South Korea and then China. Japan started its urbanization before World War II and accelerated it in the post-war period. Its urbanization level more than doubled, from 37.3 percent in 1950 to 76.2 percent in 1980, and then slowed down in the 1980s and 1990s (table 39.1).<sup>2</sup> South Korea's urbanization did not accelerate until the end of the Korean War. The

2. Urbanization level here is defined as the share of the urban population in national total population, and industrialization level is defined as the share of the nonagricultural employment.

following three decades witnessed rapid urbanization, with its urbanization level increasing from 42.1 percent in 1966 to 79.6 percent in 1990 and overtaking that of Japan. In China, urbanization had been stagnant before 1978 when the famous open-door policy was first introduced. From 1980 to 2000, the urbanization level of China grew from 19.4 percent to 36.2 percent at a fast pace. It is anticipated that this trend will continue at a speed of 1 percentage point per year in the foreseeable future (Yeung and Shen 2008).

As in other developed countries, urbanization and urban population growth are largely driven by economic growth in these three countries. For instance, Japan's industrialization level increased by 43.5 percentage points while its urbanization level increased by 41.4 percentage points in 1950–2000. From 1966 to 1995, South Korea had its urbanization and industrialization grow by 42.9 percentage points and 45.3 percentage points, respectively (see table 39.1). In China, urbanization increased by 16.8 percentage points while industrialization increased by 18.7 percentage points in 1980–2000. The per capita GDP in China jumped from \$856 in 2000 to \$3,313 in 2008. This striking growth has pushed its urbanization to a new level. In 2008, urbanization in China reached 45.7 percent, gaining almost 10 percentage points in eight years.<sup>3</sup>

Another feature shared by all three countries is related to regional disparity in urban growth and economic development. In Japan, economic concentration heavily favors the Pacific Belt region, which produced 71 to 78 percent of national

**Table 39.1 Urbanization and Industrialization in Japan, South Korea and China**

	Japan					
	1950	1960	1970	1980	1990	2000
Industrialization	51.5	67.3	80.7	89.1	92.9	95.0
Urbanization	37.3	65.2	72.1	76.2	77.4	78.7
	South Korea					
	1966	1970	1980	1990	1995	
Industrialization	42.1	49.6	66.0	81.7	87.4	
Urbanization	42.1	49.8	66.7	79.6	85.0	
	China					
	1962	1970	1980	1990	2000	
Industrialization	17.9	19.2	31.3	39.9	50	
Urbanization	17.3	17.4	19.4	26.4	36.2	

Source: Japan Census 2000; Sorensen 2002; Kwon 2001; NBSC b, c.

3. People's Daily Online, April 15, 2009, <http://english.people.com.cn/90001/90776/90882/6637891.html>.

manufacturing output from 1909 to 1980 (Sorensen 2002).<sup>4</sup> The dominance of the region has remained in the postindustrialization period. In Japan, 24.2 percent of the land housed 61.5 percent of the nation's population in 2000, generated 67 percent of the national GDP in 2005, and created nearly 60 percent of the total employment opportunities in 2006 (table 39.2). The region is also the home of the three largest metropolitan areas (MAs) in Japan (Tokyo, Osaka, and Nagoya MAs).

It is worthwhile pointing out that two industrial shifts in Japan have further strengthened the economic concentration in the three largest MAs. The first shift took place in the 1950s through mid-1970s, with industrial restructuring from agricultural to heavy and chemical industries. During this period, 11 million people had moved into the three MAs. The second shift started in the mid-1970s to the 1980s and transferred from heavy industry to high-tech and service industries. Marked by the oil crisis in 1973, the second industrial shift was deeply influenced by the wave of globalization, emphasizing international connections and global production. Tokyo MA benefited most from it. As a result, by turning quickly from large-scale heavy industry to small and flexible high-tech firms, Tokyo became a global center for business, finance, and modern service industries. In the mid-1980s, Tokyo MA had already concentrated 83.4 percent of the banking, 86.6 percent of the foreign bank employees, 62.5 percent of the foreign corporate estates, and 59 percent of corporate headquarters offices and even attracted headquarters from Osaka MA (Takahashi and Sugiura 1996).

It is also noteworthy that only Tokyo MA maintained net in-migration during the second shift, making it continuously grow even though central Tokyo began to lose population starting in 1965. Rising concentration of business activities and

**Table 39.2 Economic and Population Concentration of Pacific Belt and Three MAs in Japan (percent)**

	Area	Population	GDP	Number of Establishments	Employment	Annual Sales
Year	2000	2000	2005	2006	2006	2003
Pacific Belt	24.2	61.5	67.0	59.6	59.3	61.2
Tokyo MA	3.6	26.3	31.8	24.2	22.4	22.5
Osaka MA	5.7	14.5	13.8	14.3	14.3	13.7
Nagoya MA	4.9	8.7	9.8	9.0	11.0	12.5
Sum of three MAs	14.2	49.5	55.4	47.5	47.7	48.7

Source: Japan Census 2000; PSOSJ 2009.

4. Japan is composed of forty-seven prefectures. The Pacific Belt covers sixteen prefectures; it is composed Tokyo MA (Tokyo, Kanagawa, Saitama, and Chiba), Osaka MA (Osaka, Kyoto, Hyogo and Nara), and Nagoya MA (Aichi, Gifu, and Mie), and five other prefectures: Fukuoka, Yamaguchi, Hiroshima, Okayama, and Shizuoka (Fujita and Tabuchi 1997; OECD 1987; Sorensen 2002; Fourth National Comprehensive Development Plan of Japan 1987).

Table 39.3 Population Growth of Seoul City and Capital Region (in 1,000s)

Year	National Population	Pop. In Seoul City	%	Population in Capital Region	%
1960	24,989	2,445	9.8		
1966	29,156	3,793	13	6,896	23.7
1970	30,882	5,433	17.6	8,730	28.3
1975	34,707	6,900	19.9	10,938	31.5
1980	37,436	8,364	22.3	13,298	35.5
1985	40,449	9,639	23.8	15,821	39.1
1990	43,411	10,163	23.4	18,136	41.8
1993	44,056	10,672	24.3	19,669	44.6
1995	44,609	10,231	22.9	20,267	45.4
2000	46,136	9,895	21.4	21,354	46.3
2005	47,279	9,820	20.8	22,767	48.2

Source: 1960–1995 data are from Ahn and Ohn 2001; 2000–2005 data are from <http://www.citypopulation.de/KoreaSouth-Mun.html>.

population made Tokyo MA the largest megacity in the world and one of the densest MAs. It housed 33.4 million of population and produced around 30 percent of national GDP in 2000 on the land of 4 percent of Japan's territory (Fujita and Tabuchi 1997; Japan Census 2000; PSOSJ 2009).

Regional disparity in South Korea is even more striking. Economic activities have been disproportionally concentrated in the Seoul and Pusan MAs, particularly Seoul MA.<sup>5</sup> The Seoul MA, also called the Seoul Capital Region, became the biggest reservoir of industrialization and urbanization. The region's population share steadily increased from 23.7 percent in 1966 to 45.4 percent in 1995 and then to 48.2 percent in 2005, with the population growing to more than 21 million (table 39.3). The trend of population concentration was matched by increasing economic concentration. In the 1990s, this region contained 61.7 percent of high-tech firms, 80 percent of qualified universities, and 96 percent of head offices (Hong 1997); in 2000, the region produced 47.8 percent of the national GDP on 11.8 percent of the country's territory (of which 1,567 square kilometers, or 13.3 percent, are taken by greenbelt space in the region; KNSO 2005; Bae and Jun 2003). Also similar to Tokyo MA, Seoul City, located in the core of the Seoul Capital Region, has experienced population decline since 1993 while the whole region's population continued to grow.

China's postreform regional disparity of industrial development was mainly caused by rapidly rising economic activities along the eastern coastal area that benefit greatly from the surge of foreign direct investments (FDIs) and booming export-oriented industries. The economic importance of the eastern coastal area steadily

5. South Korea is composed of sixteen provincial divisions, including nine provinces, six metropolitan cities, and one special city, Seoul. The Seoul Capital Region includes Seoul City, Incheon City, and Gyeonggi Province (Hong 1997; Ahn and Ohn 2001).

**Table 39.4 Economic Importance of Eastern Coastal Area of China**

Year	Population	GDP	Fixed Asset Investment	Import/Export	FDI
1978	37.49	50.22	46.71	na	na
1985	37.5	51.05	51.55	na	na
1990	37.56	51.69	55.9	73.81	na
1995	37.47	56.06	62.58	75.96	81.21
2000	37.65	57.26	58.05	86.12	84.89
2004	37.69	58.53	58.94	88.44	83.28

Source: NBSC 2005b.

increased from 1978 to 2004. In 2004, it amassed more than 58 percent of national GDP and fixed asset investment, more than 88 percent of international trade, and more than 83 percent of FDI, on 13.9 percent of China's territory (table 39.4). Relatively, its population increase looks not as dramatic. From 1978 to 1998, the eastern coastal area accommodated 52.3 percent of urban population growth;<sup>6</sup> in 2004, it housed 38 percent of total population. Urban population growth thus appears to have lagged compared with the economic growth in the coastal areas. However, these officially published data may understate urban population growth because considerable rural-urban migration is not counted as urban population; we will further discuss this issue later.

Unlike Japan and South Korea, however, China's largest cities like Beijing and Shanghai are far less dominant in terms of population and economic concentrations. This may be partly due to its huge sizes of land and population and partly due to the absence of fully developed metropolitan areas. It may not take long to have some large cities emerge as MAs in China, especially in the Yangtze delta region and the Pearl River delta region.

## URBANIZATION POLICY AND CITY GROWTH MANAGEMENT

Facing rapid urbanization, Japan, South Korea, and China all have introduced and implemented urbanization policies and city growth management programs that primarily target regional balance in growth and concentration. The motivation was the increasing concern over issues and problems associated with population size and density, such as pollution, overcrowdedness, traffic congestion, and rising housing prices. The correlation between the extent of these problems and urban size has

6. Here the urban population refers to nonagricultural population in the city proper (*shiqu*). Data from Lin (2001).

increasingly drawn attention in policy and planning arenas. These three countries have attempted to deal with them at both national and local levels. The national policy and planning initiatives were usually required or mandated to be implemented at the local level. Thus these three countries adopted more or less a hierarchical or top-down approach in managing urban growth. This commonality may be rooted in their shared culture.

## Japan

### *National Policy*

In the 1960s, Japan initiated its efforts to manage urbanization at both national and local levels. Japan's Comprehensive National Development Plan (CNDP) was introduced as a main vehicle to implement the objective of balanced regional development. Since 1962, five CNDPs have been drafted. They are from 1962, 1969, 1972, 1987, and 1998, corresponding to the First through Fifth Plans. Due to political reasons, the Third Comprehensive National Development Plan (from 1972) was never implemented; the Fifth Plan was implemented in the new century.

The primary objectives of the First CNDP were to reduce regional gaps in economic development through a growth pole strategy. The First CNDP divided the nation's territory into three kinds: excessive concentration areas, areas of adjustment, and development areas. The excessive concentration areas, including Tokyo, Osaka, and Nagoya, were designated to restrict industrial growth and to encourage factory relocation. The areas of adjustment referred to the surrounding regions of large cities, where industrial firms were encouraged to relocate and suburban centers were supposed to develop. The development areas were places in which growth was promoted. Under the First CNDP, two concrete deconcentration programs, the New Industrial City (NIC) program and the Special Area (SA) program, were initiated and implemented nationwide in the 1960s and 1970s. Fifteen NICs and six SAs were designated under the umbrella of the growth pole strategy, targeting at alleviating the overconcentration in the major MAs and distributing development in broader areas for more balanced development (Glickman 1979).

The First CNDP proved ineffective, as indicated by the rapid population growth in large cities and MAs in the 1960s. This triggered the Second CNDP (1969), which continued to embrace the growth pole strategy but adopted somewhat different approaches. The Second Plan aimed at building entire new cities, encouraged industrial relocation to less developed areas, and emphasized improving communication and transportation systems such as high-speed railways, highways, and telecommunication systems (Glickman 1979). Ironically, these investments in transportation and communication also greatly improved the accessibility of the largest metropolitan areas, making large cities and MAs more attractive and appealing for business activities and population. Consequently, regional gaps increased contrary to designed policy objectives.

The Fourth CNDP, announced in 1987, marked fundamental changes in city management in Japan. Even though the policy objectives of balanced growth and reduction of regional disparity remained intact, implementation instruments had changed. It replaced the growth pole strategy with an income-transferring scheme. Policy focuses were also shifted by emphasizing utilization of local resources and establishment of economic linkages to existing metropolitan areas, particularly to Tokyo MA, rather than building complete new industrial cities. The most dramatic change was reflected in the fact that the roles of large cities were reassessed and urban agglomerative effects were widely recognized. This changed the ways in which policies and plans were developed. Previously, they were largely driven by issues and problems resulting from urbanization; since then, policies have been more focused on guiding and facilitating efficient economic development. Finally, consensus on failures of previous efforts in containing the growth of large cities began to build up, leading to a favorable view of large cities and realization of Tokyo MA's importance as a global city.

The Fifth CNDP, entitled "Grand Design for the 21st Century—Promotion of Regional Independence and Creation of Beautiful National Land," is the most recent one. As its title suggests, the plan continued to stress utilizing local resources to establish regional independence, and it emphasized environmental issues. Also, the Fifth Plan de-emphasized population overconcentration in MAs, based on the forecast of a decreasing and aging population in the future. Rather, it listed "renovate metropolitan areas" as one of its four strategies for realizing its five basic objectives.<sup>7</sup> Meanwhile, interregional cooperation and improvement on transportation and communication were further stressed.

### *Local Policy: Tokyo Metropolitan Area Management*

Constraining growth of the largest MA is imperative to decentralize economic growth and to achieve spatially more balanced development. Under this understanding, five Capital Region Development Plans (CRDPs) have been approved to restrict and manage Tokyo's growth in 1956, 1968, 1976, 1986, and 1998, respectively.

The most famous policy instrument in the First CRDP was the introduction of the greenbelt to restrict growth. The plan divided Tokyo MA into three categories: the existing built-up urban area, the suburban zone (the greenbelt), and the neighboring regions (satellite cities) beyond the greenbelt. While strict controls were made in the existing built-up areas to limit industries and universities, incentives

7. The five objectives are create regions that are independent and that residents can take pride in; make Japan a safe and comfortable place to live; enjoy and nourish sound nature's blessing; build a vigorous economic society; and make the nation open to the world. The four strategies are build nature-rich residential areas; renovate metropolitan areas; form regional cooperation corridors; and form international spheres of interaction on a large scale. <http://www.mlit.go.jp/kokudokeikaku/zs5-e/index.html>.

were provided to channel development to the neighboring satellite cities outside the greenbelt. The greenbelt was expected to form a clear separation between Tokyo and its surrounding areas (BCPTMG 2004). It was also expected that the prohibition of new land development (such as new construction and expansion of factories and schools) in the built-up areas would relocate growth to unrestricted areas so that regional disparity could be reduced.

The Second CRDP was developed in 1968. It abolished the greenbelt and designated the whole area outside the existing built-up area within 50 kilometers of Tokyo Station as the Suburban Development Area. It also focused on improvement of regional public transportation such as mass transit systems and a regional highway network. The transportation improvement was targeted at development of existing urban areas and new towns. An urban growth boundary was introduced in the New Urban Planning Law to promote growth in designated areas by separating “urban development promotion areas” and “urbanization control areas.” It was worth highlighting the fact that Tokyo’s greenbelt was short-lived. It was abolished so soon mainly because of strong development pressure and fierce political opposition from property owners and developers (Sorensen 2002). This suggests that plans in Japan were sensitive to changes in demand and flexible to better adjust to changing reality.

The Third CRDP (1976) focused on a polycentric urban spatial form and promoted the growth of subcenters, as a new measure to promote balanced urban development and to relieve excessive concentration in the traditional Central Business District (CBD). The polycentric development strategy was further strengthened in the Fourth CRDP (1986) by developing business cores in every city. Moreover, consistent with the Fourth CNDP, the Fourth CRDP also indicated its intention to maintain Tokyo’s function as a global business center, marking a clear strategic change in managing Tokyo MA’s urban development. In this plan, an eclectic strategy of “selective inducement and relocation” was adopted, which tried to compromise between the goal of being a world city and the objective of solving problems of overconcentration (Saito and Thornley 2003). Although overconcentration was still one of the top concerns, the plan showed its intention to further attract businesses and headquarters to Tokyo MA. In the Fifth CRDP (1998), the objectives of regional structure maintained its focus on rectifying the concentration to the center of Tokyo and facilitating formation of core cities for each of the subregions, which were expected to become autonomous areas.

## South Korea

South Korea’s urbanization policies bear a close resemblance to those of Japan in terms of their goals and objectives. Urbanization policies were first introduced in the 1960s when the country went through rapid industrialization and urbanization. Since the Seoul Capital Region, as the biggest MA in South Korea, was so dominant in terms of size distributions of population and economic activities, containing and redirecting growth away from Seoul became a critical element to achieve the national

objectives of promoting balanced development and encouraging deconcentration in the Seoul Capital Region (Ahn and Ohn 2001).

### *National Policy*

The National Comprehensive Development Plan was initiated in the early 1960s as the most important national policy on urbanization. With the enactment of the Urban Planning Act of 1962 and the Comprehensive National Development Planning Law of 1963, the First Comprehensive National Physical Development Plan (CNPDP) (1972–1981) was formulated in 1971 (Cho 2002; Douglass 2000).

Perhaps the most famous concept in the First CNPDP was the introduction of the Development Restricted Zone, which was commonly known as the greenbelt (Jun and Hur 2001). The objective of greenbelt designations was to control rapid urbanization in large cities, especially in Seoul, by prohibiting development in greenbelts. It was hoped that growth would happen outside the greenbelts so as to force growth to other regions. There were fourteen cities that established greenbelts between 1971 and 1973.

Another core policy element in the First CNPDP was the Seoul Population Redistribution Plan (SPRP), passed in 1977. Despite the title, the plan was a national effort to redirect population growth away from Seoul to other cities. Based on the forecast that Seoul's population would grow from 7.4 million in 1977 to 11.4 million in 1986, the main objective of SPRP was to control Seoul's population around 7 million. The national government adopted two implementation measures. One was to create the National Population Redistribution Coordinating Committee, chaired by the prime minister, to coordinate governmental efforts as well as regional collaboration (Kim and Donaldson 1979). The other included a wide range of comprehensive efforts such as nationwide land-use management (which controlled land uses and development of industrial estates, based on the National Land Use Management Law of 1972), designation of regional cities (five cities with targeted population of 0.2 to 1 million in 1978), and industrial redistribution (which divided the nation into three zones: Industrial Inducement Areas, Limited Inducement Areas, and Industrial Relocation Areas, based on the Industrial Redistribution Law of 1977). Seoul City and its immediate vicinity were designed as Industrial Relocation Areas so that new industrial development was prohibited and research and educational institutes were not allowed to expand. Financial incentives and tax penalties were imposed to encourage industrial development or relocation. In addition, governments took measures to control land prices and financed infrastructure in designated areas for development.

The focus on dispersion of growth and regional balance was further stressed in the Second, Third, and the most recent Fourth CNPDPs. The Second CNPDP (1982–1991), for instance, contained two key policy recommendations. One was to promote regional integration, and the other was to adopt a growth pole strategy, both aiming at reducing regional gaps while employing different approaches. The former focused on linkages between city nodes and rural areas in order to make

services and job opportunities provided in city nodes accessible to rural residents. The latter emphasized the concept of concentrated deconcentration and chose provincial cities as growth poles, hoping to strengthen growth potentials of these cities so as to prevent population concentration in the Seoul Capital Region.

The Fourth Plan changed its name to the Comprehensive National Territory Plan (CNTP) (2000–2020). Among its five objectives, balanced territory was the first.<sup>8</sup> This plan maintained the emphasis on building a multinucleic decentralized territorial structure as well as linkages and cooperation among regions. What is more, a strategy of building self-supporting regions and emphasis on an efficient transportation system were stressed. The plan also emphasized different development guidelines for different regions.

### *Local Policy: Seoul Metropolitan Area Management*

Besides the national efforts, regional policies specifically for the Seoul Capital Region were also formed. A series of efforts have been launched since the mid-1960s. First, Special Measures for the Restriction of Population Growth in Seoul were introduced in 1964 (Ahn and Ohn 2001). In order to control growth in Seoul City, industrial parks were established along major transportation corridors, and new land developments (commercial, office, and residential) were expanded to the southern areas along the Han River. Urban renewal programs began to clear out slum housing in the inner part of Seoul City and replaced it with commercial and office buildings. New industrial construction and expansion of research and educational institutes in Seoul City were also prohibited.

Second, according to the First CNPDP, a greenbelt that formed a geographic band surrounding the city was established in 1971 to control Seoul's sprawl. The band is on average 19 kilometers in width and located about 14 kilometers from the Seoul's CBD. After many adjustments, it occupies 1,566.8 square kilometers (Bae and Jun 2003).

Third, the Capital Regional Plan was first developed in 1984. The plan divided the Seoul Capital Region into five functioning zones: Relocation Promotion Zone, Restricted Rearrangement Zone, Development Inducement Zone, Natural Preservation Zone, and Development Reservation Zone. Different policies were designed for and applied to the five zones to achieve the goals their names implied.

Finally, the New Town Development Plan was announced in 1989, which in fact marked a compromise to the failure of urban containment policies. Five new towns were developed in five years to accommodate housing needs for 300,000 households or 1.2 million people (Jun and Hur 2001). New town development was a part of government efforts to address housing shortage and skyrocketing housing prices caused primarily by strict control on development in greenbelts.

8. The five objectives are balanced territory, open territory, welfare territory, green territory, and unified territory (MLTM 2009).

Starting from the 1990s, the general framework of growth management in Seoul Capital Region began to change. The five functioning zones were reconsolidated into three in 1991: Overconcentration Restriction Zone, Growth Management Zone, and Nature Preservation Zone. Land use and development became more flexible. Different land uses were set different development limits within which a certain degree of freedom was permitted in site selection of land development. Also, the scheme of development impact fees was used to manage urban growth, which marked a shift from the traditional regulatory approach to more flexible and incentive-based ones (Ahn and Ohn 2001).

## China

Like Japan and South Korea, China has nationwide policies to manage urbanization and city growth.<sup>9</sup> Unlike Japan, South Korea, and many other countries, however, China has nationwide administrative systems that greatly affect mobility of population and rural-urban migration. China's urbanization policy is thus in some senses more effective and influential mainly because of its top-down administrative systems that convey strong state influences. Several institutional mechanisms have been used to manage and control urbanization and urban growth in China: the *hukou* system, urban development strategy, the central government's authority in granting city status, city planning, and land-use planning.

### *Hukou System*

China has a distinct *hukou* system to manage its urbanization process. This is a household registration system that limits population mobility between jurisdictions in general and rural-urban migration in particular. It is difficult for rural *hukou* holders to live in the city without obtaining an urban *hukou*, which is required to access urban services such as health care, social security, and education.

This mobility restriction by the *hukou* system leads to two major consequences for urbanization. One is related to the urban agglomerative effects. Empirical studies show that cities could have grown much faster than they have if migration controls were released, since rural-urban mobility restriction by the *hukou* system hinders urban agglomeration (Henderson 2007). The other is associated with the floating population, a unique phenomenon referring to rural residents (with a rural *hukou*) who work and live in cities.<sup>10</sup> It was estimated that there were 150 to

9. Here we focus on policies during the postreform period since 1978.

10. Since 1980s, China's urbanization shifted from previous single-track to a dual-track model. In the prereform period, urbanization was on one track of the state-sponsored approach, in which urbanization only referred to growth of people with nonagricultural *hukou*. Since early 1980s, another track called "spontaneous urbanization" emerged as the second track, which includes rural migration without urban *hukou* (Yeung and Shen 2008).

250 million floating people in 2008. According to the way in which urban population is counted (since the early twenty-first century, part of the floating population began to be counted as urban population if they have continuously lived in a city for more than six months), it is apparent that not all the floating population are included in statistics of urban population. Therefore, the reported urban population is subject to substantial underestimation.

### *Urban Development Strategy*

China's national urbanization strategy, greatly favoring small cities and towns, was established in the late 1970s and the early 1980s. In the third National City Working Conference in 1978, this strategy was formally adopted as "controlling the scale of large cities, and encouraging development of small cities and towns."<sup>11</sup> Further, in 1980 the National City Planning Working Conference added the principle of "properly developing medium sized cities." In 1989, this strategy was written into the first City Planning Law. This city-size-based urban development strategy had been carried out as the top guideline for almost three decades and had greatly influenced urbanization and urban growth in China. It was not until 2008 that this small-cities favored policy was abolished and replaced by the City-Rural Planning Law.

### *Government's Control on City Establishment*

One way of implementing China's urban development strategy is through the administrative channel of granting city status. The rapid increase in the number of small cities and towns in the late 1980s and early 1990s was the direct outcome of the small-cities favored growth policy. The number of small cities increased by 244 from 1980 to 1990 and further increased by 104 from 1990 to 2000. In contrast, the number of medium-sized and large cities increased by 155 in the two decades (NBSC 1999, 2001, 2005a).<sup>12</sup> Since the authority of granting city status relied solely on the central government, the national strategy had stronger influences on urbanization in China than in Japan and South Korea.

Cities in China are not just economic entities but also have enormous administrative privileges. In general, higher-level cities have more leverage in levying taxes and fees and large bargaining powers in obtaining intergovernmental transfers; they

11. Before 1986, a large city was defined as having 0.5 million or more nonagricultural population living in the urban built-up areas and suburbs, a medium-sized city should have 0.2 to 0.5 million nonagricultural population, and a small city should have less than 0.2 million nonagricultural population. After 1986, the population ranges were raised to 1 million and above, 0.3 to 1 million, and less than 0.3 million for large, medium-sized, and small cities, respectively (<http://www.china001.com/>).

12. Small, medium-sized, and large cities here are defined by the nonagricultural population in the city proper (*shiqu*), the ranges are less than 0.2 million, 0.2 to 1 million, and 1 million and above, respectively. Data source: NBSC 1999; 2001, 2005a.

also enjoy more autonomy in budget preparation and government expenditure decisions. There are many cases in which the size of a government in terms of employment is determined mainly by its administrative status, rather than actual city scales of population and economic output.<sup>13</sup> For instance, Kunshan is a county-level city located in Jiangsu Province. It had 600,000 people with local *hukou* (often called *changzhu renkou*) and 1.4 million people without local *hukou* (floating population) in 2005. The maximum number of staff in Kunshan's urban planning department is around 30, which is jointly determined by local population and city administrative status. An urban planning department in prefecture-level cities with populations of 2 million usually has a staff of 100 to 200. The city-status-determined quota or ceiling implies understaffing in Kunshan City. Thus upgrading to a higher-level administrative status (from bottom to top: town, county-level city, and prefecture-level city) means substantial increases in government size and fiscal capacity. Recognizing the potential economic impacts, the central government had established many small cities and towns in 1980s and 1990s to promote growth, particularly in less developed regions.

### *Urban Planning*

Urban master plans determine growth targets of city scale or urban population, designate physical areas for urban development in the planning horizon, and forecast demand for land as well as urban infrastructure. The Beijing Master Plan of 1992–1993, for instance, determined two development quotas by 2010: one was the population size target of 15 million people (including 2.5 million floating population), and the other was built-up areas of 900 square kilometers.<sup>14</sup> The population growth quota was used to guide the provision of urban basic services and infrastructure while the land development quota was designed to physically control urban spatial growth.

The vertical management of urban development is reflected in the fact that these development quotas are not determined at the local level but approved by the higher level of government. For instance, it is mandated that urban master plans of province-level cities should be approved by the State Council while province capital cities, cities with more than 1 million population, and cities that are specified by the State Council should be approved first by province-level governments and then by the State Council. Other cities' urban master plans should be approved by province-level governments. Thus the size of population growth in the planning horizon and the extent to which a city can grow spatially are not merely local decisions. The influences of the higher-level governments in planning urban development are undoubtedly strong in China.

13. There are four province-level cities (Beijing, Shanghai, Tianjin, and Chongqing); 15 semi-province-level cities (Shenzhen, Shenyang, Dalian, Guangzhou, Nanjing etc.); 268 prefecture-level cities; and 374 county-level cities by 2005.

14. In fact, the target of built-up areas was exceeded by 250 square kilometers by 2003.

*Land Policy and Land-Use Planning*

Urban growth is a land development process in essence. Therefore, any land policy that affects land conversion into urban uses would influence urban growth. The unique institutional setting that governs land use and land development in China empowers land policies and land-use plans to manage and control urban growth. First of all, landownership is divided between urban and rural areas. Land in both cities and towns is state-owned while land in rural areas is collectively owned by farmers. Second, collective-owned land is prohibited from development for urban purposes unless the ownership is converted to state ownership. Third, China has introduced a land-use quota system as a way to protect farmland. This system basically sets the maximum amount of land that can be converted into urban uses from agricultural uses within planning periods. Finally, the quota is determined through the top-down administrative channel. For instance, the amount of land allowed to be developed for each province is determined by the national government, and each provincial government in turn determines the quota for its subdivisions. In principle, this setting for land management suggests that urban development would be impossible without permission from the higher-level governments.

## ASSESSMENT OF URBANIZATION AND GROWTH MANAGEMENT POLICY

**Japan**

In general, the policy objectives in the second half of the twentieth century in managing urbanization and containing large cities, particularly Tokyo, can hardly claim to be successful. This is mainly because population and economic activities became even more concentrated in large cities and the major MAs, though policy and planning efforts were launched to prevent this from happening. Outcomes from the growth pole strategy were mixed. Many designated growth poles grew slower than other cities, and not as many jobs as expected were provided (Glickman 1979). NICs and SAs located close to the major MAs mostly grew while others located farther away did not (Osada 2003). The policy failure in dispersing growth during rapid urbanization is also manifested by the frequent revisions of Japan's CNDPs, whose focuses have shifted remarkably.

The policies aiming at containing Tokyo growth ended in vain. The greenbelt was very short-lived, and efforts in establishing subcenters in Tokyo's outskirts produced mixed results (Saito and Thornley 2003). Not all designated subcenters and new towns experienced obvious population growth. Only three subcenters in the northern arc at ma new town and Kohoku new town have witnessed rapid population density growth. Employment in some subcenters (such as Shinjuku and



Shibuya) had grown faster while many of the others grew at rather similar rates of municipalities not designated.

City size does not matter if the city is well planned, particularly with well-integrated land use and transportation. The Tokyo MA is the biggest megacity in the world, with 34 million in population. In spite of the failure of the major planning objective, it is still considered to be a successful city with efficient services, mobility, accessibility, and amenities for all classes of people (World Bank 2009). This is largely due to the dominant role of the public transport network in urban spatial growth in Japan. Tokyo has relied on railway networks to accommodate daily travel demand within the metropolitan area. Since the 1950s, approximately ten kilometers of new subway line were constructed every year, leading to a considerable share of railway ridership that has accounted for almost two-thirds of public transportation demand.

There are several speculations for why Japan's urbanization policies have in general failed to achieve the intended objectives and goals. First, urban development policy and planning practice paid little attention to market influences or urban agglomerative effects, particularly in the early stage of rapid urbanization. For example, during the first structural shift toward heavy industries, it was very difficult to constrain rural-urban migration and to contain urban population growth. Similarly, the economic restructuring in the 1970s and 1980s from heavy industry to high-tech and service industries helped to transform Tokyo City into a global city of finance and business services. It was not until the late 1980s that the importance of scale economies in city growth was recognized and considered in policy making. The fourth CRDP of 1986 reemphasized the role of Tokyo as a "world city" and the need to attract businesses and headquarters. The word *competitiveness* began to appear frequently in urban plans and policy documents, which signaled a policy shift away from the physically designed spatial arrangement (Saito and Thornley 2003).

Second, lack of infrastructure investment and market demand explained the policy ineffectiveness in promoting many designated areas for development—the so-called growth poles. Although the central government claimed heavy investment for the NIC and SA programs, the per capita public investment index in the NICs and SAs was on the contrary below the national average, suggesting insufficient efforts of local and central governments or unmatched local investments (Glickman 1979). Actual development in these NICs and SAs revealed that neither program had achieved the original objectives since they had not yet fully emerged as self-propelling growth poles. By 1974, only three of the NICs achieved the targeted investments, and by 1975, none of the NICs or SAs reached its population growth targets. Even with extra efforts in attracting investment and business, population growth in NICs or SAs was not necessarily faster than in other cities. In fact, seven out of the fifteen NICs grew slower than other cities in the same prefecture (Glickman 1979).

Third, the policy of balanced and dispersed city growth has not been well echoed by other government actions, particularly in infrastructure investments. For instance, enormous investment in infrastructure such as the large-scale expressway

system (including the Tokyo monorail and the Tokaido Shinkansen high-speed railroad) in Tokyo region, as it prepared for the 1964 Olympic Games, had greatly improved regional accessibility and further enhanced the regional economic development potential. As a result, businesses and firms flowed in, increasing the level of economic concentration in Tokyo MA. This strong market demand for development also led to the abolishment of the short-lived greenbelt policy.

## South Korea

Similar to in Japan, urbanization policies in South Korea hardly achieved the original objectives. Despite many efforts at containing the growth of Seoul and encouraging development elsewhere, the growth rate of Seoul's population was still twice as high as that of the national average in the 1980s and 1990s (Hong 1997). Although the population of Seoul City declined slightly since the mid-1990s, the population of the entire Capital Region continued to increase. The five urban centers that aimed at directing population from Seoul had grown by about 1.9 million people from 1980 to 1990, but the population of Seoul City also had increased by 2.2 million and reached 10.6 million by 1990 (Kang 1998). The planned population targets of the Capital Region were exceeded. The First and Second CNPDPs anticipated 1.218 million and 1.003 million population growth, while the actual increases were 4.985 million and 4.265 million, respectively.

Policies designed for shifting the growth from already overconcentrated areas to the development promotion areas also proved to be far less successful on both national and regional levels. During the 1970–1990 period, population growth rates in Development Promotion Areas were always lower than the national average, while population growth rates in the Relocation Promotion Areas and Growth Management Areas were twice and four times as fast as the national average.<sup>15</sup> Agglomeration economies in Seoul and the importance of the Korean tradition of face-to-face contact in various activities seemed to outweigh the planners' idealism and the government's regulations.

Unlike Japan, South Korea had rigidly applied the greenbelt policy for three decades. Despite the success in its implementation, the overall effects of greenbelt are regarded as unclear or negative (Bae 1998; Cho 2002; Kim and Son 2004; Bengston and Youn 2005). Strong development pressure and land shortage inside the Seoul greenbelt have pushed development to jump over, causing urban sprawl and leading to negative consequences such as longer commuting time and distance, destruction of open space, farmland encroachment, rising infrastructure costs, and ballooning housing prices. These negative effects have been quantified in empirical studies. For example, Kwon (2001)'s study indicated that (1) more than 70 percent of the population living in the largest new town Bundang commuted daily to Seoul;

15. Economic Planning Board, *Population and Housing Census, 1970–1990* (cited from <http://www.unu.edu/unupress/unupbooks/uu11ee/uu11eeok.htm>).

(2) 44 to 68 percent of the population of other new towns commuted to Seoul; and (3) only 12 to 28 percent of the population's jobs were located within its own new town. Jun and Hur's (2001) study provided more detailed estimates of the cost of greenbelt; they found that under certain assumptions the total commuting costs of the "leapfrog" new town development would amount to \$42.45 million per year, and if travel time is included, this number would rise to \$254.59 million per year.

The gap between the target and the actual growth in Seoul and the Capital Region has also contributed to increasing problems in transportation and housing. Land shortage due to the greenbelt cannot escape the blame. From 1980 to 1990, for instance, the housing rent index increased 3.2 times while the consumer price index increased less than 2 times (Jun and Hur 2001). The high cost of living, housing cost in particular, in Seoul and the Capital Region leads to increases in general wages and prices and, thus, the production cost of the nation. As a result, South Korea is turning into a very high-labor-cost economy whose sustainability is challenged (Bertrand 2009).

The failure of South Korea's urbanization policy during the rapid urbanization period can be blamed on similar reasons as in Japan. Economic growth potential in the Capital Region was underestimated; investments in infrastructure were not directed away from the capital region; the central government's intention was not endorsed by local efforts and infrastructure investment, suggesting inconsistency and lack of coordination between governments; and the Capital Region was more favored by economic restructuring that moved away from manufacturing to modern services (Kim and Donaldson 1979; Cho and Kim 1991; Ahn and Ohn 2001).

## China

Looking at the increases in the number and population shares of small cities, it appears that China's policies have achieved their initial objective of promoting small-city development. Among the 467 newly emerged cities from 1978 to 2004, 224 (about 48 percent) were small cities. The small city's share in the total urban population also increased significantly from 13.0 percent in 1980 to 21.5 percent in 1990. Unlike in Japan and South Korea, the urban population share of the large cities did not change much, remaining in the range of 38 to 44 percent.<sup>16</sup>

There are, however, doubts over the effectiveness of the national urbanization policy because a significant portion of floating population in large cities is not counted. For instance, the official data of Beijing's permanent population (*changzhu renkou*) in 2003 was 14.56 million (including people with Beijing *hukou* and people without Beijing *hukou* but who have lived in Beijing for more than six months), but the unofficial estimate of the total population exceeded 20 million. This is partly because there are many uncounted floating population living in Beijing as well as many other Chinese cities less than six months and partly because an arbitrary criterion (six months) is used to determine who are counted and who are not.

16. See note 11.

Moreover, the establishment and development of small cities did not help much, if any, in reducing either the rural-urban gap or regional development disparity. This is because (1) promotion and granting of city status were based largely on political considerations rather than economic foundations and growth potentials; and (2) there was a lack of mechanisms to make rural areas benefit from industrialization and urbanization. As a result, the ratio of per capita urban income over rural income increased from 2.2 in 1990 to 2.8 in 2000, and then to 3.2 in 2004 (NBSC c). The nominal urban consumption standards remained about 2.5 to 3.0 times higher in urban compared with rural areas (Chen and Parish 1996). In addition, the small city's share in the total urban population began to decline in the mid-1990s. In 2000 its share dropped to 17.9 percent, and in 2004 it further decreased to 13.9 percent.<sup>17</sup>

Similar to Japan in the sense that economic activities have concentrated in the Pacific Belt, China's eastern coastal areas have been the center of economic growth. In 1978, the eastern region contributed 50 percent of the nation's GDP, 1.7 times that of the central region and 2.4 times that of the western region. This regional disparity increased with economic development. In 2004, the eastern region's share of national GDP increased to 58 percent, 2.4 and 3.5 times that of the central and western regions, respectively. Gaps in per capita GDP also broadened. In 1978, per capita GDP of the eastern region was 1.56 and 1.85 times that of the central and western regions; these numbers increased to 2.4 and 3.5 by 2004 (NBSC 2005a).

Despite various efforts to slow down the growth of large cities, they became much more important in China's rapid urbanization. The share of GDP produced by prefecture-level cities over total national GDP increased from 36 percent in 1990 to 63 percent in 2007.<sup>18</sup> The contribution of big cities to the nonagricultural economy was even bigger. In 1998, the prefecture-level cities produced 63.7 percent of the GDP in the tertiary sector, and this number jumped to 71.5 percent in 2006.<sup>19</sup> The increase in concentration of industrial activities in big cities is even more striking. From 1998 to 2006, the share of secondary industry's GDP produced by prefecture-level cities increased from 47.0 percent to 65.1 percent.<sup>20</sup>

Top-down management has been emphasized since the middle of the first decade in the twenty-first century in urban planning and land-use planning, even though the country is moving greatly toward economic and fiscal decentralization. The nature of top-down management in urban planning and land-use planning is

17. See note 11.

18. Prefecture-level cities are usually the larger ones, due to historical reasons. There were 188 prefecture-level cities in 1990. So after discounting this trend, the increase of economic concentration in prefecture cities is striking.

19. Here GDP by nonprimary economies in *shiqu* (city districts/city proper) instead of *diqu* (city administrative territory) are used.

20. Calculated from data using statistic yearbooks of China cities of 1999 and 2007.

manifested in vertical approval requirement. Either the provincial or the central government, depending on the city's size, approves the urban master plan. Similarly, in the land-use plan that determines land development and land-use quotas, either the provincial or the central government approves the city's land-use plan. This type of top-down management and control can be very efficient in promoting growth in some cities, depending on political preferences and wills. For instance, remarkable growth rates in Shenzhen, Kunshan, and Dongguan (to name just a few) revealed effective government intervention and profound influences in city growth. Shenzhen has seen rapid growth since economic reform, with its population increasing from 0.33 million in 1980 to 1.68 million in 1990, 7.01 million in 2000, and 8.77 million in 2008.<sup>21</sup> Similarly, Kunshan grew from a population of 0.60 million in 1992 to 0.73 million in 2000 and jumped to 1.40 million in 2006 and then to around 2 million in 2008 (Ding 2008). This type of remarkable urban growth in a few cities is achieved through outstanding government maneuvers in resource allocation, large-scale government-led development, massive state-funded investments in infrastructure provision, strong government-assisted international trade and investment, and, very important by favorably granting development quotas (population size, physical size, land use, and land development quotas). This model of government control and development for these specific cities so far works well, but how far it can go and how well this model can be successfully duplicated for other cities remains to be seen.

The negative sides of top-town management and planning systems can be substantial. This top-down administration is at odds with economic and fiscal decentralization that has been one of the key factors for the economic miracle in China. Driven by economic incentives, local governments mobilize whatever resources to promote growth regardless of the actual demand. In doing so, fierce local competition is a natural outcome. Inevitably, strong motivation and incentives behind growth often lure local officials to aggressively engage and promote land development and in doing so to challenge the effectiveness of vertical management and control in the plan and quota approval processes. Local competition directly resulting from fiscal and economic decentralization is accredited to outstanding economic advance in the past three decades. But it also causes economic overheating and bubbles that threaten the stability of the macro-economy and undermines national macro-policies. In fact, prevailing redundant projects and overinvestments in manufacturing resulting from local competition have suggested failure, at least partially, of the top-down management in urban growth with the presence of strong local incentives. The value of warehoused industrial goods in China, for example, was estimated at \$200 billion in 2006. The production capacity of the steel sector was estimated at 470 million tons in 2005, whereas the actual demand was only 370 million tons. To make matters worse, the total capacity of steel production will cap at 600 million tons when all planned and under-construction projects are

21. Shenzhen Statistic Bureau, <http://www.szsj.com/main/xxgk/tjsj/tjnj/200911202496.shtml>.

completed. In some industries, overcapacity exceeds the actual demand by more than 100 percent.<sup>22</sup>

The fierce local competition also contributes to excessive land conversion, motivated by land revenues (Ding 2009). Overdesignation of Special Economic Zones (SEZs) and lack of capital investment cause much converted land to remain idle and undeveloped.<sup>23</sup> An SEZ is an administratively established geographic region that offers more liberal economic and/or legal incentives than others (Ding 2009). It is usually established to attract foreign investment and to promote international trade. In 2004, China had 6,866 SEZs occupying more than 38,000 square kilometers of land. The concerns of rising social unrest from land requisition from farmers, farmland depletion and food security, recognition of an overheating economy, and the risk of high inflation prompted the central government to take aggressive measures against the SEZ fever. More than 4,800 SEZs were canceled in the summer of 2004, associated with 24,900 square kilometers of land (accounting for 64.5 percent of total SEZ land); more than 1,300 square kilometers of land were forced to return to agricultural use (Cao 2004). It should be pointed out that SEZ fever is driven largely by enormous economic success, at least in some of them. SEZs, at least some of them, become of great importance to local economies as they emerge as prominent hubs in terms of industrial output, employment concentration, and FDI. A survey of fifty-four national SEZs in 2007, for instance, revealed that they contributed 5.15 percent of national GDP, 4.1 percent of national tax revenues, and 23.2 percent of total FDIs.<sup>24</sup> The economic growth rate of the fifty-four SEZs was also remarkable. In 2007, GDP grew by 25.5 percent, more than double the national average.

Finally, China's planning system suffers from the ineffectiveness of impacts on urbanization and city growth because of its sectoral fragmentation. The fragmentation of the planning system lies in its sectoral management. Different government authorities take charge in different planning practices. Urban planning, for example, is undertaken by the Department of Urban Planning. Land-use planning is one of the primary responsibilities of the Department of Land and Resources, while capital projects and establishment of various SEZs are overseen by the Department of Development and Reform. Each of these three departments (Urban Planning, Land and Resources, and Development and Reform) play important roles in city growth management and can substantially affect the course of city growth, creating fragmented administrative and planning systems in which inconsistent policies and

22. Industrial sectors of severely oversupplied capacities include electrolytic aluminum, ferroalloy, coke, calcium carbide, automobiles, copper smelting, cement, electric power, coal, and textile goods. Sectors of petrochemical, paper box, chemical fertilizer, domestic electric appliances, microcomputers, and shipbuilding also have excessive capacity of production.

23. There are Free Trade Zones, Export Processing Zones, Industrial Estates, Urban Enterprise Zones, High-Tech Industrial Parks, Science and Technologic Parks, Economic Exploitation Zones, and others.

24. [http://www.qetdz.com.cn/zhengcefazhiju/xxdt\\_content.asp?news\\_id=12197](http://www.qetdz.com.cn/zhengcefazhiju/xxdt_content.asp?news_id=12197).

government actions by different agencies often lead to uncoordinated and chaotic development patterns (Ding 2009). This lack of synthesized policy and coordinated government actions is accredited with failure in national efforts in managing and controlling urbanization and urban growth.

## CONCLUSIONS AND FINAL REMARKS

Experiences of policy responses to rapid urbanization in Japan and South Korea may be very valuable for other countries such as China, which is in an era of fast urbanization and city growth. Other developing countries can also benefit from China's experiences. Reviewing the three countries' interactions between policy and urban growth reality leads to the following conclusions.

First, policy controls over the course of urbanization are often ineffective if they are against market forces. Government efforts have been initiated in Japan and South Korea to contain the sizes of Tokyo and Seoul, but they grew to their current dominant sizes mostly driven by market forces. Policy and planning measures that attempted to spatially disperse economic concentration in the Tokyo region by promoting polycentric urban structure have not delivered their full promises. Instead, globalization and upgrading of Japan's economic structure indeed accelerated the growth of the Tokyo region, particularly its core central areas. Similarly, urbanization policies designed to restrict population in the Seoul metropolitan area were not able to counteract market forces. To make matter worse, some policies even created unwanted consequences and generated huge socioeconomic costs even though their policy objectives were desirable. The Seoul greenbelt, as discussed earlier, has incurred wide criticism for its negative effects. Another example of unwanted consequences is that the prohibition of manufacturing firms has led to huge numbers of unregistered factories. It is estimated that there are more than 200,000 unregistered factories in the Seoul Capital Region, contributing to unmanaged urban development, forgone tax revenue, limits to business expansion due to the inability to collateralize unofficial assets, environmental degradation, traffic congestion, and the general lowering of the quality of life of residents (World Bank 2009).

China's experiences echo well with this general conclusion, though the country is still in a period of rapid urbanization. Administrative and regulatory approaches are proving not to be enough. As mentioned earlier, despite statistical reports of an unchanged population share of large cities, the combination of undercounted floating population and unprecedented spatial growth of built-up areas in large cities like Beijing, Shanghai, Guangzhou, and Shenzhen suggests the failure of the policy of "strictly controlling large cities." Although small cities grew quickly in number in the 1980s and 1990s, that was mainly due to administrative relaxation in city designation; the decline of population share of small cities since the mid-1990s implies the failure of the policy of "actively promoting the growth of small cities."

Second, city size does not matter if the city is well planned and coordinated with infrastructure and transportation development. It is also clear from all three countries' experiences that urbanization policy will be more effective if it is integrated with market forces. This planning and market integration can be done through incentive-based development mechanisms and infrastructure-permitted/directed spatial growth. In other words, negative externalities from development can be priced while growth pressure is accommodated at the same time. The land development model around metro station areas in Tokyo offers a best practice of public-private partnership in managing urban development. In the model, developers are required to construct light-rails in exchange for development rights of real estate projects. The developers are happy to be able to capture business opportunities created by improvement in accessibility, while governments are happy with private investments in transportation that is also coordinated with land development. In contrast, Seoul is more sprawled and has worse problems from congestion and high housing prices, though it applies stricter regulations and controls. So what matters most is how a city or metropolitan area is formed (urban spatial structure) and served by transportation systems (land use and transportation integration) so that labor accessibility is maximized and urban transaction costs are minimized. It definitely is not the city size itself that determines its sustainability and competitiveness.

Third, policy responsiveness to demand and flexibility could be important in promoting efficient city growth. Take the greenbelt policy, for example. In Japan, it was established with the high expectation of separating central Tokyo from its surrounding areas; however, under economic and social pressures, this policy was abolished in a more responsive way, compared with Seoul, in which the greenbelt policy had been strictly applied for three decades despite much criticism and opposition. It might be a success in terms of plan implementation; however, the economic efficiency loss and related problems are costly for Seoul. South Korea also adopted and enforced rigid zoning designation. It heavily relied on regulatory approaches, leaving little room for market incentives to play a role. China's planning system shows similar characteristics in terms of land-use restrictions on location choice, uses, and intensity (Ding 2009). There are signs in these three countries indicating that policy and planning have become more responsive and flexible in managing urban growth. Japan did it during its rapid urbanization, while South Korea released strict regulations in land use in the posturbanization period. Seoul's five zones were later merged into three, and more freedom of land use was granted to the market in the 1990s. China is starting to build a unified *hukou* system that abolishes rural-urban discrimination and has launched pilot tests of this new system in Chongqing, Guangdong, and a few other cities and provinces.

Fourth, the national government's involvement in city growth turns out to be very important, particularly in forming and developing metropolitan areas that cross different jurisdictions. This is because smooth interconnection of transportation networks and coordinated service and infrastructure provision are necessary to integrate core urban areas, cities, towns, and surrounding suburbs. Efforts

to promote economic dispersion and balanced growth also need strong intervention by the national government. In this regard, China is well positioned.

Fifth, it is costly to develop new cities or satellite towns. Neither Japan's NICs nor Seoul's new towns provide successful experiences. In particular, the new towns help little in containing Seoul's growth, but their negative effects are substantial, leading to urban sprawl while imbalances between housing and employment locations cause longer commuting distances.

Finally, urban agglomerative effects are the most important driving forces causing cities to grow, especially large cities. Due to difficulties in measuring these effects, it is hard to establish strong empirical evidence, which makes agglomerative effects poorly understood among policy and planning decision makers. Nevertheless, limited empirical studies have concluded that agglomerative effects become more important when a city's economy upgrades from manufacturing toward knowledge-based sectors. The development in both Japan and South Korea leads to the conclusion that the larger the city is, the more important it is to invest in public transit and to integrate land use and transportation.

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