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STEERING, SPEEDING, SCALING

China's model of urban growth and its implications for cities of the global south

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Introduction¹

As we look back around the world over the last 30 years or so, fewer developments have had more transformative consequences globally and locally, especially in the global south, than the coupling of accelerated globalization and urban growth. While many cities of the global south such as those in India and Africa have been growing rapidly, they do not measure up to the speed and scale at which China's cities have exploded to massive proportions with dramatic changes in all aspects of urban life. A most striking example: a fishing village called Shenzhen on the border with Hong Kong, with only about 30,000 residents in 1979 when it was designated as China's first special economic zone, now stands as an industrial megacity of approximately 12 million people. It became known as an 'instant city' that subsequently rose to a second-tier global city (Chen and de'Medici 2012). With many other dynamic cities like Shenzhen, China leads the global south, and the world, in hosting the largest number of cities that have grown most rapidly in the shortest period of time. This historically unprecedented phenomenon poses the question of how to make sense of 'China's model' of urban growth.

In this chapter, I tighten two previously loosely linked approaches to understanding China's model of urban growth. Focusing on the important drivers of China's rapid urbanization, one familiar approach gives the credit to a powerful state as the primary force behind the massive build-up and reconstruction of cities. While a recent contributor to this prevalent perspective (see Chen 2009), I here focus more on globalization as a powerful influence on China's urbanization, but in conjunction with the state's crucial role, which I characterize as 'steering' in this chapter. As the second and more important approach, I take stock of the insights and lessons from China's model of urban growth by critically evaluating its strengths and weaknesses as they manifest themselves before and during the recent global financial crisis. Once identified and assessed, these lessons can be instructive for other cities in the global south regarding growth in an increasingly challenged global environment and its intended and unintended consequences.

To place the global dimensions of China's urban model in a broader comparative context, I use a simple scheme to illustrate the basic relationship between globalization, in terms of large-scale economic and spatial integration, and urban growth, with particular attention to cities of the global south. A focus on the variations of this relationship helps highlight the salient features of China's model. Looking through this comparative lens, I zero in on the key mechanisms that have produced both promising and

problematic outcomes of China's rapid urban growth. This critical discussion helps extract insights and lessons for other cities of the global south that may attempt to replicate or avoid China's model, or adapt it to other national contexts. In the conclusion, I discuss the broader theoretical and policy implications from a balanced analysis of both sides of China's experience.

Globalization and urban growth: locating the Chinese case

Since the growth (or decline) of cities is always driven by both domestic and international conditions, the acceleration and intensification of global economic and other interdependences has altered the relative weight of the impact on cities, shifting it more to the global forces that have reshaped cities everywhere, again more so in the global south. Greater integration of cross-border trade, investment, and physical infrastructure has strengthened the economic connections between cities as production centres and transport hubs and thus fuelled their growth, especially those in neighbouring countries bound by trade agreements like AFTA (Association of Southeast Asian Nations Free Trade Area).² The global spread of architectural ideas and cultural practices has also stimulated new and similar growth strategies used by secondary or second-tier cities to compete against one another, to stay viable or move up in the global city system (see Chen and Kanna 2012). It is in the economic realm again where China's cities, often the previously small and unknown ones like the city of Yiwu in Zhejiang province, rose to a dominant global hub for small merchandise trade. The city's huge annual trade fairs draw buyers from around the world, besides the over 10,000 of them who reside locally, augmented by the ample and convenient supply of small merchandise items like home improvement tools from densely regionalized assembling and manufacturing (Chen *et al.* 2012).

The impact of globalization on cities is varied and complex, but how it has affected China's cities so dramatically points to a simple but useful way to illustrate the relationship between globalization and urban growth. In a 2×2 matrix, we can expect strong globalization and fast urban growth to go together in the same direction (see Figure 16.1). Since globalization can speed up urban growth in the different ways by which cities are globally connected and integrated, the powerful mechanisms of integration are economic primarily (cross-border trade and investment), secondarily spatial (more connected transport infrastructure) and increasingly cultural (transnational flow of urban design ideas and practices). Although global integration shapes urban growth, cities are not just passive recipients. They instead take proactive steps or are pushed by the state, or both, to globalize by either strengthening their trade or investment ties or adopting external cultural strategies to more aggressively market themselves. The cultural outreach may reinforce economic integration, further amplifying the role of global forces in urban growth. With this elaboration on how globalization helps or hinders urban growth, cities can be placed in any of the four squares (Figure 16.1) in terms of their positions along both the globalization and urban growth dimensions.

While somewhat crude, the logic underlying Figure 16.1 sets up the comparative stage for examining how global integration fosters uneven urban growth, and what other factors complicate this multi-faceted relationship. In addition, the simple matrix posits a broad difference between cities of the global north as slow growing or even 'shrinking' vs. those of the global south as generally growing, with many of them growing at a very fast pace. No pair of cities is more illustrative of this sharp contrast between the two broad categories of cities than the 'miracle' Chinese city of Shenzhen (Chen and de'Medici 2010) vs. Detroit after the 2008 global financial crisis. If the severe urban decline of Detroit is associated with 'de-globalization' (Ryan 2012), the rise of Shenzhen can be attributed to the dynamics linked to a sort of 'over-globalization' that is only possible in post-reform China.

Given what we generally know about how China has globalized and urbanized, the evidence is compelling to place China's cities in the upper right-hand quadrant of Figure 16.1. It suffices to highlight both dimensions with a few striking aggregate figures. Regarding global integration, China's

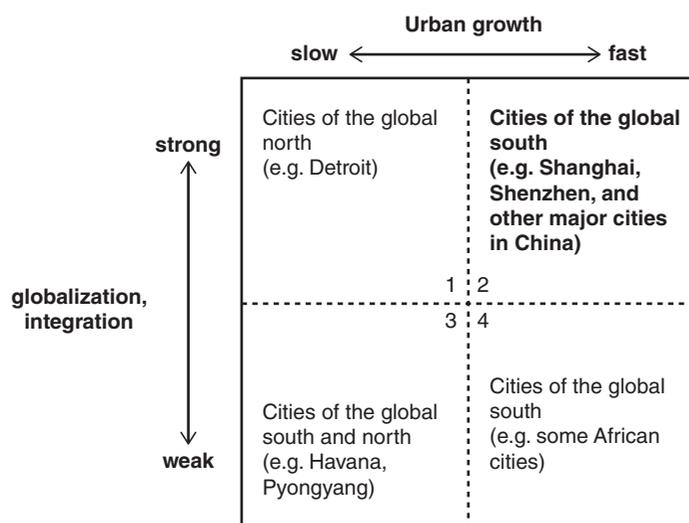


Figure 16.1 Globalization and urban growth

share of global trade rose from 4.7 per cent in 2002 to 10.2 per cent in 2011, with its exports share of the global total growing from 5 per cent to 10.4 per cent. This rapid growth moved China from fourth on the list of top trading nations to first. With an annual growth rate of 21.8 per cent, China moved up from the sixth largest importer in 2002 to second in 2009, only second to the United States.³ By year-end 2012, China surpassed the United States by USD50 billion as the world's number one trading nation, according to their respective official trade figures, although the inclusion of substantial processing trade in China's imports inflates its conventional trade measure.⁴

Along the urban growth vector, China's urban population grew from 502 million (39.1 per cent of the total population) in 2002 to almost 700 million (51.3 per cent of the total population) in 2011. In both the absolute size and share of urban population, this growth is historically unprecedented. Looking ahead, people living in China's cities are projected to reach one billion and account for 65 per cent of the total national population by 2030.⁵ Despite these staggering numbers, China's movement along both the global integration and urban growth tracks is not all linear and smooth. On the contrary, it has encountered both exhilarating rides and unexpected bumps due to strong intervening forces. In the rest of the paper, I focus on how the most important of these forces – primarily a powerful state – have intersected with global factors in turning China's urban growth into a learning model with positive and negative lessons for cities of the global south.

China's model of urban growth

Despite the growing body of research on China's urbanization with a heavy focus on some of the booming mega-cities like Shanghai and Shenzhen, and the widespread media reporting on them, especially on the massive infrastructure building and migration, no consistent view has emerged on China's model of urban growth. However, China was discussed as a model of sorts in a session of the American Sociological Association annual meeting in August 2012, 'Comparing Cities in the Global North and Global South', where I was a panellist. The comments from my fellow panellists and questions from the audience, explicitly and implicitly, referred to the Chinese model, or China's model

to be more exact, which is used in this study. This conversation prompted me to think seriously about how to make the best sense of what it means internally and comparatively.

Any effort to describe China's model tends to start with a numerical assessment of the combined speed and scale of its urban growth. Yet a recent official government view has looked at it in terms of comparative models: China's urban growth has avoided two 'urbanization traps' – the 'overurbanization' in Latin America where urban growth has exceeded economic development, especially job creation in cities, and the 'poverty urbanization' in Africa where cities have not delivered the benefits of modernization to rural migrants who became poorer as informal settlers after permanently leaving agricultural land behind.⁶ The new Premier of China, Li Keqiang, has recently warned against having modern skyscrapers and poor slums side by side in China's cities. This official take was sometimes echoed by Chinese academics at conferences who have characterized urban phenomena in cities of the global south like large slums in Mumbai or Lagos as undesirable or problematic, implying the virtue of being slum-free in large Chinese cities such as Shanghai. Leaving the official policy spin aside, the comparative references bring a sharp focus to the question of what are the successful aspects of China's urban growth. Here I use a simple framework of '6Ss' with each 'S' standing for: *state steering*, *speed* and *scale*, *scaling* out to *spread* development, to discuss the distinctive strengths of China's urban model.

Distinctive features and strengths

State steering. Generally speaking, China's model of urban growth begins and ends with the powerful state driving urbanization forward with a very 'visible hand'. This conventional perspective tends to see the state crowding out other forces in shaping the rapid pace and scale of China's urban transformation. Despite its dominance and wide acceptance, the state-centric model of China's urban growth is not one-dimensional and certainly not spatially uniform. In hindsight, over both time and space the critical role of the state appears more differentiated and diffused and thus more complex and contingent. It varies a lot over time in terms of how it has affected cities at their different stages of development. The state has acted vertically in varied ways with regard to how the central and municipal government interacted both cooperatively and competitively in local urban growth. In addition, the state has mattered horizontally in targeting different cities and regions with focused and adapted policies and incentives. In the light of these multiple facets, the role of the Chinese state in urban growth takes on a distinctively *steering* orientation and power instead of being more domineering and directive. This steering refers to the state using a variety of policies and interventions to guide and correct the dynamic course of urban expansion over the last 30 years.

To distil the essence of the Chinese state's role, we use the logic underscoring Figure 16.1 to trace how the state has been steering the global economic forces to produce rapid urban growth with some beneficial outcomes. Steering urban growth began with the creation of China's first and largest Special Economic Zone (SEZ) in Shenzhen bordering Hong Kong in 1979. While the Shenzhen SEZ shares a few functional similarities to the earlier Export Processing Zones (EPZs) in Taiwan and Korea (Chen 1994, 1995), it grew quickly into a large industrial centre and eventually into a full-fledged modern mega-city of about 12 million people through staged steering by the Chinese government. Designed to attract Hong Kong and overseas investors early on, lower corporate taxes turned out to be a more standard incentive for stimulating urban growth. A stronger version of steering was the state providing upfront financing for building large-scale physical infrastructure to spur and support industrial growth. As this rapid growth later ran into bottlenecks such as the shortage of land, water and energy and environmental degradation, the Shenzhen government tightened restrictions on land approval and elevated environmental standards by banning polluting industries including papermaking and tanning. In response to the socio-spatial marginalization of millions of migrant workers who have built Shenzhen's massive export machine and spectacular skyline but live on low wages in crowded and sub-

standard housing on the city's outskirts, the state stepped up its steering, albeit belatedly, by providing them with a more permanent residential status and its associated social and health benefits (Chen and de'Medici 2012). Given Shenzhen's location next to Hong Kong and economic record as one of the top Chinese cities for attracting overseas investment and exporting manufactured goods, it is often seen as shaped primarily by strong global integration and thus conforming to the logic of Figure 16.1. As illustrated above, however, Shenzhen would not have grown as fast and made the kind of local industrial adjustment to the global economy without the state steering it along the way.

As Shenzhen took off in the 1980s, the state's steering of urban growth moved north or up China's eastern seaboard and led to the designation of 14 other coastal cities as Open Cities in 1984, with their largely state-financed Economic and Technology Development Zones (ETDZs) for the concentrated construction of export-oriented factories. These newly open coastal cities not only drew more foreign investment and fuelled more exports but also created more diverse sites for the state to steer new urban construction in the form of ETDZs, located generally on the outskirts, and large-scale redevelopment of old areas in the heart of historic cities like Shanghai (Chen 2009). As the state-designated open areas multiplied in number and geographic scope, the agglomeration of export-oriented production in factories and ports and inward-oriented consumption via residential towers and shopping malls began to scale up and spread around the booming coastal cities.

With the state also steering more resources into inter-city transport infrastructure out from the major coastal cities, geographically adjacent secondary cities have benefited from the positive spillover effects from hubs like Shenzhen and Shanghai, which gradually led to more regional economic agglomeration and spatial integration of all cities in the Pearl River and Yangtze River Deltas (Chen 2007). As part of a state-steered plan to build a number of new towns around Shanghai, Shanghai Volkswagen or SVW (a joint venture between Shanghai Automobile Industrial Corporation [SAIC] and VW) constructed an integrated 'motor city' with a Formula One Track by the new town of Anting on the outskirts of Shanghai, which facilitated a spatial extension of manufacturing from Shanghai into the Yangtze River Delta (YRD). Shanghai GM or SGM (a joint venture between SAIC and General Motors) began to source simple, specialized components from small suppliers located in towns at the far edges of the YRD. Hankook, a large Korean tyre-maker based in the city of Jiaying in Zhejiang province, about one hour away from Shanghai, became a major supplier of tyres to VW through its marketing functions in Shanghai. Beyond individual cities, state steering has worked in bringing about some integrated development of key industries such as auto-making and regional economies.

As the coastal cities raced far ahead of the interior cities, the Chinese state enhanced its steering role in urban growth by prioritizing key western cities as new hubs of accelerated development for stimulating the catch-up of the vast inland region. The post-1997 southwestern city of Chongqing, with 32 million people in an overbounded (including an expansive agricultural hinterland) municipal territory of 82,000 sq. km, epitomises this strategic shift in state steering. By designating Chongqing as a central government municipality in 1997, the state elevated Chongqing closer to the centre and its control while giving it greater autonomy and financial support. For example, the central government gave Chongqing 1.5 billion yuan (\approx USD290 million) as low-interest loans per year for the Three Gorges Dam-affected region, 500 million yuan (\approx USD80 million) for building new housing for displaced residents, and refunded USD85 million from import taxes to Chongqing for the Dam-related projects. In addition, Chongqing was allowed to lower enterprise tax for new foreign investment projects from 33 to 24 per cent, or even to 15 per cent if these projects were located in the city's ETDZ, like the Shenzhen SEZ and other coastal ETDZs in the 1980s. Chongqing used this large infusion of central government funds to speed up its development and raise its national and international standing.

Fast forward to the last few years, the government of Chongqing under then new Party leader Bo Xilai became very aggressive in mobilizing massive central and local funds to build large-scale infrastructure and to attract multinational corporations to set up factories locally. In 2011, the last year

of Bo's reign, Chongqing's fixed assets investment accounted for 76 per cent of its GDP, compared to 72 per cent for neighbouring Sichuan province, of which Chongqing was a part before 1997, and 64 per cent for the national average. This pushed Chongqing's GDP to grow 16.5 per cent and its exports to surge 165 per cent in 2011 over 2010, ahead of all provinces and direct municipalities in China on both indicators (H. Liu 2012). As Chongqing illustrates, the state's role in steering urban growth not only has involved both the central and local government across regions, but also shifted up and down the political hierarchy in intensity depending on both the strategic importance of given cities and the ambition of their leaders.

Speed and scale. Given the strong steering role of the state, the fast speed and large scale of China's urban growth is fully expected, although it still has no equals compared to all rapidly urbanizing countries of the global south. While the high speed of China's urban growth itself does not equal success, it should be seen and evaluated as a distinctive strength of a model that is capable of accelerating and compressing urbanization only in the Chinese context. Taking a longer historical perspective would place China's super-fast urbanization in its proper light. With only 13 per cent of its population being urban around 1950, China was behind India's 17 per cent and comparable to the level of urbanization in some parts of Africa today. With still less than 20 per cent urban around 1980 when economic reforms began, China has urbanized much faster than India ever since, reaching over 50 per cent urban today relative to India's slightly more than 30 per cent. Since urbanization and economic growth go hand in hand in this context, rapid urbanization has contributed mightily to China's overall GDP expansion.

From 1990 to 2007, China's urban population more than doubled, and real GDP grew almost tenfold. Between roughly 1995 and 2005, over half of China's GDP growth came from fixed assets investment in the massive construction of factories, transport infrastructure and residential buildings. In 2010, China's metropolitan regions accounted for 78 per cent of its GDP. Urbanization stimulated more urban consumption, which accounted for 26 per cent of China's GDP growth (McKinsey Global Institute 2009). In comparative historical terms, China doubled its GDP per capita ten times faster than the world's first country to urbanize – the United Kingdom – from 1700 to the mid-1800s and five times faster than the United States during its accelerated urbanization between 1800 and 1900 (Dobbs *et al.* 2012).

Related to the sheer speed of urbanization, China stands out among the global south in adding a large number of new cities and scaling up already large cities and even mega-cities like Shanghai. With approximately 200 cities around 1980, China has almost 800 cities today. Often used as a convenient indicator of a significantly scaled city, the cities with one million-plus population in China rose from 20 in 1980 to 102 in 2012, whereas the number of million-plus cities in fast urbanizing Africa as a whole grew from 17 to about 50 today. Europe as a whole has 35 such cities, while the United States has nine.⁷ In a more meaningful comparison, India has 42 million-plus cities, ranking second behind China. While we expect a large number of big cities in China given its huge population and territory, this four-fold increase in cities of this size is again exceptional across the global south. At the very top of the city scale, China, more than any developing and rapidly urbanizing country including India, added four more cities (Guangzhou, Shenzhen, Chongqing, Wuhan) to the world's top 30 largest urban centres by 2010, from only Shanghai and Beijing in 1980 (United Nations 2012). Larger cities are generally more productive due to economic agglomeration. A greater number of larger cities have contributed disproportionately more to China's GDP growth. From 2007 to 2010, when global economic growth slowed considerably, the GDP of large Chinese cities rose from 20 per cent of that of large cities in the United States to 37 per cent (Dobbs *et al.* 2012).⁸ So China's economic growth has benefited from both a higher level of urbanization and a greater number of larger cities – a double gain from the simultaneous occurrence of 'more and larger' in urban growth.

Given the coupling of speed and scale, China's urban growth has yielded several positive outcomes beyond and through the greater accumulation of aggregate wealth. One is the rapid expansion of an

urban middle class with its growing disposable income. The shares of the upper middle (earning USD6,359–USD15,840 annually) and lower middle-income (USD4,000–USD6,350 annually) classes grew from 1.3 and 5.7 per cent in 1995 to 9.4 and 12.6 per cent in 2005, respectively. Yet their corresponding shares of China's total urban disposable income went up from 5.1 and 13.6 per cent to 24.2 and 15.4 per cent (Farrell *et al.* 2006). Related to this improved standard of living in the middle is the alleviation of poverty that has happened primarily through rural–urban migration. The proportion of peasants living under the officially defined poverty line (less than one US dollar a day) dropped from 30 per cent around 1980 to less than 5 per cent by 2010. This has translated into more than 300 million peasants who have moved out of wretched poverty and into low-paying jobs in cities. Higher urban wages over the last three or four years (see later) have helped more migrant workers climb the income ladder, adding some of them to the urban middle class, generally those who are committed to and manage to stay permanently in cities. Looking from the middle and bottom of the socio-economic hierarchy, rapid and massive urban growth has produced a rising tide effect in lifting all boats.

Generally seen as another highly successful aspect of China's model, large-scale physical infrastructure has been built up intensively and extensively within and across China's cities, especially in larger cities. In addition to heavy investment from the central government for inter-city highways and high-speed rail, city governments have financed many big infrastructure projects⁹ by buying surrounding agricultural land, often with strong administrative pressure, and then selling its user rights to domestic and foreign developers at higher prices. This financing scheme has provided cities with plenty of housing, roads and utilities to keep up with their expanding populations and production capacities. While the loss of agricultural land to urban development has caused a lot of rural resentment and protests against local governments, sustaining cities' built infrastructure has gone a long way to avoid the emergence of large slums, a dynamic that the Chinese government and some scholars use to praise China's model.

Scaling out to spread development. As the Chinese state has steered urban growth along a fast track on a large scale, it has also done so along a parallel track of what can be called *scaling out to spread development*. Scaling out refers to the state steering the growth of medium-sized and small cities across China, especially across its interior. While the number of million-plus cities has risen fast, scaling up the top of the urban hierarchy, its bottom half consisting of smaller cities has sustained its form and functions, if not widening them. According to official government statistics, the number of cities with 500,000 to one million people rose from around 30 in 1980 to approximately 130 today. This net gain of 100 cities in this size category, larger than the added number of million-plus cities, represents a wider spatial spread of secondary or tertiary growth centres which have contributed to GDP and boosted lagging regions. In fact, while half of the urban GDP in 2005 was concentrated in the 40 largest cities, all with one million or more people, the smaller cities collectively accounted for the other half. Smaller cities including those with less than half a million people are projected to make up 54 per cent of the urban GDP by 2025 and contribute to 55 per cent of the urban GDP growth by then (McKinsey Global Institute 2009). This trend is similar to all developing countries where cities of around half a million people are expected to absorb a larger share of urban population and economic growth over the next 20 years.

To look through these aggregate numbers to see the real development benefits from scaling out, we can assess the concrete evidence regarding the city of Yiwu in coastal Zhejiang province as an illustrative case. Few people outside of China have heard about Yiwu and how it has become one of the most globalized cities in China today. Yiwu furnishes an early example of how an autonomous local government steered both local market and global economic forces in jump-starting rapid urban growth through careful planning and flexible policies. Instead of building many factories in spatially distinctive industrial districts like the Shenzhen SEZ and other coastal cities, Yiwu chose a commercial route and thus charted a new path to globalize its own local economy. From the very outset in the 1980s, the local

government focused on promoting spatially centralized and specialized markets and vending stalls for small merchandise such as handicraft items and hand tools. By furnishing the necessary economic infrastructure as well as financial incentives, the local government built up Yiwu as China's hub of small merchandise markets. As these markets grew in numbers and density, they attracted thousands more merchants from near and far, both from within China and from abroad. The increase in commercial transactions led to the emergence and expansion of small factories within and beyond the city. These factories process and assemble more small merchant products to be sold at and exported from the central markets. The entire process, which was created and shaped by local officials, fuelled the economic and demographic boom of Yiwu. Today its population numbers over one million, including approximately 10,000 long-term foreign residents, most of whom are merchants and buyers. This rapid demographic growth represents a tenfold increase since 1990. Through the process, Yiwu has also become the world's leading centre for small merchandise with a market index that is widely regarded as a barometer of prices and performance (Chen *et al.* 2012). Again, the state has steered Yiwu in showing a positive association between global integration and urban growth (see Figure 16.1).

The scaling out to smaller cities to spread development, through state steering, may also work at a regional scale in China's less developed interior. It can be seen as the urban-scale embodiment of China's 'Go West' development strategy whose long-term success will depend on building up and out from key interior hubs like Chongqing. It is actually in Chongqing where the central and local governments have cooperated on a large-scale experiment, through household registration and land reforms, to urbanize, by 2020, 10 of the 20 million or so peasants living in the rural hinterlands around the established urban district, which currently hosts about 10 of the 30 million people in the entire municipality. Part of this state-orchestrated urbanization involves building up several secondary cities like Wanzhou beyond the old urban centre to absorb a portion of the expected 10 million or so new urbanites. By building up the municipal and transport infrastructure in and around these secondary cities, the state scales them up and out so they are capable of accommodating more rural people and also pushing some development impulses deeper into the more distant and poorer areas near Chongqing's sprawling municipal boundaries. While it is too early to assess the long-term results of this ambitiously planned approach to speeding up urban-rural integration, it represents a stronger version of the state steering the pace, scale and direction of regional urban growth than reflected in the Yiwu case.

The strongest and most effective, albeit less recognized, agency of scaling out is the extensive and accelerated use of land as an easy and lucrative source of local public finance for the rapid growth of cities like Yiwu. Urban land had no market value in China's pre-reform planned economy. Since reforms began, increasing but incomplete marketization has appreciated the value of urban land to a much higher level than rural land, including that around and adjacent to cities. This has led to what Lin and Yi (2011) called land-centred urbanization by which local governments have expanded their cities by building on relatively cheap land but using the huge amount of fees they have levied on real estate developers for the long-term use of the land. The tax sharing system introduced in 1994, which made local governments pay more taxes to the central government, forced them to scale up the use of land fees as an extra-budgetary source of revenue for local urban development (*ibid.*). To the extent that this distinguishes China's model of rapid urban growth, it is inherently linked to the legally ambiguous and locally flexible nature of property rights and land development which reflects the incrementally decentralized and locally varied governance during China's gradual market transition from socialism (see Lin 2010). While it has produced miraculous urban growth, it has brought about consequences on the other side.

Glaring weaknesses and setbacks

Global vulnerability. If the Chinese state has played a critical role in steering urban growth in such a spectacular manner, it is tempting to dwell on all the successful aspects of this model. A more careful

scrutiny, however, reveals that the major strengths of China's model carry built-in weaknesses that have resulted in setbacks and new challenges. One major weakness that has developed from a previous strength is the increasingly limited ability of the state to steer urban development in response to more fierce global competition with greater global integration (Figure 16.1). The city of Wenzhou in Zhejiang province, a once very successful model of local entrepreneurial dynamism and robust exports, has exposed the inherent drawback of the model during the global financial crisis. While Wenzhou remained a dynamic front-runner among China's booming coastal cities into the twenty-first century, its 'star' has dimmed some since 2010. As the global economic crisis dragged on and demand weakened in advanced markets, many of Wenzhou's 500,000 export-dependent private enterprises ran into a serious debt problem. Starting out with loans from families and neighbours, these firms have received little funding from state-owned banks, which tightened credit to rein in inflation. So these firms have turned to underground banking networks to raise cash. Since these networks charge interest rates as high as 90 per cent, a spate of debtors who face more fierce competition (from lower production sites in India and Vietnam) and less demand (the city's share of the global cigarette lighter market slipped to about 70 per cent, down from 80 per cent), have gone bankrupt. More than 90 borrowers, unable or unwilling to repay their debts, have fled since April 2011 (*China Daily* 2011). To deal with the serious consequences of this local debt crisis, the Chinese government has since adopted a series of measures including: capping interest rates and ordering big banks to expand lending to small companies; allowing small banks to continue to implement 'relatively' lower reserve requirement ratios than big banks; allowing small firms to issue more bills and bonds; and raising the threshold for levying value-added and business taxes on them. These strong interventions have not worked effectively, however, as the non-performing loan ratio in Wenzhou was 3 per cent in August 2012 (or about USD3.3 billion), doubled from the beginning of 2012 and the highest level in a decade (Man-Ki 2012).

The state's increasing inability to mitigate China's global economic vulnerability became most obvious at the early stage of the 2008–2009 financial crisis. The sharp decline in overseas demand for China's consumer exports forced hundreds of coastal factories to close down and an estimated 20 million migrant workers to lose jobs, disproportionately in the Pearl River Delta where labour-intensive factories are spatially congregated. One shoe factory in the city of Dongguan lost 30 per cent in overseas orders and over USD10 million in export earnings from 2008 to 2009. A loss of this scale was huge for China, which accounted for 73 per cent of the world's total shoe exports (Zhan 2008).

Ironically, China also led the world in recovering from the crisis in 2009, during which unemployment dropped from 20 million in January to 11 million in April and 4.5 million in August. Many coastal factories faced the challenge of hiring enough workers and had to raise wages. In apparel manufacturing, for example, the hourly rate went up 14 per cent to USD1.84, which would quadruple that in Vietnam where the hourly rate had risen only 2 per cent to 49 US cents (Moody 2010). Accompanying and reinforcing this globally induced change, more foreign companies shifted production to the interior in search of cheaper land and labour, attracting more migrant workers to stay at or close to home for work. While keeping its large factory in Shenzhen, which had employed as many as 900,000 workers at its peak, Foxconn opened a huge, modern operation in Chengdu, Sichuan province in October 2010, and might expand to 500,000 staff within the next five years. In 2011, for the first time, the number of local labourers migrating from one part of the expansive Chongqing municipality to another exceeded the number leaving for other provinces, while just a few years ago, 70 per cent were going elsewhere. The local state responded by introducing experiments in Chengdu and in Chongqing, aimed at making it easier for migrant workers from the surrounding small urban and large rural areas to enjoy the same welfare benefits as registered local residents (*Economist* 2012c). As China's coastal cities have become more vulnerable to the vicissitudes of the global economy, the spatial shift of globally linked production and migration to the inland cities will exert more pressure on the state to steer and manage global shocks to a larger number of diverse local economies.

Shallow urbanization and city dwelling. As part of its speed and scale, China's model of urban growth has produced massive factories, spectacular skylines and glamorous shopping malls. But this model has not yielded proportional benefits for the millions of migrant workers from the countryside who labour hard to run the factories and build up the infrastructure. In fact, the state and major cities have created and sustained a distinctive phenomenon of 'shallow urbanization' with two dimensions that present double negatives for migrant workers. On the material side, migrants face the persistent barrier sustained by local governments which favours only local residents with urban household registration. They therefore cannot enjoy the benefits of schooling, health-care and pensions associated with this registration. They also face discrimination from urban employers who prefer local residents and younger and more educated migrants. In addition, migrant workers earn a lower average wage and are less able to afford the expensive housing and other amenities in cities. These institutional and economic barriers also limit the social and communal integration of most migrants, who are residentially marginalized in crowded factory dorms or in sub-standard rental units on the cities' outskirts. This socio-spatial segregation reinforces migrants' emotional detachment from and lack of identity with cities. As a result, most migrant workers have not settled down in cities permanently, and some tend to return to villages when they get older and become less competitive in the urban labour market. Zhang and Li (2007) found that migrants encounter difficulties in securing employments after they are 40 years old and often have to return to villages. The rural land migrants have left behind, coupled with such familial needs as care for the elderly, also contribute to the return flow. On the other hand, the longer migrants stay in cities, the more likely they are to stay indefinitely, as those who had stayed for ten years in Shanghai have a 95 per cent chance of staying there indefinitely (Ren 2006). The factors affecting whether migrant workers stay in China's cities or not are varied and complex.

The shallowness of China's urban growth places migrants at a number of disadvantages, which in turn pose serious challenges to the urban labour market and broader social integration and stability. Without proper access to urban education, migrant workers can't develop human capital to compete for higher paying jobs. As a result, they get stuck in manual labour jobs, which account for 70.7 per cent of all migrants' jobs, with only 17 per cent in skilled positions, 7.4 per cent as group or section leaders (a low-level supervisory position on the factory floor or construction site), and only 4.9 per cent in management. Given their lower education and skill, migrants with fewer than nine years of schooling earned 70.3 per cent of registered urban residents' income in 2005, while migrants with 9–12 and over 12 years of schooling earned 84.6 per cent and 87.9 per cent compared to their urban counterparts, respectively (C. Liu 2012). Moreover, their lower wage also makes it harder for them to spare money to pay for continued education and training. Due to low pay and spatially segregated living, migrants can seldom access or afford entertainment. According to one survey, more than 75 per cent of migrant workers had never been to bars, coffeehouses, movie theatres, fitness centres, libraries or museums. This is no surprise since there are few outlets in the areas where migrants live and congregate. Although libraries and museums are free, they are often located in the city centre and not convenient for migrants to get to from the outskirts. Another survey showed that more than half of migrants consider sleeping a major form of entertainment (Wang 2009). Limited education and lower wages restrict upward economic mobility for migrants and thus reduce their commitment to staying in cities, and the lack of local social and leisure connections erodes migrants' emotional and civic ties to cities. All these disadvantages add up to a total denial of urban citizenship to migrants (Zhang 2002), working powerfully against the factors that facilitate migrants' stay such as improved human capital, income opportunities and longer time in the city.

Given the massive number of migrants caught up in the woes of shallow and unsettled lives in cities, the state has resorted to its inherent capacity and practice of 'steering toward' a solution. In 2007, the city of Chongqing was named the National Economic Experimental Zone for Urban–Rural Integration with its central goal to deepen shallow urbanization by making it possible for migrant workers to enjoy

urban life just as local residents and eventually settle down. The city has devised an ambitious three-pronged experiment that comprises: reform of the household registration system, a public housing plan and a land coupon scheme. The city proposed that in 2010 and 2011, three million eligible migrant workers who had been working locally would have their registration status changed to urban. To be eligible one must have worked five years in the central city of Chongqing or three years in a township within the municipal boundary. From 2012 to 2020, another seven million peasants should and would become urban under the broadened eligibility that those with an intention to come into cities can do so. In 2010, Chongqing proposed to build 40 million m² of public rental housing, at about half the market rate, by 2015 for two million migrant workers. By the end of 2011, 8 million m² had been either built or were in construction. Essentially any person who works in the city but does not own a home is eligible for one of these more affordable public rental units. Through a lottery system over four rounds since 2010, more than 300,000 people have been granted the permission to rent the lower-cost apartments. While small, with an average space of 60 m², these units counter shallow urbanization by reducing migrants' living expenses and promoting their integration with the local community and residents. Integrated with schools, community clinics, green space and playgrounds, the lower-priced public rentals not only are a much improved alternative to the typical housing conditions of migrant workers but also allow them to live with their families in Chongqing, thus strengthening their commitment towards permanent settlement. In the land coupon scheme, villages and peasants can collectively or individually apply to reclaim their rural construction land for qualified arable land. After verification by concerned authorities that the newly converted land is indeed arable, land coupons are issued to the applicants. The Land Coupon Exchange, which acts as the marketplace for transacting coupons, periodically holds auctions where a given coupon goes to the highest bidder, generally a real estate developer. The majority of the revenue from developers' bidding for land coupons, at least 85 per cent according to the latest regulation (Li 2011), is returned to peasants who can now use the money as start-up capital for any business venture or living expenses as they move into Chongqing or its secondary urban centres. The amount paid by developers can be deducted from the land transfer fees that they need to pay the government when they actually purchase the land for their projects.

With these three policies designed to help deepen shallow urbanization, there is initial evidence that they might have some intended effects. In the three months after the household registration reform became effective in September 2010, more than one million migrant workers changed their status (Deng 2010). In 2011, about 385,000 migrant workers came back from coastal cities. Among the 8.9 million migrant workers from Chongqing's countryside in 2011, 4.89 million chose to work in the city of Chongqing (Li 2011). While such factors as rising business and living costs and weaker employment demand in coastal cities have played into the return of migrants, especially since the global financial crisis (see earlier), the pull forces evident in these policy changes in Chongqing seem to have gained some strength. Some migrants in Chongqing have voluntarily decided to sell their rural land and become fully urban, citing the reasons that they would expect to face less discrimination holding the official urban status and have secure and affordable housing (C. Liu 2012). Some scholars such as Huang (2011) have proclaimed the policy scheme to be the right approach towards equity and justice, and a timely rectification of the overemphasis on growth and efficiency during the last three decades. Others have criticized the policies for the following reasons: the lack of enforcement and delivery of full benefits to migrants; a top-down and arbitrary approach leading to long-run uncertainty due to the lack of careful and anticipatory planning (Xiao 2011); and the huge upfront capital outlays leading to financial unsustainability later (Szelenyi 2011). Only with more time and better data can the full intended effects of these policies be properly evaluated. For now, they are another good representation or reminder of the enduring capacity of the Chinese state in trying to steer urban growth away from its problematic aspects. It does so in order to redress the widespread discontent among migrant workers that threatens broad social stability and long-term sustainable urban growth.

Unsustainability. A critical look at the financially costly and unsustainable Chongqing experiment casts a larger and brighter spotlight on dimensions of China's model that render it highly unsustainable in more senses than one. Striking inequality, in both economic and spatial terms, perhaps more than anything else, has placed China's model on an increasingly unsustainable path. Ironically, having launched the SEZs and other coastal cities as the first favoured cities, China's urban growth has carried a strong element of 'planned' inequality from the outset. The early and fast accumulation of wealth in this small number of coastal cities created pockets of prosperity that have since grown into booming centres of greater economic power and a higher level of income and living standard. While the number of such cities has multiplied over time through the state's spatial steering of new growth targets in the interior, the disparity between the 'early developers' and 'later developers' has widened to the point where it risks creating a deep and unbridgeable chasm of wealth between cities, primarily between coastal and inland cities.

Growing spatial inequality is part and parcel of the overall urbanization-induced inequality in China that has been the biggest and fastest growing in the world. China's Gini coefficient has risen from less than 0.3 in 1978 to more than 0.48 today, according to a study by an official research organization (cited by *The Economist* 2012a). The ratio of urban to rural per capita income rose from 2.2 in 1990 to 3.3 in 2010. In spite and because of its rapid growth and overall wealth, the Gini coefficient for Pudong district, Shanghai grew from 0.37 in 1994 to 0.45 in 2001 (Pudong Municipal Government 2002). Inequality in urban China would be even higher if the so-called 'grey' or unreported income is factored in. One scholar in China recently estimated the income of the richest 10 per cent of urban Chinese at some 23 times that of the poorest 10 per cent, while official statistics put the multiple at nine (cited by *The Economist* 2012a). Of the factors that have contributed to both rural-urban and intra-urban inequalities such as the abuse of official power, the persistence of household registration is the most important; it not only keeps rural educational spending and its return lower than in cities, but also disadvantages rural migrants in urban employment and earnings, as discussed earlier.

China's model of urban growth is also unsustainable because it has been achieved at a considerable cost to the environment. Driven by hundreds of thousands of factories, large and small, within and around their administrative boundaries, China's cities, especially those on the coast, are nothing but factory cities and production centres that make all kinds of consumer goods for the world; a number of factory cities are so highly specialized they make and export a single product. For example, the city of Chaozhou in Guangdong province, which churns out wedding gowns and evening gowns in annual sales of USD950 million, exports 67 per cent of them to the United States alone. Given the prevalence of these factories, manufacturing accounts for 49 per cent of China's GDP, but uses up 84 per cent of China's energy consumption (Howes and Wyrwoll 2012).

Due to the dominance of its energy-intensive manufacturing, China is now the world's biggest energy consumer and since 2007 the largest source of energy-related greenhouse gas emissions; its energy intensity (energy consumption per unit of GDP) is nearly double the average of countries in the Organization for Economic Co-operation and Development (OECD). In terms of a related indicator, the economic cost to China's environment as a share of gross national income (GNI) in 2011, a measure of the financial cost of pollution and the using up of finite natural resources, stood at 8.9 per cent (or USD650 billion), more than the combined GNI of Austria and Portugal (World Bank 2012).

Explosive urban growth in China has also accelerated its massive production of garbage already at one-quarter of the world's total, with the urban waste growing at around 8–10 per cent annually (*Economist Intelligence Unit* 2012b). This intensive energy consumption and waste production is very likely to increase, with 350 million more city-dwellers expected by 2025 and an expected five million buildings, 50,000 of which could be skyscrapers, to be constructed for them (McKinsey 2009). Since cities (accounting for half of the world's population), with all their buildings and cars, consume over 70 per cent of the world's total energy, the 220 or so cities with one million or more people in China by

2025 will further elevate this disproportionately voracious demand for and use of the world's limited energy.

Given their industrial core and heavy export-orientation, China's cities are unsustainable for two more reasons that have recently become more coupled and mutually reinforcing. On one hand, rapid growth has run up against rising production costs in coastal cities due to higher land prices, wages and more stringent environmental and safety regulations. Labour costs alone in southern China have gone up by 20 per cent a year over the last four years, rising by 12 per cent in Guangdong province and 14 per cent in Shanghai a year from 2002 to 2009, relative to increases of 8 per cent in the Philippines and only 1 per cent in Mexico (*The Economist* 2012b). Responding and contributing to the rising labour costs in coastal cities, more foreign-owned factories are moving to cheaper and more attractive interior cities. For example, Shenzhen-based Foxconn, which exports \$50 billion worth of such products as iPads and iPhones for Apple a year as China's largest corporate exporter, has opened several new factories in inland cities including a huge, modern operation in the city of Chengdu, the capital of Sichuan province, in October 2010 (see earlier discussion). Formerly the largest labour-exporter in Sichuan, Jintang county, now part of Chengdu, has benefited from newly available jobs at Foxconn, with wages as high as USD320 a month. Local officials have begun to persuade migrants to stay home after the Chinese New Year festivities by offering tax breaks and low-interest loans for those who want to start businesses (*The Economist* 2012c). While the average wage and mandatory welfare of China's second-tier cities, mostly in the interior, are 60–80 per cent of those in its first-tier cities like Shanghai and Shenzhen, they are no longer as low as they used to be. This partly stems from the differential new minimum wages set by the major municipal and provincial governments at the beginning of 2012. The minimum wages for Henan (in central China) and Sichuan provinces were raised by 35 and 23 per cent respectively, compared to 13 and 14 per cent for Shanghai and Shenzhen, which already had the highest minimum wages before the mandated increase (Einhorn and Applegate 2012).

Accelerated population ageing and the associated shrinking of the labour force has also contributed to rising labour costs in China. While the ratio of those aged 60 and over across the world rose by three percentage points in the 60 years from 1950 to 2010, in China it increased by 3.8 percentage points in just the 10 years from 2000 to 2010 (Zhang 2012). As the youngest and largest city of migrants, Shenzhen possessed a favourable demographic advantage in 2000 when nearly 60 per cent of its population was between the ages of 15 and 29, with barely more than 1 per cent of the population over the age of 65. But the proportion of the population in the 15–29 age range dropped to 23 per cent in 2010 as workers matured and the influx slowed. With the lowest birth rate (less than one) among all major cities in China for a long time, Shanghai will see the growth of its working age population slow to less than 1 per cent and the proportion of its elderly (65 and over) rise to 17.1 per cent in 2020 (*Economist Intelligence Unit* 2012a). Losing the 'demographic dividend', its large working-age population, may lower China's annual growth rate by 1.5 percentage points by 2015 and another percentage point from 2016–2020 (Zhang 2012). If the changing demographic structure can have such a constraining effect on China's industry-fuelled urban growth, it will magnify the negative impact of other undesirable factors discussed above.

In sum, China's dynamic model is unlikely to be sustained under the collective and converged weight of widened inequality, energy shortage, environmental degradation, rising labour costs and a shrinking labour force. These constraints combine to reveal the inherent and acquired weaknesses of an urban growth machine steered by a powerful state and fuelled by such favourable, albeit fading, conditions as initial low development, abundant cheap labour, massive rural–urban migration, economies of urban scale and strong external demand. These challenges also offer a sobering lesson to reflect on how to re-balance the comparative advantages and disadvantages of China's model as its underlying conditions shift. The last section aims to bring some final clarity and focus to this evaluation and re-balancing of the China's model and reflects on its implications for other cities of the global south.

Essential insights and lessons

In bringing this critical assessment of China's urban model to a close, we have obtained a clearer view of its distinctive strengths and weaknesses, and can even conclude that some of the weaknesses were built into the strengths to begin with (e.g. favouring a few cities first with planned spatial inequality). The hidden or latent weaknesses have surfaced into visible challenges as the model's strengths have produced great successes such as rapid growth. This ironic logic does not mean moving away from all the strengths in order to find an alternative model. It instead highlights the need to scrutinize how the state has steered globalization to produce some beneficial effects on urban growth, and to consider whether the state can remain a strong force for overcoming the challenges stemming from the downsides of global economic integration and evolving domestic conditions. Essentially, the Chinese state has functioned as a double-edged sword that cuts through and around urbanization in many ways. Sharpening our analysis of how it has done so helps crystallize any potential implications for other cities of the global south.

By steering urban growth in certain ways, the Chinese state has harnessed and tamed some of the powerful impact of global integration at the local level (Figure 16.1). Starting with the few SEZ, especially Shenzhen on the southeast coast, the state has done two things simultaneously to shape the globalization-urban growth connection. On the one hand, the state has pumped massive fixed asset investments to build up extensive and effective physical infrastructure (industrial parks, power stations, roads and ports, for instance) to house a huge number and density of large or small factories for export-oriented production. This initiative amounts to a local or urban 'domestication' of the global economy that has paid off for explosive and sustained growth. On the other hand, the state has 'globalized' the factory cities by first requiring them to export certain shares of their products and later subsidizing some of them on their exports through rebates. In the meantime, the state has successfully contained the local impact of globalization by favouring and nurturing the growth of large state-owned and some indigenous private firms as competitors against multinational companies with large manufacturing facilities in China's cities. Born in Shenzhen as an entrepreneurial start-up but having benefited from strong state support, for instance, Huawei has grown into the world's largest telecommunications equipment maker and networking service provider, with 140,000 employees around the globe. Domestically, huge state monopolies in utilities like the State Grid and China Telecom, through their municipal subsidiaries, have contributed disproportionately to the physical build-up of cities by keeping out other foreign or domestic providers in laying power grids above and fiber optical cables under the ground. Without competitors, they set local prices for electricity and thus secure monopolistic rents that may be equivalent to the socialist state accumulating capital like its capitalist counterpart under a neoliberalist regime (Harvey 2003).

As the key driver of urban growth and a powerful capital accumulator, the state has been able to be the primary source of fixed asset investments, which has accounted for the largest share of GDP since 2001. In comparison, private consumption has since fallen to the second source of GDP growth, while net exports have contributed the smallest share to GDP at about 10 per cent. These relative shares shifted in 2011 when consumption (both private and government combined) contributed 55.5 per cent of China's GDP growth, while investment accounted for only 48.8 per cent, and net exports shrank to 4.3 per cent (*The Economist* 2012d). While this may be the first sign of the shift from an investment- to a consumption-led model, the imperative to fuel urban growth through fixed assets investment has been deeply entrenched. Local governments, barred from directly selling bonds or taking bank loans, set up almost 6,600 companies to raise money for building factories, bridges, roads and subways. Having grown by 19 per cent in 2010 and soared by 62 per cent in 2009, at the height of China's massive stimulus, local debt has reached 10.7 trillion yuan (USD1.7 trillion), as much as 30 per cent of which could be bad. This local debt accounted for 26 per cent of China's GDP in 2011, a larger share

even than the national government's debt, prompting the Ministry of Finance to announce a trial programme to allow four local authorities – including Shanghai and Shenzhen – to sell bonds directly to help them repay the loans (Roberts 2012). As a result of continued decentralization and local autonomy through post-reform China, investment-driven urban growth via state steering at multiple levels of governance and financial management is difficult to alter and be replaced by a consumption-led model. In this regard, the persistence of China's model has deep roots in the planned economy before the reform and rapid urban growth began.

The evolution of the Chinese state through the three decades of China's accelerated urbanization and globalization carries a revealing set of insights and lessons for other countries and cities of the global south. One side of the coin to take away is how the state has sustained its basic top-down directive power but moderated it into an effective steering approach to urban growth. This seemingly evolutionary process has unleashed a 'revolutionary' force propelling a massive building and rebuilding of many large and smaller cities into globally oriented and regionally linked production centres. One distinctive strength of this steering is the state's effort and capacity to manage, and if necessary, to counter the power and local influence of global capital through a combination of incentives, regulations and interventions. The other side of the coin, ironically, is the state's increasing inability to tame the growing strength of the localized global companies or joint ventures, and to shield domestic companies and factories from their greater exposure to and dependence on exports, especially during the recent global financial crisis.

This also raises another critical debatable question about the essence of China's model of urban growth relative to that in Africa. Is China's rapid urban growth an inevitable result of 'overglobalization' that makes even a strong state inherently incapable of dealing with its cumulative outcomes? Fox (2012) has recently argued that rapid urban growth in sub-Saharan Africa is primarily a function of a global historical process that has alleviated the surplus and disease constraints on urban population growth through technological and institutional changes during and after the colonial era, even without the kind of economic growth steered by a strong state as in China. Moreover, Evans (1995) saw the African state in general and the Zairian state in particular as predatory, in extracting resources from society and providing nothing of value in return. In contrast, the Chinese state has created a lot of wealth by building prosperous cities and inserting them into the global economy. But its growing inability to redistribute this wealth and manage the vicissitudes of the global economy has become a current weakness of its earlier strength. It also could very well be a long-term 'Achilles' heel' of China's state-centric model, even if the state continues to evolve in being less directive and more flexibly steering.

In 2012, China and its new government began to move away from its dynamic model with its striking outcomes and undesirable consequences, and this shift is accelerating in response to growing criticisms from domestic and international quarters, particularly regarding the environmental degradation from the rapid growth and excessive consumption of resources. At this critical juncture, the question of what lessons China can teach the global south, even partially or at all, is more salient. One transferable lesson appears to be that the extensive physical and transport infrastructure financed and built through China's investment-led model has played a central role in the rapid growth and connection of cities and their extensive global ties and competitiveness. While this is where China is far ahead of rapidly urbanizing countries like India and many African nations, it also is inherently tied to how the Chinese state has worked on urbanization. Any simple attempt to mirror this process is unlikely to lead to a replication of China's successful development elsewhere in the global south. However, if the Chinese state can draw from its past steering capacity to adapt to the new challenges of rapid urban growth such as the deeper penetration of the global economy, these experiences might provide more useful food for thought for the emerging cities of the global south.

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Notes

- 1 I would like to thank Deborah Davis, Yuan Ren, Curtis Stone, James Wen and this book's editors for their helpful comments on earlier drafts.
- 2 The Association of Southeast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration) by the Founding Fathers of ASEAN, namely Indonesia, Malaysia, Philippines, Singapore and Thailand. Brunei Darussalam then joined on 7 January 1984, Viet Nam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999, making up what is today the ten Member States of ASEAN. Under The ASEAN Free Trade Area (AFTA), ASEAN Member Countries have made significant progress in the lowering of intra-regional tariffs through the Common Effective Preferential Tariff (CEPT) Scheme and aim to reach zero or very low tariffs by 2015.
- 3 These data are official government statistics reported by *The People's Daily*, 1 September 2012, p. 1.
- 4 Processing trade refers to importing intermediate inputs for the assembly of final products for export. This so-called 'round tripping' of the imported parts, or a sort of double counting, greatly exaggerates both China's export and import figures. In the iPhone trade, for example, Chinese workers contribute only USD6.50 to each iPhone, but USD179 is credited to the export figure as an iPhone is shipped out of China, which needs to pay USD172 to import parts and components for the assembly of an iPhone (Xing 2013).
- 5 These data are official government statistics reported by *The People's Daily*, 1 September 2012, p. 1.
- 6 An editorial in *The People's Daily*, 20 August 2012, p. 1.
- 7 Data from the World Resources Institute reported on <http://www.bbc.co.uk/news/world-asia-china-20069627>, accessed 28 October 2012.
- 8 Large cities here refer to those with 150,000 or more people in the United States and those with 200,000 or more people in China. Although this is a much lower threshold than one million people, it marks cities with

a sufficiently large population. Cities of 200,000 plus people also belong to those globally with fewer than 500,000 people, as opposed to mega-cities, that will account for more of the projected urban growth in the global south through 2030 and beyond.

- 9 China has built seven of the world's ten longest bridges, all during the last decade. I have recently ridden across two of the world's five longest bridges, one between Shanghai and Zhejiang province over the Hangzhou Bay (a between-city bridge) and another from Shanghai to its deep-water port, which is now the world's largest, on Yangshan Island (a formally within-city bridge), although the latter was formerly part of the territory belonging to Zhejiang province. Both bridges are about 35 kilometres long over a huge span of the East China Sea.