

China Economic Research and Advisory Programme

Urbanization in China: Policy Issues and Options¹

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EXECUTIVE SUMMARY

Over the past three decades, China has achieved enormous economic growth, accompanied by a growing number of large and quite livable cities. In the coming years, urbanization will become increasingly an opportunity as well as a challenge to the country's effort to sustain rapid growth and maintain harmonious development.

This report first examines the role of urbanization in international development and identifies unusual features of China's urbanization compared to experiences in other countries. It then discusses a number of challenges and policy issues for the coming decade and suggests options for addressing them

WHY ARE CITIES SO CRITICAL TO SUCCESSFUL MODERNIZATION?

Urbanization is an integral element of industrialization and rapid income growth in all countries. Most manufacturing and service production is more efficient when undertaken in urbanized areas where firms can more readily copy best practice in technology and management from more advanced firms, and more easily access skilled workers as well as transport services and other intermediate inputs. As places where innovations are incubated and sophisticated skills developed, cities are engines of growth. Research shows that "knowledge accumulation" in urban environments leads to higher worker productivity. In the course of economic development, the largest cities evolve to become financial and business service centers, while industrial production decentralizes to small- and medium-sized cities which tend to highly specialize in particular lines of activity such as steel, autos, electronics, textiles, apparel, and wood products, as well as specialized services such as entertainment, insurance, and certain forms of health care.

In the earliest stages of development, income inequality between the urban and rural sectors often increases. Surplus labor in agriculture moves to cities to seek higher productivity employment and urban incomes grow more rapidly than rural ones. However, the gap peaks, declines and eventually disappears as surplus labor shrinks and the rural sector modernizes. For example, in South Korea, the urban-rural wage gap was eliminated by 1994; and in Sri Lanka and Taiwan, China the ratio was under 1.4 by 1995.

International experience shows that urbanization is typically accompanied by increased food security. As rural workers flow to cities, agriculture is ultimately transformed from peasant farming on small plots to modern, larger-scale farming with consolidated land holdings and high investments in land, farmers' education and mechanization.

Rapid urbanization has posed enormous challenges in many countries, especially as urbanization proceeds quickly while policy structures adjust slowly. At the national level, integration of capital markets often occurs more slowly than labor market integration facilitated by migration. A common problem is favoritism in capital markets and fiscal allocations to key cities, inducing huge migratory inflows to those cities and the development of over-crowded mega-cities. Related, within cities, only conscious and rapid improvements in urban management and planning can address the danger that cities become overwhelmed by problems of congestion and pollution and by the development

of urban slums breeding poor health, crime, and social unrest.

DISTINCTIVE FEATURES OF CHINA'S URBANIZATION

Several distinctive features of China's urbanization, compared to other countries, help reveal the key urban policy issues facing the country in the coming decade.

Comparative Rate of Urbanization Urbanization – in terms of both the physical expansion of cities and the growth of population living in them -- has been an important feature of China's remarkable economic transformation. China's urbanization over the last 20 years is unprecedented in sheer magnitudes of people involved. Still, China's annual rate of urban population growth, at about 3.5 % per year is well below the 5-6% rates typically experienced by other developing countries during their periods of rapid economic growth. Correspondingly, China's level of urbanization of 46% is below the 55% level typical for a country with China's level of real income per capita, and far below the 70-85% for developed economies. Related is the still huge surplus of labor in agriculture, which has increased in absolute numbers since 1978, despite the relative shrinkage of the rural sector. There is no doubt that rapid urbanization will continue in China over the next decade.

Large and Growing Urban-Rural Income Gap Through the *hukou* system and other policies, China has maintained a strict separation of the urban and rural sectors, making rural-urban labor mobility more difficult than in other countries. The strict separation of the urban and rural sectors has made income inequality in China the highest in Asia today. Experiences of more developed countries show that there are enormous potential gains in China's national income achievable by further increases in urbanization -- by integrating national labor markets so people can more readily move from low-productivity rural occupations to high-productivity urban ones. Increased urbanization is critical to reducing rural-urban income inequality and to sustained growth. Also the role of rural-urban migration in China's economic growth over the last 20 years has been enhanced by the relatively high degree of education of its rural migrants, compared to other countries.

Too Many Cities, Too Few People In the 1990's, China's urbanization was highly contained within regions and provinces, with relatively little long-distance migration compared to other large countries such as Brazil and the USA. Half of China's increased urbanization simply involved the reclassification of "rural" areas as cities. Most cities in China have too low populations to properly exploit the scale benefits of clustering local economic activity, thereby limiting urban productivity gains and economic growth. Relative to the rest of the world, China distinctly lacks cities in the range of 1-12 million in population. While Shanghai, Beijing and Guangzhou, for example, have evolved into mega-cities, recent research suggests that many prefecture-level cities are about half their efficient size. The research indicates that a doubling of the population in such cities would lead to a 20-35% increase in output per worker.

Economic Structure of Cities Compounding the problem of under-sized cities is insufficient concentration and specialization of individual industries in cities. This pattern

is inherited from the central planning era which favored the production of a wide range of manufactured products in most cities, often at an inefficiently small scale. Another issue is that officials in large cities in China, based on their training in the planning era and work experience in state owned enterprises, may favor industry. They may perceive fiscal incentives to retain manufacturing which generates a share of VAT revenues. Also they may perceive that promoting the industrial base will lead to city growth, in a context where the political status of city and its mayor depends on city population size. Such biases hinder the decentralization of industrial activities to more specialized medium- and small-sized cities as seen in most other countries at China's stage of development. Today in China, manufacturing should be decentralizing from the largest cities to medium- and small-sized cities. The comparative advantage and future growth potential of the largest cities lie in business and financial services.

The Urban Hierarchy China's urban system operates in a strict administrative hierarchy where the large oversee the small, an unusual form of governance. One aspect of this hierarchy is that the largest cities seem to have special access to capital markets and fiscal resources. For example, between 2002 and 2007, investment in fixed assets per capita in the 4 provincial level cities and 26 provincial capitals was about 4-5 fold that of county cities and almost double that of other prefecture cities, despite the fact that these smaller cities are now much more manufacturing intensive, relative to the service sector where capital requirements are much less. The dilemma is that this favoritism attracts firms and migrants and is fueling the rapid population growth of the largest cities compared to those further down the hierarchy. At the very top, there is a looming danger of the "Latin American disease": over-crowded mega-cities and accompanying slums.

POLICY OPTIONS FOR URBANIZATION IN THE NEXT DECADE

International experience demonstrates that cities are growth centers for technologically complex industries and modern services. The rapid urbanization forthcoming in the next decade provides China with enormous opportunities to maintain high growth through more efficient uses of its existing resources (rather than just more investment), through increased growth of higher value manufacturing and services, and through increased domestic demand relative to export demand as hinterland cities accelerate their growth. Realizing these potentials will require substantial reforms of urban policies and institutions. This report suggests two general directions for policy reform to enhance the prospects for sustained growth and internal harmony in the face of the challenges of urbanization:

- Enact reforms to unify national markets for land, labor and capital – similar to the very successful reforms that were carried out in markets for industrial materials and products. Strengthening property rights and integrating markets across the urban and rural sectors would allow factors to be employed in their highest and most productive uses and help develop the rural sector. Labor and capital mobility in particular will lead to a convergence of rural and urban incomes and enhance economic growth.

- Equally important reforms concern the administrative structure and management of urban regions. Rather than relying on obsolete command and control structures, with implementation of incentive structures, city managers might be better induced to make appropriate decisions regarding city finances and land acquisition and usage, and to improve urban services for city residents, including migrants from the rural sector. Competition would be promoted if the administrative hierarchy across cities was reformed so cities compete on an equal basis, facing the same tax base, financing and rate structures, and intergovernmental transfer formulas.

Integrating the Rural and Urban Labor Markets to Reduce Rural Urban Disparity

Considerable barriers still exist to labor mobility between the rural and urban sector. Removing barriers would lead to more efficient migration and labor usage, enhancing economic growth and reducing inequality. A key change in mind set would recognize that the bulk of rural-urban migration is permanent and irreversible. Migrant workers broadly defined make up 46% of the urban work force.

Creation of an integrated national labor market requires reform of the *hukou* system, so that, in effect, *hukou* status is divorced from the right of access to urban public services and markets. The basics could be accomplished now by granting migrants the same access as residents to urban labor and credit markets (including mortgages), emerging formal sector housing rental markets, urban social insurance and social security, schooling for children (in principle now in place), advanced job training for adults, and so on. Part of the divorce could involve granting local *hukou* rights to migrants and their families whenever the household head has secured employment in a city for, say, a half year, regardless of their place of origin. A different reform would restructure the *hukou* system so that rights of access to services, schooling, jobs, etc. are applicable throughout a given province. Liberalizing migration within all provinces would foster urban agglomeration generally, but also divert migrants from highly populated national cities such as Beijing and Shanghai.

Promoting Efficient Land Use and Enhancing Food Security

Good urbanization policy includes conservation of natural resources – energy, water, land and the environment. The incentives faced by urban managers encourage implicit or explicit conversion of farmland to urban use and over-dependence on automobiles which promotes urban sprawl. Efficient land use between the urban and rural sectors and within cities would be promoted through more market-oriented policies which improve property rights and incentive systems and regulate emerging urban land markets. Some possibilities discussed in the report include the following:

- Full recognition of the property rights of peasants over their rural leaseholds and village lands. Have cities face the true cost of taking of agricultural land.

- Strengthen the property rights of existing urban land users, so as to encourage redevelopment of (“brown-field”) land for new uses within the city, instead of (“green-field”) conversion of farmland.
- Institute zoning law to strengthen urban land use regulation. Master/zoning plans could be approved by the local People’s Congress to give them legal status, so as to better regulate land allocations to coordinate public and private land use and transport systems.
- Integrate “urban villages” into city administration, while preserving property rights

International experience shows that China could significantly improve grain production in the next decade, with large reductions in farm population and declines in the amount of agricultural land. Such improvements require transformation of agriculture, with relaxation of policies restricting sales of rural leaseholds, to encourage consolidation of land- holding, along with improvement in rural education and investment in agricultural mechanization.

Reforming City Governance and Management

An urban policy framework which has appropriate incentive structures for decision making by public officials, rather than one which relies on increasingly ineffective directives and quantity targets imposed from above would promote better city governance. Possible institutional reforms include reform of the urban administrative hierarchical system, a new role for mayors, and restructuring of urban finances, to help provide incentives for improved management of cities and urban living conditions.

Resources are more efficiently allocated when cities compete on a level playing field. Competition is enhanced if each city, whether a mega-city or a small specialized textile city, has equal access to fiscal instruments and a well-defined administrative area over which it exercises autonomy. As an immediate step, increasing the fiscal resources available to lower order locations and upgrading administrative status of growing locations would help.

Improving urban living conditions requires mayors to focus more on the delivery of services to urban residents including migrants, and less on the outdated role of CEO in charge of local economic development as in the planning era. Changing the behavior of city managers might be facilitated by devising measurable standards to evaluate city managers on how well they deliver urban services and improve the quality of residents’ lives, including environmental protection. As in other countries, China could experiment with urban institutional reforms aimed at making mayors more accountable to the city residents for their performance.

The reports discusses three specific reforms concerning urban finances, to provide further incentives to improve living conditions, to make better public infrastructure investments, and to encourage more efficient industrial composition:

- Enforce a transparent accounting system covering all on- and off-book revenues, with strict separation of operating and capital accounts.
- Allocate the proceeds from the government sale of leaseholds to the capital budget to match sales of assets to purchase of assets.
- Reform city tax bases to improve market incentives and operations, as well as enhance revenues. Currently, municipal tax instruments encourage cities to attract business, but less so residents. One reform would be to adopt an *ad valorem* property tax on residential and business property, including urban villages following their integration into city administration. A tax on residences provides an incentive for cities to accept new residents and provides an explicit tax base to finance their services. A tax on business property provides incentives for firms to economize in land and space utilization.

Urbanization in China: Policy Issues and Options

1. Introduction

1.1 The recent economic achievements of China have been enormous. Since 1978, real GDP per capita has grown at about 10% a year. In the same period, secondary and tertiary sector employment has risen from 29 to 59% of the work force (NBS). Urban population has risen from 18 to 46% of the nation. The driving force behind this transformation is economic reform. Importantly, the introduction of personal and investment incentive systems in both agriculture and industry has led to the dominance of the private sector in most materials and product markets.

1.2 Sustaining this growth in the future and, in particular, achieving harmony between the urban and rural sectors will require the same types of reforms in input markets, which were carried out over the last three decades in industry and agriculture. The key reform is to further integrate the urban and rural sectors, to create unified national land, labor and capital markets. As well as economic implications, such a reform has enormous social and governance implications. Thus a second reform involves urban governance. Currently, urban policy-making is largely based on command and control from above, with quantity targets and national edicts that are frequently ignored in a free-wheeling market economy. China needs an urban policy structure which provides appropriate incentives for decision-making by public officials and which replaces an obsolete command structure by introducing incentive structures to inform choices concerning city financing, the use of urban land, treatment of migrants, and provision of local public services. Our analysis focuses on the first set of reforms, but the ability to fully implement these will depend on reform in governance and incentive structures.

2. International Experience with Urbanization

Cities in development

2.1. Urbanization is an integral element of rapid income growth and industrialization throughout the world, as countries advance from low to higher income levels. Labor moves from under-employment in low-productivity rural activities to full employment in higher-productivity urban manufacturing activities. The transformation is spurred by improved technology, imported and domestic, which raises the productivity and skills of the workers moving to the urban sector, as well as productivity in the rural sector; and the transformation may be spurred by export demand for goods produced in the urban sector. Henderson (2005) has a review of models and empirical evidence and the current WDR (World Bank, 2009) describes many details of the process. Post World War II, countries typically have experienced urban population growth rates of 5–6% a year during the 15–20 year period of their most rapid industrialization, where urbanization transforms societies from 20–25% urbanized to 70–85% urbanized in 3-4 decades.

2.2. Why are cities and urbanization so critical to the success of modernization? Most manufacturing and service production is more efficient when undertaken in urbanized areas. In high-density locations, firms more easily learn from other firms about new technologies, hire the workers with the exact skills they need, and purchase and transport intermediate inputs (See Duranton and Puga, 2004 and Rosenthal and Strange, 2004 for reviews of theory and empirics). Studies in other countries suggest that a doubling of individual industry scale within a city leads to a 2–10% growth in worker productivity (see Nakamura 1985 on Japan; Henderson, Lee and Lee 2001 on Korea; and Henderson 1988 on Brazil and the USA). Productivity growth is higher in modern technical industries, such as electronics, transport equipment and machinery, and is somewhat lower in textiles and food processing.

2.3. More generally, cities are the engines of growth. They are places where innovations are incubated and sophisticated skills are developed. Theoretical and empirical research suggests that ‘knowledge accumulation’ in urban environments – that is, an increase in the general level of human capital – leads also to improved worker productivity (Lucas 1988, Black and Henderson 1999, and Moretti, 2004). Cities provide the scale economies for schooling and training systems to develop in interaction with commerce and industry.

Evolving urban hierarchies

2.4. In the early stages of industrialization, the largest cities in a country are the focal points for development and importation of technology, and are the initial centers of industrialization. However, as development proceeds, technologies used in manufacturing production standardize, which permits decentralization of industrial production to small and medium-sized cities with lower labor and land costs, a process akin to the “product cycle².” For example, in Korea in the decade 1983–93, the share of national manufacturing employment in Seoul, Pusan, and Taegu fell from 44 to 28%, while the share in small hinterland cities and rural areas rose from 26 to 42% (Lee, 1998).

2.5. Given this pattern of decentralization of manufacturing from the larger cities what emerges in a mature economy is an urban hierarchy, where small and medium size cities are highly specialized in industries such as steel, textiles, apparel, wood products, insurance, health care, and even entertainment. Specialization in a single industry or a set of inter-related industries allows for greater exploitation of within industry localized economies of scale as described earlier, for a given city size. While large cities are more service oriented, they have more diverse economic bases with higher order service, distribution, innovation, and manufacturing functions, where economies of overall agglomeration, as well as within industry economies, are important. The very largest cities in developed countries (e.g., New York, Tokyo and London) have little manufacturing activity, but huge shares of national financial and business services, focused on the innovative products in these sectors. See Fujita et al. (2004) on Japan and

² The product cycle hypothesis originally was applied to international trade. Once technology is standardized, production of new products or product varieties in developed countries moves off-shore to countries with lower labor and other production costs. For an urban version, see Duranton and Puga (2001).

Kolko (1999) and Black and Henderson (2003) on the USA.

Rural-urban divergence and then convergence

2.6. Rural-urban convergence of incomes, reflecting rural–urban harmony, is critical in the later stages of the development process. In the beginning, as implied the Kuznets’ hypothesis,³ as young workers move to cities, income inequality between the urban and rural sectors increases. The ratio of urban incomes to rural incomes may rise to as high as 2.0 to 2.5. Some of this simply reflects differentials in productivity, and some reflects the skills acquired by migrants and their families in cities. However, the gap declines with growth, and rural–urban incomes ultimately converge. For example, in Korea, the urban–rural wage gap was eliminated by 1994; and in Sri Lanka and Taiwan, China the ratio was under 1.4 by 1995 (Knight, Shi, and Song 2004). Figures 1 and 2 taken from the WDR for 2009 shown the pattern of convergence, first overall for the countries of the world and then for 3 specific countries. In Figure 2 for each country, the data are provincial level urban-rural consumption gaps versus provincial levels of urbanization. For India and China, data for two time periods are shown. Note the extremely high levels of inequality in China and the fact that inequality increases for China between 1999 and 2006, or the line in Figure 2 shifts up (not down). The information on China documents what is well known from other studies (e.g., Ravillion and Chen, 2004; CDRF, 2005).

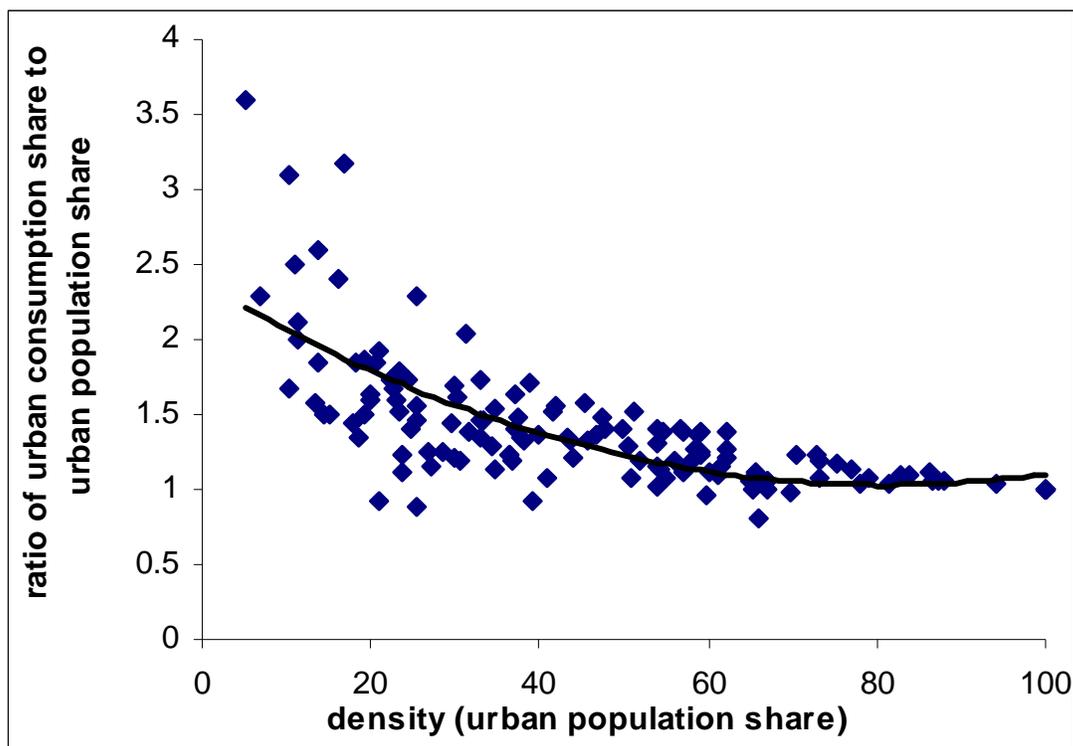
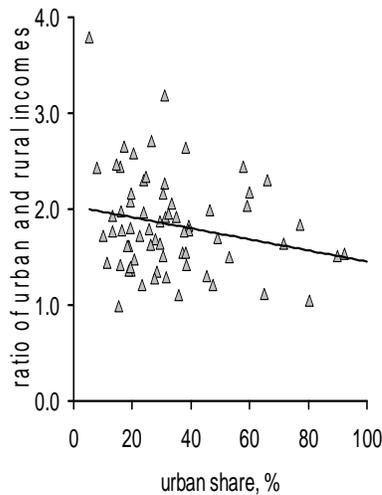


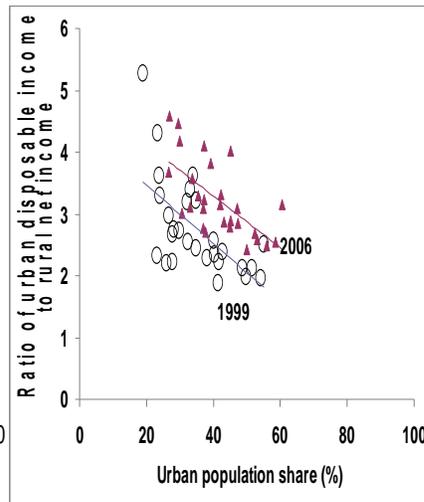
Figure 1. Urban-rural inequality by degree of urbanization. WDR (World Bank, 2009)

³ Simon Kuznets hypothesized that, with economic development, nationally income inequality would first rise as per capita income rose and then peak and decline as per capita income continued to rise further.

Philippines, 2000



China 1999&2006



India, 1983 & 1994

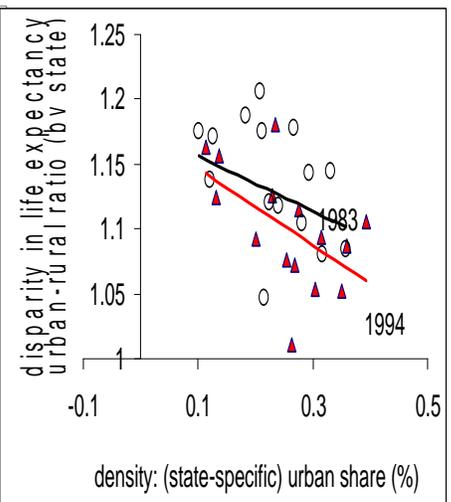


Figure 2. Within country urban-rural differences by regional degree of urbanization
WDR (World Bank, 2009)

2.7. A key to rural-urban convergence of incomes and attainment of food security is that agriculture modernizes and mechanizes. This modernization supports urbanization; the rural sector must not only release labor to move to cities, but also must continue to develop so as to feed the nation. Traditional peasant agriculture is transformed into farming businesses managed by highly skilled, educated people. Many developed countries are major food exporters, and yet only small fractions of their labor forces are employed in farming. For example in South Korea, in 2005, farm population was 26% of its 1975 level and land in agriculture production was 84% of its 1975 level. Despite the enormous decline in labor input, grain production was up by 61%. The gains were due to investment and innovation.

Favored cities and exclusion

2.8. Many countries have a long history of favoring particular regions or cities of a country. Most dramatic is favoritism of a national capital or seat of political-economic elites (Ades and Glaeser 1995 and Davis and Henderson 2003). Favoritism may take the form of capital market allocations, fiscal advantages, and allocations of import, export and FDI licenses (for China and Indonesia see respectively Jefferson and Singhe 1999 and Henderson and Kuncoro 1996). Favoritism draws firms and then migrants seeking subsidized capital, licenses, and public infrastructure into favored areas. That in turn leads to these areas becoming potentially sufficiently “over-populated” so as to lead to dissipation of the benefits of favoritism by increased congestion and localized cost-of-living and lower quality of life. Some of the largest mega-cities of the world appear to reflect that problem. Recent econometric research suggests that such over-concentration of the population in a favored location seriously detracts from national economic growth (Henderson, 2003).

2.9. Favoritism by the central government of a city faces a classic dilemma. The

induced in-migration of job-seekers may not be welcomed or desired. Dissipation of the benefits of favoritism through migration means locals face increased congestion and degradation of the environment. The reaction is to try to stem the in-migration (but not the benefits of favoritism), through exclusionary restrictions on in-migration. In developed countries the exclusionary mechanism is zoning which effectively fixes the number of housing units that can be developed, by zoning the number of lots that may be developed and fixing the density of development. While such provisions exist in many developing countries, there is a general inability to enforce limits on total housing provision. Zoning of the formal sector generates an unregulated informal housing sector (similar to “urban villages” in China), which would not be permitted to exist in developed countries. Instead, most developing country cities resist in-migration by poor servicing of these informal sectors. The idea is to make living conditions sufficiently unpleasant for migrants in slums, favelas, bustees, urban villages, and the like so as to reduce the incentives to in-migrate. Apart from unpleasant living conditions, poor servicing of these settlements with sewer and water and other basic services, results in bad public health conditions. Feler and Henderson (2009) examine this phenomenon in Brazil.

The development of urban institutions

2.10. Quite apart from the issue of over-population and exclusion in particular cities, rapid urbanization can pose enormous challenges to attain a high quality of life, livable neighborhoods, and a sense of moving forward within all cities. Urbanization happens so quickly. Informal institutions and policy structures designed for a rural society must be redesigned to fit a competitive city life, where neighbors don’t know each other and traditional informal institutions don’t function well. Urban governance involves enormous per capita infrastructure investments (Richardson, 1978) compared to towns and urban managers with high skill levels and training. The skills and knowledge to manage large cities well take time to evolve. With poor fiscal institutions, management and planning, cities are often initially overwhelmed by problems of congestion, pollution, unclean water and sprawl, not just in slums but overall. It seems there is no country that has an enviable record of good management of rapid urbanization.

2.11. This problem of inadequate city management skills plays out most visibly in land and housing markets. In developed countries, land use plans implemented through strict zoning regulations try to create an orderly land use patterns where “obnoxious” uses (those that emit noise, air, water and other waste pollutants) are separated from non-obnoxious uses such as residential. To some extent similar uses are grouped together to further the development of residential or commercial neighborhoods; land uses are coordinated to fit with transport infrastructure plans and to minimize adverse environmental impacts; and leap-frogging and strip development along highways are constrained. Most developing countries (and developed countries historically) have little effective land use planning; planners are poorly qualified, and land use development patterns are somewhat chaotic. These problems certainly play out in China (Bertaud, 2007).

2.12. Then there is the issue of housing market management. As already noted, apart

from formal markets, developing countries tend to have huge informal sector markets with poor living conditions. In developed countries today, informal sectors barely exist. One almost universal issue of concern is public housing and how to supplement the housing of low income residents. In general public housing has a poor record in many places, the USA being one example. The exceptions are the city-states of Singapore and historically Hong-Kong. Over 46% of the population in Hong Kong lives in public housing, about 2/3 of which are in rental flats. In Singapore 85% lives in public housing, although the rental portion is much smaller. The programs arguably work well in both cities because they have highly skilled public managers and are relatively corruption free. However a key issue is that being city-“states”, they face no problems of massive immigration in response to policies that provide reasonable quality subsidized housing for low income residents.

3. Distinctive Features of China’s Urbanization

3.1. There are a variety of distinctive features of China’s urbanization compared to other countries, which are the result of past policies as well as legacies of the previous central planning system. Under these policies, China has accomplished enormous economic growth in quite liveable cities. Nevertheless, the current policy structure and the resulting features of its urbanization are limiting China’s ability to achieve national harmony and would limit China’s ability to sustain growth in the future. The policy reforms in section 4 address these concerns.

The degree of urbanization and urban growth

3.2 While urbanization has been a key feature of China’s economic transformation, China’s annual rate of urban population growth, at 3-4% during 1990-2004, was below the 5-6% rates typically experienced by other developing countries during their periods of rapid economic growth (Renaud, 1981, World Bank, 2002). Correspondingly, China’s level of urbanization in 2008 (45.7%) was below the 55% level typical for a country with China’s level of real income per capita. Of course, the sheer volume of people who have moved from rural to urban areas is unprecedented given China’s size and has posed management and public policy challenges. Still, the numbers cited suggest that China is under-urbanized. Historically China restrained migration through application of the hukou system, in part to limit the challenges of having even more migrants move. Today while many of those restrictions have been relaxed with resulting increased migration, there are still many barriers to migration discussed below. As these are relaxed, rapid urbanization will continue in China over the next decade or so.

3.3 The notion of under-urbanization is bolstered by two facts. First as discussed next is the huge degree of urban-rural income inequality in China. Second and related is the still large surplus of labor in agriculture, even accounting for aging of the farm population. Agricultural employment remains higher than in 1978. Table 1 gives primary employment according to NBS over time. We also show, when available, totals for agricultural employment from the 2nd Agricultural Census, and for rural sector, non-TVE

employment (NBS). The three estimates of agricultural employment are almost the same. The final column also shows the dramatic rise of the TVE sector in China. Two aspects of China stand out in the table. First, in 1978, in contrast to other countries, the rural sector was almost entirely agricultural. The rise of the TVE's has changed that; and, as is well known, the TVE sector fueled a significant portion of China's growth from the early 1980's until at least the mid-1990's. Second, even in the early 1980's China's farm population was viewed as excessive. It grew in the 1980's and then declined; but still is far higher than in 1978. There is still a substantial labor surplus in agriculture.

	Primary sector (NBS) millions	Rural employ minus TVE employ (NBS) millions	Agricultural employ (2nd Ag. Census) millions	TVE employment (NBS) millions
1978	283	278		28
1991 [1996]	392	384	[424]	96
2007 [2006]	314	326	[349]	151

Table1. Employment in the rural sector (NBS)

3.4 A completely different aspect of the agricultural sector is the high degree of education, compared to other countries. 51% of rural sector workers in India are defined as illiterate (below primary school) and only 25% have achieved secondary school or more. In Brazil the median education in the rural sector is about 4 years. In China, for those still in the labor force in the rural sector (excludes migrants to cities), the 2nd Agricultural Census of 2006 finds illiteracy at 6.8% of the labor force, while 61% have completed at least junior secondary school. And for the flows of young people, educational attainment in the rural sector is substantially higher. For migrants, 2.3% are illiterate, while 70% have at least junior secondary school (Wang, 2008). This high level of education has fueled China's growth in the past, both fostering growth in the TVE sector and growth in the urban sector as migrants arrive in cities with relatively high education. Unlike in many countries, rural migrants to cities have the education to absorb new skills in on-the-job training required in the modern manufacturing and service sectors; and migrants have the education to contribute to modern civil society. This is an enormous advantage for China. The other side of the coin is that those who stay behind in agriculture also have the education to absorb technological advances in agriculture.

Large and growing urban-rural income gap

3.5 Through the *hukou* system and other policies, China has maintained a strict separation of the urban and rural sectors, making rural-urban migration more difficult than in other countries. The most important indicator of the need for greater labor market integration and rural-urban migration, with increased urbanization, is the enormous 3.3 gap in urban-rural income in 2008, reflected in Figure 2. That income differential seems to mirror productivity differentials (Au and Henderson, 2006a). That is, moving a worker from the rural to urban sector even after accounting for skill differences would substantially raise that person's productivity, which in turn would raise China's total

output. Restrained urbanization is costly in terms of economic growth and corresponding human development.

3.6 The gap far exceeds that observed in other Asian countries; and it is increasing, in defiance of the Kuznets hypothesis. The gap has increased from 2.8 in 1995.⁴ China seems well past the point where rural-urban incomes ought to start converge, rather than diverge. The comparative gaps explain why income inequality in China is the highest in Asia. The gap reflects low productivity in agriculture due to under-investment in the agriculture sector and low land per agricultural worker, as well as higher productivity in the urban sector. As noted above this is an economic growth issue -- *there are enormous gains in national income achievable by further increases in urbanization*. But such a huge gap in income defined traditionally by place of birth may be a social issue, especially in a country with strong socialist roots.

Too many cities; too few people

3.7 China's urbanization is highly localized, with less long-distance migration compared to other large countries, such as Brazil or the USA. In the 1990s, half of China's increased urbanization simply involved local reorganization, or reclassification of 'rural' areas as cities, as detailed in Chan et al (2008). Localized migration was part of 1982 Five Year Plan—the idea of “leave the land but not the village” and absorb any migrants into nearby towns, deflecting migrants away from the largest cities. The result of highly localized migration is diffuse urbanization, leaving most cities in China too small to exploit urban agglomeration economies efficiently, thereby limiting urban productivity gains and economic growth. In Figure 3, relative to the rest of the world in 2000, China distinctly lacks cities in the population range of 1–12 million. While China has mega-cities such as Shanghai, Beijing and Guangzhou, Au and Henderson (2006b) suggest that, in 1997, many prefecture-level cities were about half their efficient sizes. *A doubling of the populations in such cities would lead to 20–35% increases in real output per worker*. Although some cities have experienced heavy in-migration in the last few years, it seems the case that much of China still has too many cities with too few people.

Economic structure of cities

3.8 Compounding the problem of under-populated cities is an insufficient degree of specialization of individual industries within cities. Historically, Chinese economic planning favored the production of a wide range of manufactured products in most cities, typically produced at an inefficiently small scale. In large countries as noted above, medium- and smaller-sized cities tend to be highly specialized and even the largest cities are relatively specialized in high-tech industries and business and financial services.

⁴ Source: Knight, Shi, Song (2004), Oxford University and NBS. Cited numbers are actually based on per capita consumption gaps, as is typical. Income gaps in China tend to exceed consumption gaps consistently, by a small amount. The numbers tells us about income differentials between the resident urban and resident rural populations. Migrants are another matter. Their incomes far exceed the resident rural population (Cai and Wang, 2008); but, as we will argue below, these people ought to be counted as part of the urban population.

China has moved rapidly in this direction, and many locally unprofitable lines of production have been abandoned (Fujita and Hu 2001 and Fujita et al 2004). Yet many cities continue to support some de facto state-owned enterprise (SOE) production, in industries either for which cities have little comparative advantage or which operate at an inefficiently small scale without local critical mass.

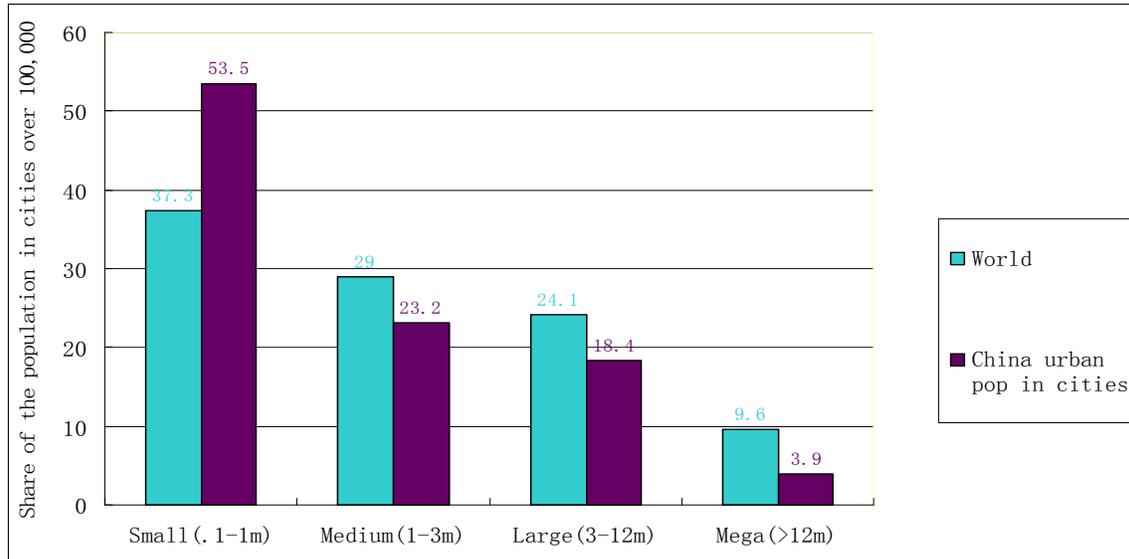


Figure 3. Share in Urban Population of Each City Size Category: World vs. China, 2000. Covers metropolitan areas over 100,000. China’s Census numbers are courtesy of Du Yang of CASS.

3.9 China is at a stage in development where manufacturing should be decentralizing from the largest cities to medium- and small-sized cities. While decentralization is occurring, it is impeded. City leaders, based on their training and work experience, often are biased towards manufacturing. Also, they may perceive a financial incentive to retain manufacturing, because manufacturing generates a share of value added tax (VAT), revenues for the city, even though services generate business tax revenues. Higher-order cities, with their greater powers and resources, have an unfair advantage in competing for manufacturing and in setting up industrial parks to attract and retain industry, at a time when they would otherwise focus more on service-sector development. This hinders the decentralization process and the development of medium-sized cities.

3.10 The natural economic base of the very largest cities is the business-service and financial sector, but in China these sectors are very small (albeit fast growing). Many business service activities (e.g., advertising) are newly freed from extensive government control, but others (e.g., legal and financial services) are still under strict control. The lack of transparent, autonomous legal and financial systems is a major impediment to the emergence of global cities in China comparable to Tokyo, London or New York.

The double divide: living conditions of migrants in cities

3.12 In comparison with other developing countries, rural migrants to cities in China are discriminated against as a matter of policy, leading to dualism within urban society, as well as between urban and rural society. They have little to no access to formal sector housing markets and live in dormitories or in the informal sector rental market in “urban villages” within and concentrated in the outskirts of cities. These villages are areas still under rural village governance and conditions are very crowded with poor sanitation (Logan, 2006, Wu and Rosenbaum, 2004). Migrants are typically isolated from urban civil society (Zhou and Cai, 2004), far from the city center. In terms of basic urban services rural migrants either have been denied such services, or can obtain only low-quality services at high cost. They are not eligible for some job-training programs, and only a tiny fraction are part of local social insurance (unemployment, health, accident) and social security programs (Cai, 2006b). And they face discrimination in the labor market, working in dirty tedious jobs with little hope for advancement and training (Du, 2006) for significantly lower wages for the same education and skills and for much longer hours (Wang, 2008). Based on the Chinese Household Income Project [CHIP data] the wage discrimination gap (after controlling for skill differentials) is estimated to be over 40% (see Cai, 2006b, Demurger, Li and Yue, 2008).

3.13 It is important to note that migrants in many developing countries, even in the absence of officially sanctioned discrimination, suffer from poor urban living conditions, with attendant problems and social unrest. So the actual living conditions of migrants in Chinese cities may not be so different than similarly educated migrants in other developing countries. However the situation in China is aggravated by two key differences. The first of these has been officially eliminated in recent years.

3.14 A principal benefit of migration enjoyed in other countries – an educational opportunity afforded to migrants’ children in principle equal to that of other residents, as well as job training for migrants themselves – was missing in China until recently. Because economic growth is built upon knowledge accumulation, denial of high-quality education at a reasonable price and job training has strong negative consequences for subsequent labor force quality and economic growth. The remaining issue is whether the new reform admitting all migrant children to state schools has been fully implemented by all city governments, so migrant children enter on the same footing as non-migrant children.

3.15 In developing countries, much rural-urban migration is understood to be permanent; while in China past policy was based on a presumption that most migration is temporary, or “round-trip”, despite the irreversible march to full urbanization. One issue that arises with such a policy presumption is that migrants in China have limited opportunities to invest in and establish life in cities, given lack of portability of rural wealth and lack of access to urban credit markets. In other countries, migrants are free to sell their rural land holdings and any shares in local rural enterprises which they own. In

China, this is not the case as discussed later. Non-portability of wealth limits the ability of migrants to buy urban housing, invest in urban businesses, and integrate into urban civil society. In many other countries, while migrants may initially rent when they first move to cities, typically they move quickly into owner-occupied housing even if it is in the informal sector. For example in Brazil, 60% of migrants who are in the *bottom 20%* of household income nationally and who moved into a city in the 1990s by 2000 owned their urban dwelling.

Urban governance

3.16 Mayors in China act as chief executive officers (CEOs) of their cities. They are given performance standards and objectives by higher levels of government, and they are accountable for performance. Most mayoral energy is focused on economic growth and development issues. This focus on economic development follows from the planning era. In a modern economy, economic allocations are made by market forces, not by the mayor; and the defining role of urban government is to serve residents with good schools, crime prevention, parks and local streets, clean water, and sewerage and drainage. These items account for almost all local expenditures in most countries.

The urban administrative hierarchy; favoritism

3.17 China's urban system operates on a strict administrative hierarchy: provincial-level cities, provincial capitals, other prefecture-level cities, and county cities. There are two distinctive features. First, higher-level cities 'oversee' the governance of low-order ones. Second, cities higher in the hierarchy are favored in important ways: greater autonomy in decision making, more public finance resources, greater access to transport corridors and rail capacity, etc. Many small cities and rural areas have insufficient fiscal capacity to fund public services properly. Bigger cities appear to have greater access to 'off-budget' revenues, and some enjoy conspicuously high levels of public infrastructure investment funded by the center. At a more aggregate level, Christine Wong in a presentation in Beijing in July 2009 showed that the ratio of public expenditures to population in the five richest provinces was almost 3 times that in the five poorest.

3.18 In much of the world, general purpose and special purpose governments are defined spatially by non-overlapping jurisdictions. Across jurisdictions, general purpose governments enjoy identical powers, and special purpose governments do as well. Consequently, the local government responsible for specific services is well-defined, and localities compete for resources on a level playing field. Of course national (or provincial governments) may in practice intervene to favor a national capital or other city which is the seat of national elites. But in general the tendency is for most cities, regardless of size, to compete on an equal basis.

3.18 Furthermore, in China's hierarchy, firms in cities at the top of the hierarchy have traditionally had favored access to domestic capital and *de facto* to foreign direct investment (FDI). Studies show that rates of return on capital investment in China are higher in smaller cities and rural areas, an unusual feature which is indicative of relative

over-investment in favored locations (Jefferson and Singhe, 1996 and Au and Henderson (2006a). Studies further show that cities at the top of the hierarchy in China are not inherently more productive than other cities; they are just favored (Henderson, 2006). These studies are based on data from the 1990's and new studies have yet to be carried out. But lack of full reform in the banking sector and capital markets would suggest capital allocations not subject to the discipline of the market place are still prevalent.

3.19 It is interesting to note that capital allocations remain hugely slanted towards cities at the top of the urban hierarchy. This is not direct evidence of costly discrimination per se, since we don't know explicitly the rates of return on such investments; but the magnitudes of the various differentials are suggestive. Note to start that, from the last column of Table 2, smaller cities are much more heavily industrialized at this point; and industry is much more capital intensive than services. Note also that the rate of return to capital in the tertiary sector in China is low compared to the industrial and agricultural sectors. Bai, Hsieh, Qian (2006) calculate that the return to investment in the tertiary sector is a 1/3 to 1/2 that in the other two sectors. Table 2 indicates that capital investment in provincial level cities is 5-fold that in county cities and double that in other prefecture level cities. The overall spread for FDI (which is perhaps more market driven, despite "guidance") is less, but the gap between provincial level cities and others is very large. The favouritism of provincial level cities may be a little over-stated since the per capita numbers are based on the hukou population. But the exclusion of migrants applies to all cities, and it isn't clear how the relative shortfalls in total population differ across the urban hierarchy (see below).

	Total FDI (US\$) per capita (hukou population): 2002-2007	Total investment in fixed assets (¥) per capita: 2002-2007	Share of second sector in GDP 2007
Provincial level cities (4)	3850	122,500	42%
Provincial capital (26)	2060	98,900	44%
Other prefecture level cities (238)	1570	64,000	56%
County-level cities (367)	980	24,400	54%

Table 2. Where capital investment goes. Urban Year Books (China: Data Online). Numbers for prefecture and above level cities are for urban districts.

3.20 What are the problems with favoritism? The first is misallocation — for example, capital is invested in low-return activities when higher-return opportunities are available. The second is more insidious and present a fundamental dilemma. As discussed above, in many developing countries, migrants are excessively attracted to favored cities; migrants follow the money. Too often this results in over-crowded, poorly managed mega-cities, with a low quality of life. In China, previously, migration restrictions induced migrants to

move locally to smaller cities and towns. As migration restrictions have eased, the pattern has changed as we will see below, with high in-migration to the largest cities in this decade. Even in the period 1996–2001, the population growth rate of provincial capitals and provincial-level cities was double that of other prefecture cities and four times that of county cities (Henderson, 2006). While some of these cities can still readily absorb and benefit from population growth, the four provincial-level cities and some provincial capitals are already very large, approaching mega-city status. Moreover migrants do not necessarily choose cities that would most benefit China from population growth; instead, they choose cities favored in the hierarchy.

4. Policy Options for Urbanization in the Next Decade

4.1 Key policy reforms are needed to provide incentives for individuals and city governments to make appropriate decisions concerning city sizes, migration, and city spatial structures. The reforms will enhance the potential for economic growth and improved food security, reduce income inequalities between the urban and rural populations, and promote sustainable development. The growth potential lies in two facts developed in the previous section: (1) the still large labor surplus in agriculture and the potential for enormous productivity growth in agriculture through investment and land reform and (2) the related large gap in income and productivity of labor in the rural and urban sectors. Increased migration would move low productivity workers into higher productivity occupations, facilitating growth. In addition urbanization facilitates economies of agglomeration and national knowledge accumulation, compared to having a large fraction of the work force dispersed in the rural sector, whether in TVE's or farming.

4.2 Reforms in China are typically involve top-down directives (e.g, from the State Council and the CCP Central Committee). We start with a discussion of many such potential economic and social reforms and reforms in progress. The problem is that such directives may not be implemented by local governments or may only be partially implemented at a very slow pace, and typically come with no funding when increased local government expenditures are required. After the discussion of these relevant reforms, we turn to a discussion of governance reforms, which would increase the chances of implementation of the economic and social reforms.

4.1 Harmonious rural and urban development under rapid urbanization

4.3 This section discusses policies concerning the allocation of human and physical capital across and within the urban and rural sectors. The suggested reforms are intended to reduce the urban–rural income gap, promote a harmonious urban society, prevent urban slums, and avoid the problems of over-crowded mega-cities. A goal of reform is to integrate national labor and capital markets across sectors. This goal is broadly consistent with 2008 policy of the CCP Central Committee to have comprehensive urban and rural sector development, as a key to rural sector development. With unified markets, resources can freely flow to the locations of their most productive and highest return use, whether a mega-city, a town specialized in textile production, or high tech agriculture.

Integration is critical to nationwide economic efficiency and sustained modernization and growth, and is an *essential* part of reducing the rural-urban wage gap and the high degree of income inequality in China. A related goal is that China should try to escape the past experience of many developing countries and initiate now the policies and institutional reforms needed to avoid the festering of urban slums, which also inhibit labor market integration.

Remove barriers to the flow of rural surplus labor to cities

4.4 Historically, migration in China was regulated by aspects of the *hukou* system which controlled population flows. The system sharply discouraged migration by reducing the personal benefits of migration to individuals far below the high social benefit to the economy of China. The policy objective is to foster a free, competitive national labor market, just like markets for goods, rather than a poorly regulated market for labor.

4.5 A first “reform” involves a change in perceptions. As noted above, migration in China has often been viewed as a “round-trip” phenomenon. For future growth, reforms need to recognize that migration will and should generally be permanent and the needs of families, not just single migrants, need to be accommodated. Migration is not just employment but is settlement in cities. It is helpful to get a sense of the magnitudes. In Table 3, we show that the absolute numbers of migrants in the urban labor force is steadily increasing and the current share has topped 46%, up from 37% in 2000. Cities are heavily dependent on rural labor. But Table 3 understates the dependence. Migration is defined by not living where a person’s *hukou* is registered; and column 1 of Table 4 tells us that 74 million people with rural *hukou* lived in cities in 2005, although 25 million of that involved short distance moves (compare columns 1 and 2). What looking at these resident status numbers misses is the conversions from rural to urban *hukou* status. In column 3 of the table, we estimate 90 million such changes between 2000 and 2007, fueled by the relaxation in 2002 of provincial quotas on such changes. These 90 million represent permanent migration: and these people are generally no longer counted as migrants, since their *hukou* status has been upgraded to where they actually live. Moreover we expect most of the 74 million migrants without status change in column 1 will one day become permanent.

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Urban employment (millions)	213	239	248	256	265	273	283	294	302
Share migrant workers (percent)	36.9	35.1	42.3	44.4	44.7	46.0	46.7	46.5	46.4

Table 3. The role of migrants in the urban labor force. NBS, Yearbook of Rural Household Survey. Data kindly provided by Yang Do and Meiyang Wang of CASS.

	Rural to urban migrants: all moves, in 2005	Rural to urban migrants: move to another country or city, in 2007	Estimate: Changes from rural to urban hukou status 2000-2007
millions	74.2	49.2	90.1

Table 4. The extent of migrants' penetration of cities NBS, author's calculations. The estimate of hukou status changes is based on changes in hukou counts in each sector and the overall national death and birth rate for China by year. Applying those rates to the urban sector gives us a 100 million increase in urban hukou by status change. Doing the same in the rural sector gives us an 80 million decrease in rural hukou holders by status change. We average the two numbers.

4.6 Given the evolving permanent nature of rural to urban migration and the overall likely under-urbanization and surplus agricultural labor force in China, we suggest a set of alternative reforms that would have effect of divorcing rural and urban *hukou* status from the right of access to urban public services, to urban credit and housing markets, to urban social insurance and social security, and to education and job training. This divorce will help economic growth and diminish urban-rural income gaps by providing better incentives for migrants to leave low-productivity rural jobs for higher-productivity urban jobs. Such reforms will dissipate any perceptions of a dual urban society based on *hukou* status, which over the long term will be a threat to socio-political stability. It will make the pseudo-urbanization through migration true settlement..

4.7 Besides specific reforms discussed below, more general reforms of the *hukou* system under experimentation in different provinces could be considered for implementation nationwide. One example is to permit free and unfettered migration *within* all provinces. This can be accomplished by restructuring the *hukou* system, so that rights of access to services, schooling, jobs, and so on are defined at the provincial rather than the village level. All those from the same province living in cities would have identical rights, regardless of rural versus urban origins. Permitting free migration within each province would foster urban agglomeration generally, but it would also divert migrants from Beijing and Shanghai, which face the threat of over-population. Comparing the European Union and China, such reforms would create the internal migration possibilities that existed before the EU labor market reforms, where within country migration was free. A different example would be to accelerate in all cities policies which grant full local *hukou* rights to migrants and their families *regardless* of origin, whenever the household head has secured employment. Employment should be defined as holding a job for a reasonable period (say, a year, but much less than the current 7 years in Shanghai and Guangzhou), whether that employment is in the formal or in the informal service sector. This move China towards the labor market reforms enacted in the European Union to facilitate cross- border movements of labor. In China however, such a policy would increase the population pressure on Shanghai and Beijing and would need to be coupled with capital market and fiscal reforms discussed later.

4.8 A concern with increased migration is the resulting age structure in rural areas, which contain a disproportionate share of the elderly. With migration, filial piety may diminish. Migrant remittances may decline and become insufficient, once migrants become absorbed in urban life and raising families in cities. The recent step of officially extending the *di bao* (subsistence allowance) to the rural elderly is important, but full

funding and implementation are not yet widespread.

Invest in rural labor, migrants, and their children

4.9 One great advantage for China in industrializing and urbanizing has been its relatively well-educated rural labor force. As noted above, most migrants from the rural sector have junior secondary school level education or more. This is very unusual in developing countries, and has facilitated China's high economic growth rates. A challenge for China is to maintain and improve upon this good record in the face of the under-funding of rural schools that has emerged in the last decade. While there has been improvement in funding over the last couple of years and directives to provide free and compulsory education through junior secondary school, there are vast disparities. In July 2009 it was reported to CERAP that there existed for primary school a 6-fold differential in per pupil expenditures across provinces, with as high as 12-fold differentials within provinces. Much higher levels of investment than currently planned would bring high returns.

4.10 Other human capital reforms include promoting more job training of migrants in urban areas and granting of urban *hukou* to rural youth with post-secondary technical education, which is in short supply. Reducing job market discrimination facing migrants in cities would help foster human capital investment but reducing discrimination is part of the required attitudinal change in making migrants part of urban civil society. Finally, fully integrated labor markets would require reforms which provide health and social security benefits to all rural migrants as well as urban residents and make such benefits portable.

Improve living conditions of migrants

4.11 Other policy reforms would (a) allow migrants greater access to the formal sector housing market and (b) integrate urban villages into the mainstream city. As noted earlier, the dormitories, urban villages, and rural fringe areas where migrants live are often in inaccessible locations, isolated from the city proper. They also provide poor infrastructure services, such as sanitation, sewers, and water supply. Their conditions and their disconnection from local urban society are reminiscent of Brazilian *favelas*. Urban infrastructure services should be extended in full to urban villages within cities, to improve health and living conditions. Below we discuss the fiscal and land planning implications of such a policy.

4.12 To improve the ability of migrants to invest in the cities in which they work, migrant families should be given access to housing mortgage markets. Their rural wealth should be made portable (see later), including the ability to sell their *de facto* shares of village ownership of TVE holdings. In addition to opening home ownership opportunities, cities should facilitate formal sector housing rental opportunities, making such markets legal in all cities and removing the local 10% tax on rent from housing. In general, the idea is to provide migrants housing options other than in dormitories and urban villages, leading to better social and economic integration.

4.13 There is a more general issue of subsidized housing for all low-income people in cities, a topic discussed below. Subsidizing housing consumption for migrants presents the risk of subsidizing migration. So while we want to remove the barriers to migration, achieving efficient national labor market allocations also means we do not want to reduce the cost-of-living to migrants below market levels. Rising housing costs with increasing city size is a natural mechanism to limit in-migration to appropriate levels, as has long been recognized (Henderson, 1974 and Flatters et al, 1974).

4.2 Avoid the emergence of over-crowded mega-cities

4.14 As we have indicated, national income would increase and rural-urban inequality decrease if barriers to migration are further relaxed, encouraging rural-urban migration and urban agglomeration. However, that still leaves the problem of fiscal and capital-market favoritism which could then induce excessive in-migration to provincial-level cities. In China in this decade two cities have been heavily favored: Beijing and Chongqing. From the last column of Table 5, the annual population growth rates of cities and towns in these two metropolitan areas are still 4-5% a year, despite their size. However the sources of growth are very different. For Chongqing it is internal migration as local rural residents move to cities and towns; for Beijing it is migrants from outside the province. In fact even Shanghai still faces very high in-migration rates from people outside the province. As Table 5 also indicates arriving at good growth numbers is hard. The whole province can be losing population while urban areas grow at high rates; and official numbers from the UN (based on information provided by China) mask the reality. Because of favouritism, a few urban areas in China now may face the prospect of over-population.

	Total pop. [cities and towns] 2005 millions	Annual growth rate ('00-'05)	Migrant pop. Out- [in] side province 2005 millions	Annual migrant growth (outside) ('00-'05)	Annual UN city growth rate ('00-'05)	Annual pop growth, cities and towns ('00-'05)
Beijing	15.3 [12.8]	2.5%	3.4 [2.3]	6.6%	1.9%	4.1%
Shanghai	17.7 [15.8]	1.6%	4.6 [2.4]	8.1%	1.8%	1.7%
Chongqing	27.8 [12.7]	-1.7%	.35 [1.9]	-2.6%	1.1%	4.9%
East region (rest)	509	0.8%	33 [45]	4.2%		4.6%
Central region	441	0.4%	3.4 [30]	-2.2%		5.0%
West region (rest)	261	0.7%	3.5 [15]	-5.5%		4.7%

Table 5. Urban Growth in China. Author's calculations, based on 2000 and 2005 Census (except UN) numbers.

4.15 As noted earlier, one solution which encourages migration and urbanization overall, but limits cross-province migration, is to permit unfettered migration within but not across provinces. But in the end, more general market reforms would help avoid the emergence of over-populated mega-cities. In particular would be the opening of the entire capital market to free competition for financing across all firms, cities, and the rural sector, so those further down the hierarchy will be better able to attract investment and migrants. Such a reform also promotes sustained economic growth by ensuring capital goes to the highest return ventures, not just politically favoured ones. *Reform of capital markets to create an integrated national market complements labor market reform and is an integral part of integration of the urban and rural sectors.*

4.16 A related issue concerns policies that affect the size distribution of cities. For example, the McKinsey Global Institute in 2008 looking to China over the next decades advocates allocating much of the urban population to super-size “cities” (well over 15-20 million).⁵ The evidence discussed earlier suggests that there is a very limited role for super-size cities such as Tokyo or New York in a country. And the difficulties in managing super-size cities without strong institutions and well trained urban managers are profound. It seems economic growth in China would be better served by focusing on development of cities in, say the 1 million to 5 million size range (recognizing that many smaller cities in China may be under-sized).

4.3 Promote efficient use of natural resources

4.17 There are many implications of urbanization for natural resource use and the environment. The focus in this report is on food security and land use, but other issues are important. For example, there are the energy needs of industrialization and the energy demands that come with rising urban incomes (for automobiles, appliances, air conditioning, and heating in the winter) that can result in environmental degradation, absent appropriate policies. Reportedly, there are water shortages in the north of China. However, urbanization and the concomitant advances in agricultural productivity can conserve water. Modernized agriculture with better irrigation, conservation, and mechanization can reduce water usage in agriculture. Consider the high agricultural productivity of Israel despite its poor water resources. And we know from Singapore and other international experience that urbanization and high population density make water treatment and recycling cheaper, and make universal metering feasible, encouraging individual conservation.

Achieve food security

4.18 Usually, urbanization is associated with improvements in agricultural productivity and food security. The most profound change is in the use of agricultural land. Rural-urban migration transforms agriculture from peasant farming on small plots to modern farming, where farm businesses assemble large tracts of land and invest in land

⁵ http://www.mckinsey.com/mgi/publications/china_urban_summary_of_findings.asp

improvements, mechanization, and human capital. Better-educated farmers are better equipped to adopt new technologies, make better crop and input choices, and understand market conditions. As an example of what can be achieved concerns Korea as noted earlier. The Korean achievement stemmed from technological advance, education of farmers, consolidation of land holdings and mechanization. China could replicate this success with huge reductions in the farm population and even some loss of agricultural land.

4.19 To improve food production and security, two key reforms were noted earlier: improve rural education and reform the financial sector to allow more investment in agriculture, as would be consistent with the 2008 general policy announcement of the CCP Central Committee and earlier directives issued by the State Council. Here we focus on reforms, some underway or on the table and others not, governing the use of agricultural land itself, in particular strengthening property rights in the rural sector. These three reforms together would raise farm incomes to help close the urban–rural income gap and also encourage some talented rural youth to choose farming as an occupation, rather than migrate. In the next section, we turn to reforms that would discourage any excessive urban expansion into agricultural areas.

4.20 *Strengthen rural property rights* Lengthening agricultural leaseholds to 70 years or more (from the current 30) would provide stronger incentives to invest in land improvements and machinery. Leaseholds need to be fully transferable and saleable, so as to encourage investment in agriculture and assemblage of land into larger holdings, raising the scale of farm businesses. A current problem is that, while transfer is possible if approved at the local level and experiments exist to trade leaseholds of farm and rural residential land for urban *hukou*, in many locations migrants are still strongly discouraged from disposing of their leaseholds when they move to cities. When such leaseholds are, instead, rented out, those renting have less financial incentive to invest in the land. The retention of rural leaseholds by migrants to cities has been viewed as some form of economic security for them, as if migrants could return to farming if cities faced some kind of crisis. This is an illusion as is increasingly recognized: sustained urbanization of the type China has experienced over the last 25 years will not be reversed. A migrant who left a village as a teenager and returned 15 years later would not know how to farm. In fact evidence from the recent economic downturn indicates migrants who “went home” to villages typically quickly returned to the city (Cai and Chan, 2009). There is no personal security from the forced retention of these leaseholds – and no food security for China. And, as noted earlier, portability of rural wealth helps the integration into urban society of those who migrate.

Encourage efficient land use and reduce urban sprawl

4.21 There are two aspects to urban land-use policy: (a) policies allocating land between the urban and rural sector, so as to use land efficiently, thus providing the correct incentives to conserve agricultural land and green space; and (b) policies governing the land internal to the city, so as to avoid disordered use and unhealthy,

poorly serviced neighborhoods. Reforms involve both strengthening property rights of individual holders and better regulation of land usage patterns.

4.22 There is a popular worldwide concern about ‘urban sprawl,’ the ‘over dependence’ on the automobile, and the removal of farm land as cities expand. Yet the incentives faced by city mayors in China encourage the taking of farm land for urban use and the dependence on automobiles. The chief restraints on this behaviour are directives from above, for example, ‘prohibiting’ agricultural land conversion, or requiring that cities meet some arbitrary minimum population density. These restraints well illustrate the difficulty of the command-and-control approach to urban management. These edicts generally do not sufficiently recognize that expansion into farm areas will differ across cities (depending on geography and population and per capita income growth), or that higher average densities are appropriate for larger cities with certain histories and geographies, but not for many other cities.

4.23 Incentives under current policies promote the inefficient use of land (Ding and Song (2005)). First, many cities have fiscal incentives to focus on ‘green-field’ development rather than ‘brown-field.’ Under green-field development, cities seize agricultural land at the fringe and sell leaseholds to urban developers. The alternative way to acquire land for new uses is brown-field development, the redevelopment of land within the city. In some cities, negotiating the acquisition of urban land held by SOEs or by housing authorities is much more costly and time consuming than the profitable taking of agricultural land, which often may be acquired at below opportunity cost. Second, people are encouraged to travel by automobile, through the significant under-pricing of motor fuel (at about half the European price). This under-pricing makes it individually cost effective for people to commute long distances from low-density suburban areas. Key reforms to improve the efficiency of land use are as follows.

4.24 *Ensure that cities pay the true cost of taking agricultural land* If cities faced the opportunity cost of taking agricultural land, less might be taken and cities would be denser. First, the range of compensation for farmers for land taken -- set by national law based on income generated in agriculture – may be insufficient (Ding and Song, 2005). Defining appropriate compensation is tricky since part of the market value of agricultural land on the urban fringe reflects nearby urban infrastructure improvements (such as highway construction) for which farmers may not be paying their share of costs. Yet the value of agricultural production also appreciates with urban growth and enhanced demand for local agricultural products. Second, actual compensation is negotiated with the village head. The head may not adequately represent the village interests (as opposed to his personal interests), and may be induced to sell at a low price. Following one policy experiment under way, if all rural village residents were recognized as shareholders in the village land and if these shareholders had to approve land sales, this transparent decision process would provide the village head with a stronger incentive to negotiate in good faith. Third, as part of acquiring rural land, if villagers are offered urban *hukou* that helps ensure that cities city face the full opportunity cost of the land reallocation. If such rural villages are absorbed, in some places they will contain significant “illegal” housing” built to service migrants to the associated urban area. Such housing should be legalized and

absorbed into the regular housing stock, just as we will advocate below for housing in “urban villages”.

4.25 *Encourage brown-field development* In the 1990s, brown-field development was encouraged in some cities (e.g., in Guangdong and Shanghai provinces), by allowing state enterprises to redevelop their land (“land development rights”) — providing a fiscal incentive to pursue land redevelopment more quickly. (Zhu, 2004, 2005). Reinstatement of greater property rights for historical (pre-1988) users of urban land would facilitate redevelopment, especially in cities that have redeveloped slowly. However reinstatement might conflict with the current policy of all urban land being developed through the auction of leaseholds and strengthening of property rights of those users.

4.26 *Raise automobile costs* Urban residents pay less than the social costs of operating vehicles – including both their contribution to congestion and their environmental costs. While the gasoline tax has been increased, an even greater increase towards European levels would encourage use of other transport modes, conversion of fuels, and air-quality improvements. In the largest cities, other incentive schemes would also reduce congestion and auto use: higher fees for parking, dedicated bus lanes to encourage bus travel, and development of ‘congestion-free zones,’ as in London, and congestion tolls, as in Singapore. Encouraging the maintenance of high population densities in the largest cities in turn helps make public transport viable, even underground systems in some cases, where cost-effective provision requires high usage over short distances.

Land-use planning and market operation to achieve livable cities

4.27 There is a tension in all urban land markets between allowing a free-wheeling market on the one hand, so land is sold to the highest and best use, and imposing land-use planning to regulate the market on the other hand. Even in the most market-driven countries, land markets are regulated. This regulation achieves two purposes. The first is to ensure that land allocated among different use types is separated, so ‘obnoxious’ users (e.g. industrial, polluting users) are separated from other users (e.g. residential users). This assures residents that a polluting factory cannot move nearby, imposing hazards and pollution and lowering property values. The second is to integrate private land uses with public ones, such as for transport infrastructure, so that industry is served by highways and other transport nodes, and so that residential users are near rail and bus facilities for commuting and shopping.

4.28 There are two issues for China. First, although the land market is certainly free-wheeling, it is not fully competitive and developers may not face the true costs of land acquisition (Cai et al, 2009). Second, in terms of regulation, as in more developed countries, cities in China have master plans for land use. While, in China, these master plans are referred to as ‘zoning plans’, they do not have the force of law that zoning plans have in developed countries which bind land allocations, based on master plans.

4.29 *Ensure land goes to the highest and best use* Urban land held by local land bureaus in China is allocated to developers through leasehold sales.. One issue has

concerned the method of sale, given a history of negotiated sales with favored developers and corruptible auctions (Cai et al., 2009). All leaseholds would best and be sold at English auction (e.g., “pai mai”), with open entry (subject to meeting past contract requirements). Developers should face the true costs of their projects: besides paying market prices for land, they should pay for the necessary infrastructure required by their development (secondary roads, sewerage systems and roads, etc.). Alternatively, the cost of required infrastructure can be recovered through impact fees on the development set by the city.

4.30 *Strengthen property rights in urban villages and integrate into city administration* What should be done about urban villages located within cities? While perhaps cities should have purchased the land in such villages long ago, given these lands have been developed for urban purposes, property rights of land users should be respected. In particular, to reduce current uncertainties in local land markets, it should be made clear that villager leasehold sales are legitimate. However, urban villages within the city and on its fringe should be incorporated into the city administration. They should receive full city services, and be subject to all municipal taxes. Redevelopment projects of the village should be subject to the master and zoning plans of the city (discussed next).

4.31 *Institute zoning plans* Within the context of a competitive market for land, overall spatial patterns in the city should be governed by zoning laws. Zoning ensures that land-use decisions are not completely controlled by individual developers, who can ignore the objectives of master plans, resulting in disorderly land use. In developed countries, zoning plans restrict property rights, by limiting the legal right to build in a location to particular types of use and intensities. Plans are amended periodically as long-term demand conditions change. Plans are subject to the granting of variances – allowing a non-conforming use at a particular location. To ensure that the intent of the plan is met, the granting of variances occurs through a transparent public process. Those adversely affected are represented and generally must consent to the variance (perhaps with inducements provided by the applicant).

4.32 Zoning should be based master plans for city land development and should govern all future land redevelopment (including national-owned, military, and village-owned land) within the jurisdiction. Approval of master plans by the local People’s Congress would be a first step in giving legal bite to these plans. Cities will need lead time to develop up-dated plans and appropriate institutions, with investment in training professionals in city and transport planning and real-estate demand forecasting.

4.33 These recommendations are based on the presumed constraint, that granting “effective” private ownership” of urban lands is a policy reform that is not on the table. A reform that would increase competition and reduce bureaucrat interference would extend leaseholds indefinitely, make them fully transferable, and make redevelopment uses subject to city land use plans and zoning. Property taxes would replace leasehold sales revenue. The land market in Chin is viewed as corrupt (see Cai et al, 2009) and rather disorderly (Bertaud, 2009). Imposing market discipline coupled with zoning restraints would help these problems.

Low income housing

4.34 Across countries, a policy issue concerns housing for low-income people. The housing which the lowest income families in many countries can afford may be of such low quality in such crowded neighbourhoods, as to offend public sensibilities, or else to pose physical and mental health risks. One policy adopted historically in other countries has been public housing for the poor, which has a long, extensive record of policy failure, often eventually offering conditions as unhealthy, neglected and crowded as the ‘slums’ they replaced. Private housing markets work well; but bureaucratically managed ones, with few exceptions, have a record of failure. The increasingly favoured solution is to dismantle public housing systems for the poor, leaving housing provision to the market. In order for low-income people to afford better housing, one policy is to offer housing vouchers or other housing subsidies.

4.35 There are two other aspects related to housing subsidy programs. First as part of trying to upgrade the housing, the government should not impose demolition of existing low-income housing in cities, particularly in more historical neighbourhoods, even if it is clearly of a lower standard than new construction. The quality of viable low-income housing will be upgraded by market forces if the effective demand of low-income workers is increased by housing subsidies. Second, we already noted the problem of subsidizing housing for migrants, which may induce excessive in-migration). It may be no accident that the most successful public housing and subsidized housing programs are in Hong Kong and Singapore, two cities not subject to the potential of free in-migration.

4.4 City management

4.36 City management reforms involve redefining the role of mayors, restructuring urban finances, and reforming the administrative hierarchy.

Redefine the role of mayors

4.37 The major role of urban government is to provide residents with good public services, as well as to complement private-sector investment with appropriate public infrastructure investment. As noted in section 3, mayors in China currently play a role more like the CEOs of firms, subject to control and incentives from above. While mayors face performance standards, these have little to do with the quality and delivery of urban public services. Some standards may deal with national objectives, concerning, for example, rural land acquisition or urban density, but these are often ignored with impunity. Rather mayors may be de facto heavily graded on industrial growth performance.

4.38 Enforcement and design of performance standards is an issue in many countries; the focus in the modern era is to structure incentives for managers of cities to meet reasonable performance standards of their own volition. Many countries rely on other institutional regimes to provide incentives for mayors to serve their residents well. In an elective political process, as mayors seek election, poor performance leads to removal

from office by voters. Just as local elections have been introduced into the rural sector, China could experiment with reform of political institutions for cities to make mayors more accountable to the city residents.

4.39 In the absence of aggressive institutional reform, the government could be more creative in devising appropriate incentives for the managers of local government, and this option is being explored. Just as managers may now face performance standards for industrial growth, land acquisition, or investment, they can be given performance standards for service delivery to urban populations. For example, it would not be difficult, as an administrative matter, to specify that school attendance and completion reach a given level among all the youth (including migrants' children) in a city. More attention could be paid to devising measurable standards which can be achieved by local city managers in delivering urban services and improving the quality of residents' lives. CEOs who meet these objectives would then be rewarded.

4.40 Besides redefining performance standards, in general it is desirable to replace command-and-control regimes with incentive structures, so city bureaucrats and local investors make better decisions affecting city life, in particular in the operation of land markets and urban public finance, as discussed next.

Restructure urban finances

4.41 Restructuring urban finances requires reform of accounting practices, reform of capital financing, and introduction of new tax instruments.

4.42 *Transparent accounting* The first step in regularizing urban finances is to introduce a transparent accounting system covering all on- and off-book revenues, with strict separation of operating and capital accounts. Larger Chinese cities have relatively free access to off-budget revenues from balance-sheet transactions – revenues which can be spent on goods and services as if they were financed from the operating budget. Off-book revenues and the mixing of revenues for capital and operating purposes create a lack of transparency. Transparency has two advantages. First, it allows the center to assess more accurately the fiscal positions of all cities, and to make better-informed decisions about inter-governmental transfer policies. Second, orderly and transparent accounting systems are a prerequisite in credit markets for market-based debt finance, such as municipal bonds.

4.43 *Financing the capital budget* Given proper accounting, the issue is then how to finance both local operating and capital expenditures. Currently, leasehold sales are a major source of operating revenue for cities. At the moment, these transactions allow transient public officials to sell off the long-term capital assets of a city, i.e., its land, to finance current operating expenditures, depriving future generations of the income from these assets. It is desirable for proceeds from the sale of leaseholds to be allocated to the capital budget, so as to match sales of assets to purchase of assets. Any use of such revenues for operating account transactions should be carefully regulated and monitored by higher levels of government. Once proper accounting procedures are in place, capital

expenditures not financed by leasehold sales can be financed in two ways. Some portion of baseline infrastructure investments could be financed by inter-governmental transfers, governed by transparent formulas accounting for the fiscal capacities of cities and applied non-discriminatorily. The rest could be financed by borrowing. International experience suggests that borrowing from the central government is problematic: enforcing a hard budget constraint and repayment is difficult. In essence loans become de facto transfers. That leaves market based borrowing.

4.44 *Municipal bonds* Municipal bonds are used to finance local capital expenditures in a number of countries. They allow city residents to raise revenues for lumpy investments, while still facing the costs of the capital assets they acquire. But several inter-related problems in the operation of municipal bond markets and other external borrowing have plagued countries, especially developing countries. The first is the problem of ‘raiding’ of bond funds. Bondholders must be paid as their claims come due. Prudent accounting practice is to establish sinking funds. Cities contribute to these funds regularly, so that cash is accumulated to pay bond issues as they mature. But cities may be tempted to use funds accrued in bond accounts for other pressing expenditures, just as cities in China have raided pension and social service plan funds. The raiding of bond accounts so that monies are not available to pay off bonds as they mature often leads to default by local authorities. As the experience of Brazil and Mexico suggests, this can be further destabilizing if the national government feels compelled to make good on the bonds. The underlying problem is that, unlike corporate bonds, there is no collateral associated with municipal bonds. It is generally impossible for bond holders to seize and sell off city assets to satisfy a legitimate claim. A solution is careful monitoring of city finances by national- or provincial-level government, with potential loss of autonomy for localities if they fail their responsibilities. (The market discipline imposed by a city’s inability to borrow in the future in the event of a default doesn’t solve the immediate problem of financial destabilization.) As a result of this problem, as well as poor accounting practices, local governments in many developing countries rely on inter-governmental transfers to help finance the most basic infrastructure investments. Central governments, in turn, may issue bonds and borrow on world capital markets to finance the transfers.

4.45 *Property taxation.* Currently, municipal revenues in China are generated by the VAT and business taxes, as well as land sales. These tax instruments encourage cities to attract business but not residents. One reform would be for China to adopt an *ad valorem* property tax on residential and business property. A tax on residences will provide an incentive for cities to accept new residents, as well as help finance urban services. Importantly, it will help dispel the notion that rural migrants are somehow ‘free riders’ in the urban economy. The tax on business property will cause firms to consider more carefully the opportunities for economy in land and space utilization. It will also align more closely the services provided to commercial and industrial property with the costs of providing these services. Property taxation would reduce the value of leasehold sales by creating future fiscal obligations. But this would help shift the funding of operating budgets away from the sale of assets to an on-going revenue source.

4.46 *Implementing a property tax system* An *ad valorem* tax system requires registration of ownership, but it need not imply investing in a costly cadastre system. ‘Registration’ only implies that a specific individual or firm (perhaps identified as a fictitious business) is responsible for timely payment of assessments. This need not reveal proprietary patterns of ownership. Moreover, the assessment procedure need not imply complex and expensive imputations of value, which can also be a source of conflict and abuse. An area property tax, similar to the council tax in the UK, may suffice. Properties in each district in a city can be placed into a small set of categories – by land-use type, size and quality – with a rate charged for each category. This avoids expensive assessments at the parcel level. It is essential that any assessment process be transparent and assessments be available publicly, so there are no perceptions of cronyism. Assessments (or the rate structure for an area property tax) should be levied against both land and structures, using estimates of land values derived from sales of leaseholds, or rental rates where available.

4.47 *Impose a VAT on services* An eventual reform would be to introduce a VAT on services, replacing the business tax on services, so both sectors receive equal tax treatment. Such a reform might encourage the largest cities to focus more on services, rather than trying to retain industry. However an on-going issue with any service taxation is poor collection of taxes from smaller enterprises in the informal sector.

4.5 Reforming the urban administrative hierarchy

4.48 China should consider abandoning the fiscal features of the administrative hierarchy where the ‘large lead the small’; and some experiments in which counties are overseen by the province not the prefecture are underway. Each city, regardless of size, could have a well-defined administrative area over which it has full autonomy. All cities and towns would have access to the same set of tax bases, revenue instruments, exemptions, and formulae for inter-governmental transfers, as well as the same expenditure responsibilities. That leaves open the question of rural area governance and decisions about when a town becomes a city. In many countries, district governments have the responsibility for providing many services to several villages whose scale is too small to afford public services that have high fixed costs. As districts urbanize, they ultimately become cities. Metropolitan areas may contain several districts and a number of cities.

4.49 As an immediate step to full reform, the fiscal resources available to lower-order locations in general could be *further* enhanced, not restricted. As towns or cities grow, their administrative status should be upgraded promptly, in order to service better their populations. A comprehensive review of the appropriate administrative status of growing cities seems overdue.

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