THE GROWING ECONOMIC POWER OF CITIES

Andrés Cadena, Richard Dobbs and Jaana Remes

Amid the gloomy context of the global recession, there is a ray of light: a massive wave of urbanization propelling growth throughout the developing world. By 2025, many of the six hundred cities expected to generate 60 percent of global GDP growth will be in the South and especially the East. The group will not just contain well-known megacities but a new breed of dynamic "middleweights"—midsized cities that are among the most powerful forces for global growth today. The rise of emerging-market cities is significant because these urban centers are proving to be the world's economic dynamos, attracting workers and productive businesses. This article explores the rise of both middleweight and megacities in the emerging world. Drawing lessons from cities that have successfully blazed the trail to urbanization, the McKinsey Global Institute, Mckinsey & Company's business and economics research arm, will demonstrate how local governments can impact the scale and speed of economic development in their regions and how private investment in buildings and infrastructure today will shape the global economy in future decades.

Today, world economic growth faces a number of powerful negative forces. Rapidly rising levels of public and private debt in developed economies have led to a prolonged period of deleveraging, depressing consumption. After decades of decline, volatile resource prices are squeezing the purchasing power of households and increasing costs for businesses. Aging populations in the United States, Europe, Japan and China are causing the global demographic dividend to decline—sucking even more vigor out of consumption and growth.[1]

However, the massive wave of urbanization rolling across the developing world is counteracting these headwinds.[2] For instance, the scale and pace of urban expansion in Asia are unprecedented. More than half of the global population lives in cities today, according to the United Nations. By 2025, more than half of the world's urban population—two-and-a-half billon people—will live in Asian cities.[3]

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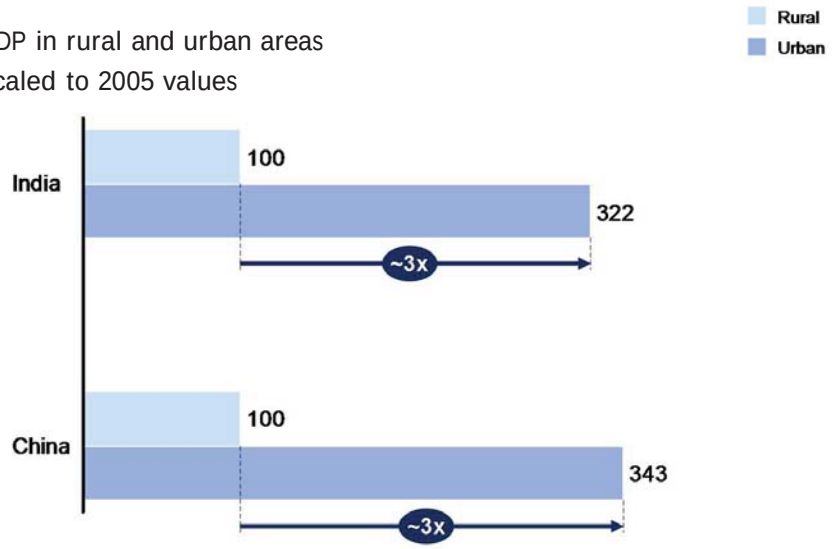
By that date, the number of urbanites in India and China will, respectively, double and triple that in the United States. China's economic transformation, driven by urbanization and industrialization, is happening at a hundred times the scale of transformation in Britain, the world's first country to urbanize, and in just one-tenth of the time.[4]

Cities as Economic Dynamos

For centuries, cities have offered higher standards of living than rural areas.[5] Economists estimate that from the birth of cities until at least the Industrial Revolution, the average income of city dwellers ranged from one-and-a-half to three times that of their rural counterparts.[6] In China and India today, average urban incomes are roughly three times greater than rural incomes (Figure 1). This income gap reflects both the capacity of cities to attract skilled workers and productive business and the capacity of economies of scale to reduce the cost of supplying basic services and enable workers in cities to be more productive.[7]

Figure 1: In India and China, average per-capita income in urban areas is three times the level in rural areas

Per-capita GDP in rural and urban areas
Index: 100 scaled to 2005 values



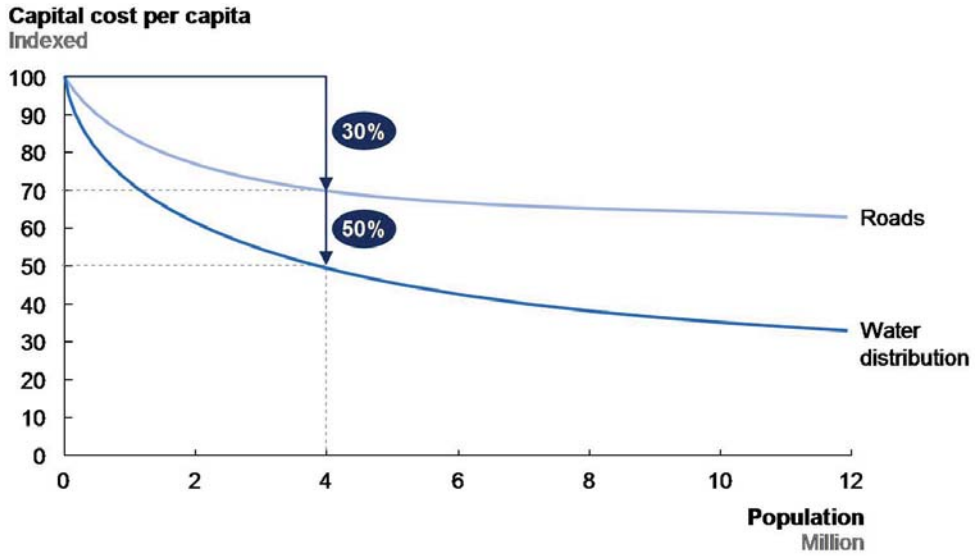
Source: McKinsey Global Institute (MGI) analysis.

Cities—and particularly large cities with populations of 150,000 or more—can reduce the average costs of delivering basic services. Research performed in India by the McKinsey Global Institute (MGI) has found that it is 30 percent to 50 percent less expensive for cities to deliver basic services like water, housing and

education than it is for sparsely populated rural areas (Figure 2). This is because large cities can deploy common supply depots to decrease distribution costs. They also tend to be magnets for highly skilled, productive businesses. For instance, financial services often cluster in regionally established financial centers; nearly 95 percent of global-equity market capitalization is based in twenty-four cities (Figure 3).

Figure 2: Cities benefit from large economies of scale in delivering many public services, leading to cost savings of up to 50 percent

Delivery cost of public services in India



Source: MGI analysis.

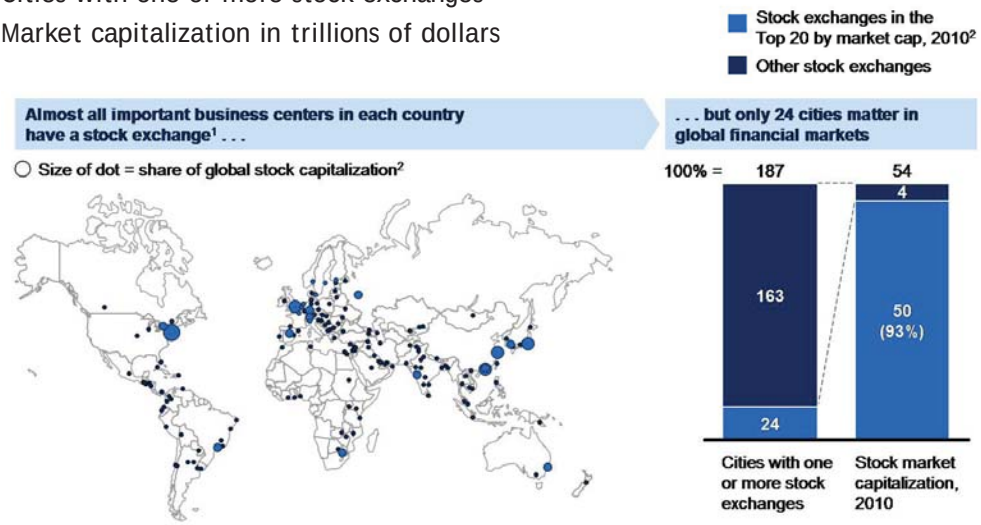
Companies often recognize higher-profile international cities far sooner than smaller, lesser-known cities. For example, the Polish capital, Warsaw, is a high-profile city that capitalized on its integration into the European Union and soon became the entry point for foreign investors looking to invest in Poland.[8] As a result, the city's GDP grew by 4.5 percent per year between 2000 and 2007, significantly outpacing the national growth rate of 3.2 percent.[9]

Still, some less well-known cities have established extraordinary competitive advantages by developing themselves as hubs for skilled labor. For example, during much of the twentieth century Tampere, Finland was a hub for textile manufacturing and the metal and paper industries. However, in the last two decades, Tampere transformed itself into a global center for wireless communications (the

city is home to one of Nokia's research centers) and other advanced technologies.

Figure 3: Global-equity market capitalization is concentrated in just twenty-four cities around the world

Cities with one or more stock exchanges[1]
Market capitalization in trillions of dollars



[1] The map shows 165 cities with one or more stock exchanges included in the McKinsey Global Institute Cityscope database. Twenty-two minor stock exchanges are either located in capitals of small countries (e.g., Reykjavik, Iceland or La Valleta, Malta) or in fiscal havens (e.g., the Bahamas or the Cayman Islands).

[2] Local stock exchanges that have been acquired by major stock-exchange groups are included in the top twenty as part of their parent group (e.g., the Borsa Italiana is included in the London Stock Exchange Group).

Source: MGI analysis; MGI Cityscope (see *infra* note 11).

The Shifting Urban Landscape

Between now and 2025, the center of gravity of the urban world will shift South and East. Today, just six hundred cities are home to one-fifth of the world's population and generate 60 percent of global GDP (Figure 4). MGI estimates that in 2025, the top six hundred will still generate 60 percent of global GDP, but it will be a dramatically different group, with many new cities coming from Asia and Latin America. Approximately 110 cities from developing countries will join the ranking, eighty-six from China alone, including lesser-known cities such as Linyi, Kelamayi and Guiyang, and ten from India, including Surat and Nagpur. The group will also consist of approximately 210 new middleweight cities (with populations between 150,00 and ten million), most from emerging markets, including Cancún, Mexico and Belém, Brazil.[10] At the same time, one out of four cities in developed economies and one out of twenty in emerging economies will no longer

make the top 600 (ranked by GDP).

By 2025, about four hundred emerging-market cities will generate almost 45 percent of global growth. Chinese cities will generate about one-quarter of worldwide growth between 2007 and 2025. These four hundred urban powerhouses are not just well-known megacities but include dynamic middleweight cities.

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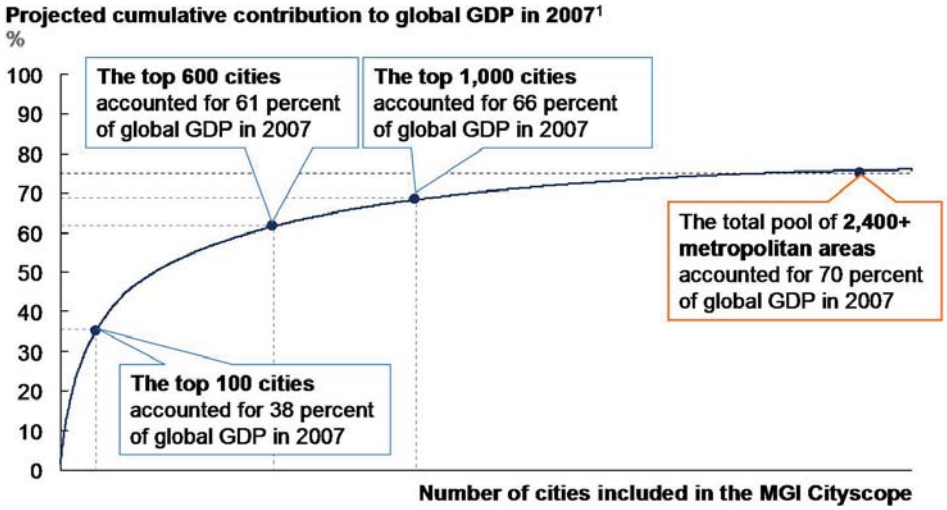

[1] Predicted real exchange rate.

Source: MGI analysis; MGI Cityscope.

Figure 5: In developing regions, around four hundred cities will generate 45 percent of global growth; Chinese cities will contribute over 1 total

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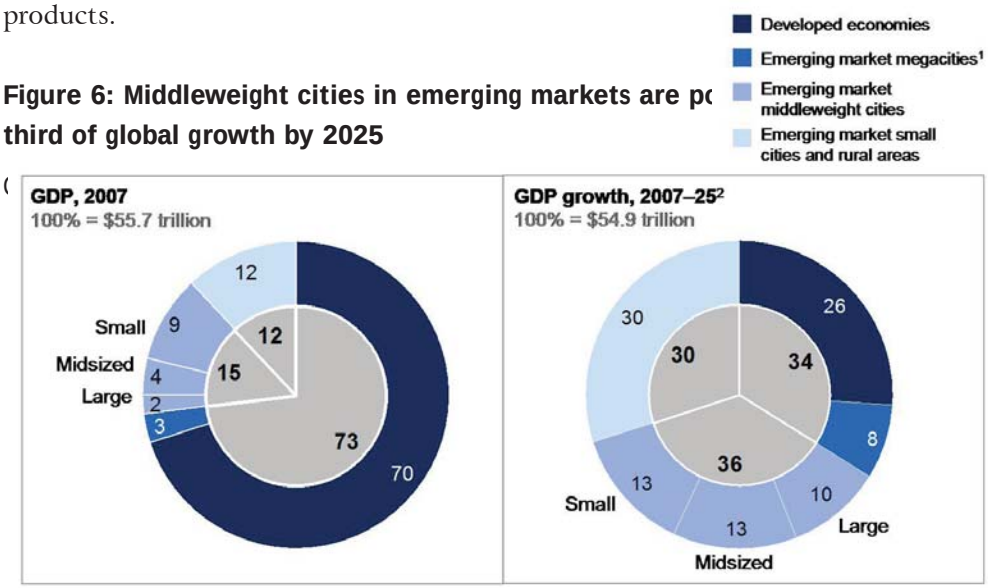
[1] Predicted real exchange rate.
[2] Includes cities from China (including Hong Kong and Macau) and Taiwan.
[3] Includes cities from Afghanistan, Bangladesh, India, Pakistan and Sri Lanka.
[4] Includes cities from Cambodia, Indonesia, Laos, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand and Vietnam.
[3] S&R = small cities and rural areas.
Note: Numbers may not sum due to rounding.
Source: MGI analysis; MGI Cityscope.

The rise of midsized cities is among the most powerful forces for global growth today, raising the incomes of billions and continuing to fuel global demand for goods and services. Companies that want to position their portfolios for growth must therefore look beyond markets in developed economies to middleweight cities in emerging markets, which are expected to contribute more than a third of global GDP growth in the next fifteen years (Figure 6). Many of the emerging middleweight cities—including Vadodara, India; Huambo, Angola; Quanzhou, China; Samarinda, Indonesia and Guayaquil, Ecuador—are not well known today. As a result, companies need to assess and bring up to date their global strategies against the shifting economic landscape. This means first identifying the most promising urban markets for their businesses—not a trivial task. In addition to the fact that many companies have limited awareness and data about emerging middleweight cities, the definition of an "attractive" urban market varies between companies and products.

Figure 6: Middleweight cities in emerging markets are pc third of global growth by 2025



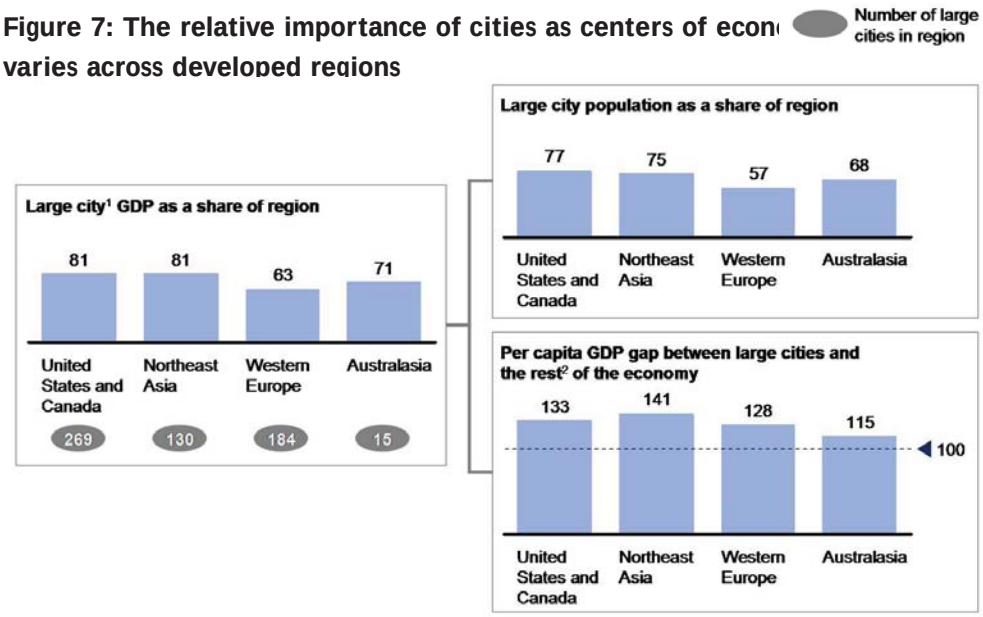
[1] Megacities are defined as metropolitan areas with ten million or more inhabitants. Middleweights are cities with populations of between 150,000 and ten million inhabitants.
[2] Real exchange rate for 2007 is the market exchange rate. The exchange rate for 2025 was predicted from differences in per-capita GDP growth rates of countries relative to the United States.
Source: MGI analysis; MGI Cityscope.

Patterns of Urbanization: Developed Regions

Patterns of urban growth vary widely between developed and developing regions. Using MGI's Cityscope database, we focus the following discussion on the largest cities in each region—defined as those with at least 150,000 inhabitants for developed economies and those with at least 200,000 inhabitants for developing ones.[11]

The average per-capita GDPs of large cities in North America and Europe collectively constitute between 60 percent and 80 percent of average GDP for their entire regions—lower than the rate observed in regions in earlier stages of urbanization (Figure 7). This suggests that even though income levels and city populations are increasing, the rate of urbanization eventually plateaus. The plateau level depends on a number of factors. One is the degree of mobility of people and businesses. For instance, in Europe, labor mobility was traditionally low due to national borders and language barriers.[12] Another factor is geographical pull, such as regional economic incentives to establish businesses beyond core metropolitan regions. Third is the availability of social transfers such as unemployment benefits, which allow people to spend more time looking for work in their area, not elsewhere.

Figure 7: The relative importance of cities as centers of econ varies across developed regions



[1] Large cities are defined as those with a population above 150,000 in 2007 in developed regions.
[2] The rest of the economy includes cities with fewer than 150,000 inhabitants as well as rural areas.
Source: MGI analysis; MGI Cityscope.

While developed regions have reaped the broad economic benefits of urbanization, the landscape will continue to evolve as some cities continue growing and others decline. How individual cities fare depends on how well they are positioned to mitigate the negative impacts of the relentless trends shaping their economic environment and how well they take advantage of them. In the United States, industrialization and the subsequent transition to a service-oriented economy over the past hundred years explains the rise of Iron Belt cities like Detroit and Pittsburgh in the first half of the twentieth century and their subsequent decline into what is now commonly known as the Rust Belt.[13]

Meanwhile, the broadening of the European Union opened the capital cities of Eastern Europe to foreign investors looking for low-cost labor. Warsaw and Bratislava are prime examples of cities that benefited. When Slovakia joined in 2004, its capital, Bratislava, was poised for development. Its city center is only sixty kilometers from Vienna, creating a unique cross-border metropolitan area. In addition to low-cost labor, the city provided excellent motorway links to Prague, Budapest and Vienna, and sat on the major railway line linking Vienna, Stuttgart, Strasbourg and Paris.[14]

Over the next few decades, several trends will impact the performance of developed cities, including aging, a drag on consumption and growth, and a changing mix of economic activity (Figure 8). Industries that were once drivers of growth are declining as others take their place. However, cities can find ways to mitigate negative economic factors. Pittsburgh, Pennsylvania has been hailed as an industrial city making a successful transformation by diversifying its industries and attracting new, more educated populations.[15] Similar diversification strategies were undertaken in Atlanta, Georgia and Naples, a smaller city in Florida. Atlanta became an affordable metropolis for businesses and households, while Naples grew by attracting retiring baby boomers to housing developments planned especially for their needs. Similarly, several metropolitan centers in Spain—such as Malaga, Alicante and Palma de Majorca—have also welcomed an influx of migrants that includes retirees and created jobs to serve them, boosting GDP.[16]

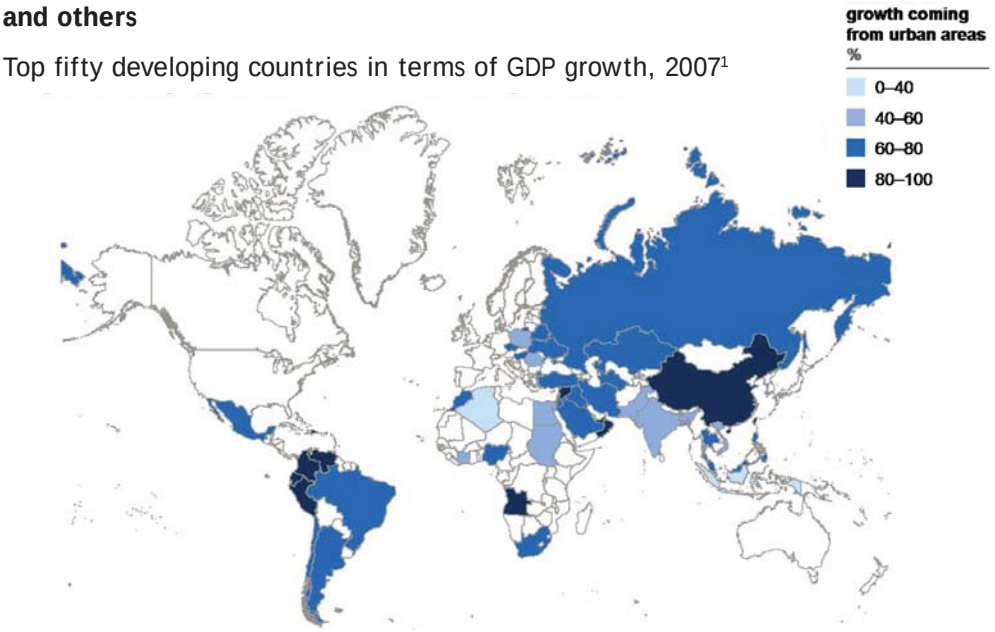
Patterns of Urbanization: Developing Regions

Policy decisions made by cities in developing countries, coupled with the cities' stages of urbanization, determine the challenges cities face as well as the opportunities available to them. Because of differences in GDP and population size among

developing countries, large cities have varied impacts on economic growth in their countries and regions (Figure 8). By 2025, 75 percent of Latin America's GDP growth is expected to come from about 280 cities with 200,000 inhabitants or more, while this share in India is less than 50 percent.[17] We discuss these regions, along with China, next.

Figure 8: GDP growth trends vary across developing regions, with countries like China and Colombia seeing strong urbanization-led growth, unlike India and others

Top fifty developing countries in terms of GDP growth, 2007[1]



[1] Predicted real exchange rate.

[2] Includes cities from China (including Hong Kong and Macau) and Taiwan.

Source: MGI analysis; MGI Cityscope.

Latin America

Latin America experienced a rapid phase of urbanization and today, four out of five people live in cities.[18] The region's top ten cities alone generate 30 percent of GDP, significantly more than China's top ten cities (20 percent).[19] This underscores the extraordinary economic power of Latin America's largest cities.

Given the importance of the top ten Latin American cities to the region's economy, overall growth depends on the capacity of these cities to continue generating growth and improving performance. Increasing efficiency in providing and enhancing urban infrastructure can be very challenging. Nevertheless, Latin America boasts many success stories that others in the region and beyond can

emulate. For instance, one of the biggest difficulties faced by the region's top cities is traffic congestion. Many cities have successfully expanded the flow and capacity of existing transportation infrastructure. In Santiago, Chile, ring roads were established through a public-private partnership to manage car traffic.[20] With government oversight, multiple private companies operate an open-access network of toll roads, for which user costs are adjusted according to the time of day.[21] Curitiba, Brazil revolutionized mass transit several decades ago with the introduction of exclusive bus lanes. Later adopted in Bogotá, Colombia and Mexico City, these bus lanes have significantly expanded public transport.[22]

Laborious bureaucratic processes have been another major challenge for business productivity and growth in Latin American cities. The Peruvian capital, Lima, had a negative reputation for its red tape but has transformed itself to speed up processes. A decade ago it took more than one hundred days to register a property; today it only takes seven, the shortest time of any top Latin American city.

Learning from the challenges of large cities, Latin America's midsized cities have been able to plan and manage their growth proactively. For instance, Curitiba is celebrated as an example of good planning and was awarded the Globe Sustainable City Award in 2010.[23] The city has an average of fifty-five square meters of green space per resident, much higher than the World Health Organization's recommended sixteen square meters.[24]

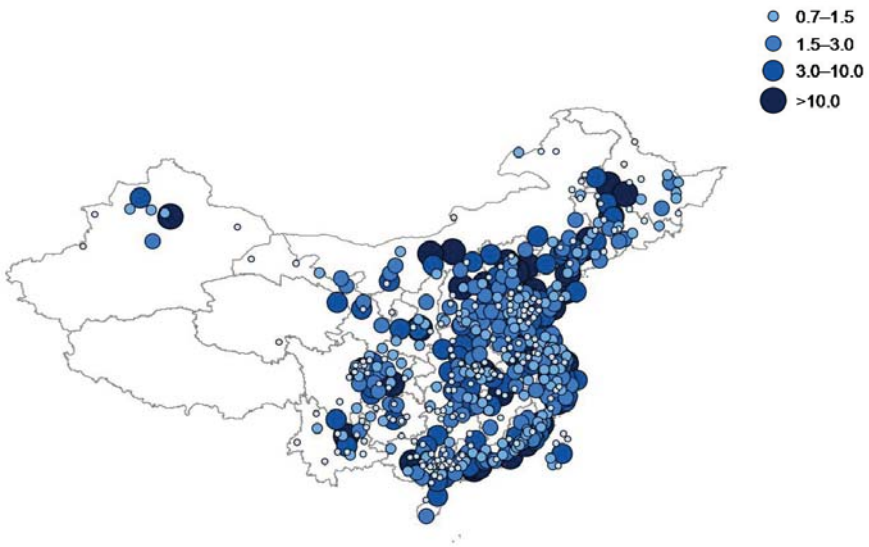
China

China is currently experiencing a period of massive, rapid urbanization on a scale never before witnessed.[25] The proportion of the population living in cities grew from 36 percent to 50 percent over the past decade.[26] The greatest share of Chinese urban growth has occurred in cities clustered along the eastern coast (Figure 9). If current trends hold, China's urban population is expected to expand from approximately 570 million in 2005 to 925 million in 2025. This increase is larger than the current population of the United States.

In China, there are six hundred urban areas designated as large cities (with 200,000 inhabitants or more). They are the engines of China's growth and will continue to gain importance.[27] MGI expects large cities to account for more than 90 percent of China's GDP growth in the next fifteen years (Figure 10). In contrast to Latin America, we expect Chinese cities of all sizes to continue growing rapidly. Shanghai and Beijing have emerged as megacities, and over the next twenty years, we estimate that seven more Chinese megacities will develop. During this period, more than half of China's economic growth is expected to come from rapidly growing middleweight cities.

Figure 9: Map of Chinese cities

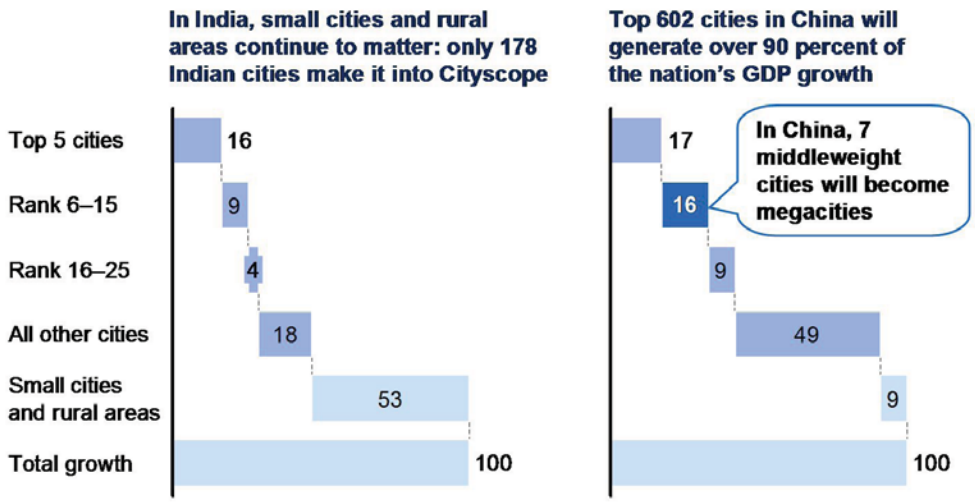
GDP in billions of dollars, 2007



Source: MGI analysis; MGI Cityscope.

Figure 10: While India is still at an early stage of urbanization, China will see rapid growth across cities of all sizes, including rising megacities

Percentage contribution to country GDP growth, 2007[1]



[1] The China figures here include all Cityscope cities in China, not including Hong Kong and Macau.
Source: MGI analysis; MGI Cityscope.

It would be a mistake to assume that Beijing centrally manages China's urbanization; in fact there is a high degree of devolution to local governments. The central government sets the rules of the game by defining tax-sharing policies, rules and quotas for land conversion and, more recently, policies on extending social benefits to migrants as well as registered, permanent urban dwellers.[28] However, in many ways the Chinese government empowers cities to make decisions not only regarding city planning but also economic development.[29] Federal industrial policy has encouraged city entrepreneurship by structuring support for emerging clean technologies, for example, in a way that fosters broad competition among cities and rewards those cities that have demonstrated success in execution.

Because of the power given to city governments in China to undertake long-term urban planning that effectively coordinates housing, transportation and other urban services, local leaders have gained a head start over their counterparts in other emerging-market cities. The head of urban planning in Chinese cities is typically a high-level post that reports directly to the mayor. Mayors set targets and evaluate city departments on a range of measures, from economic growth to administrative efficiency.[30] Clear performance goals for cities have resulted in a concentrated focus on execution.

China's cities have also benefited from sufficient funding to invest "ahead of the curve" of their expansion, thanks to the nation's high savings rate. Since cities have the unique ability to reclassify rural land as urban, they can also acquire funding and finance investments by selling land.[31]

Yet even with direct political leadership and additional income sources, Chinese cities are likely to face increasing challenges to sustaining rapid growth. The staggering speed and scale of economic growth has at times created urban sprawl that negatively impacts surrounding rural communities. Urban sprawl taxes the welfare of the local population by increasing demand for city services. This is exacerbated by the recent commitment of the national government to extend public services to migrants—a pledge that will likely cost an additional $238 billion by 2025, nearly 2.5 percent of urban GDP.[32]

The Chinese government may need to look more to the private sector to apply technical expertise and bolster capital supplies for major infrastructure projects, as the private sector's role in the urban economy has soared in recent decades. For instance, multiple private-sector companies were involved in the financing of China's longest metro, Shanghai Line 1, which is set to quadruple in length by 2020.[33] In 1990, private enterprise contributed 0.7 percent to China's GDP; by 2005, that share had risen to 40 percent.[34]

India

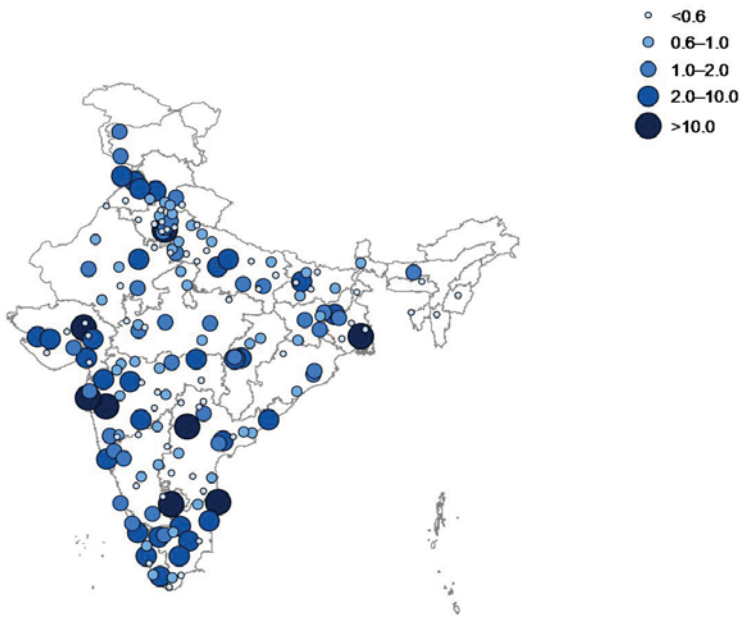
India is still in a relatively early stage of urbanization. Only 30 percent of the population lives in cities and only 232 of those cities are considered large.[35] Still, India's urban regions are expected to grow significantly. It is estimated that large cities will generate nearly 50 percent of the nation's GDP by 2025.[36] Notably, the broadly scattered geographic patterns of Indian cities make them more similar to cities in Europe than to those in the United States and China (Figure 11). This suggests that state borders within India are limiting mobility, shaping economic concentration into state hubs rather than national city networks. In addition, India's economic-development policies have traditionally favored small-scale production, which has discouraged larger-scale operations in cities and therefore slowed urbanization and its subsequent economic benefits.[37] This trend contrasts with both the United States and China, where the populations are more mobile and able to relocate to growing cities with better jobs and economic opportunities.[38]

Another contributor to India's slower rate of urbanization is that cities themselves have too often failed to offer attractive economic or social opportunities to migrants. In India, urbanization has not been a national priority, and the public continues to debate the benefits of urbanization against those of rural development. This lack of commitment often results in weak city governments and limited urban planning. Thus, investment has been chronically insufficient to meet rising demand for urban infrastructure and services.[39]

Urban political governance has not been able to fully overcome the challenges of managing rapidly expanding cities. Unlike China with its powerful mayors, Indian cities tend to be run by bureaucrats with short tenures in office, which means that there is little continuity in the management of urban centers that, by 2030, will be larger than many countries.[40] Although the seventy-fourth amendment to India's constitution mandated the devolution of power to the city level, in reality this has not happened.[41]

Figure 11: Map of Indian cities

GDP in billions of dollars, 2007



Still, there are key examples of positive innovation that could provide a model for future urban governance. For instance, Mumbai's electrical and bus systems are operated by a corporatized agency and Kolkata is governed by a politically appointed chief executive, supported by a technocrat. Unfortunately these examples are the exception, not the rule. India's urban planning is typically ad hoc, riddled with exemptions and suffering from a large shortage of world-class urban-planning professionals. Indian investment in urban infrastructure is very low by international standards and the nation's cities are failing to provide residents with basic services. India's capital and operational spending is only $50 per capita—14 percent of China's $362 in per-capita spending and less than 3 percent of the United Kingdom's $1,772. MGI estimates that India needs to increase annual per-capita spending to $134—which will cost $1.2 trillion over the next twenty years—just to maintain basic quality of life. Unless India dramatically increases its investment in services, the strains on its cities are set to worsen.

Conclusion

The pace and scale of urbanization worldwide serve as a beacon of hope for the global economy. The rise of midsized cities, particularly in emerging markets, will be one of the most powerful forces for global growth over the next twenty years

and beyond. Regions and countries are at various stages in their urban transformations and face different challenges. But there is much they can learn from each other and from the large cities that have established paths to modern-day urbanization. ♔

NOTES

[1] Charles Roxburgh, Susan Lund, Tony Wimmer, Eric Amar, Charles Atkins, Ju-Hon Kwek, Richard Dobbs and James Manyika, "Debt and deleveraging: The global credit bubble and its economic consequences," McKinsey Global Institute, January 2010, http://www.mckinsey.com/Insights/MGI/Research/Financial_Markets/Debt_and_deleveraging_The_global_credit_bubble_Update.

[2] The McKinsey Global Institute (MGI) is the business and economics research arm of McKinsey & Company. Unless otherwise noted, the findings in this article rely on the research of MGI. Its research reports can be found online at http://www.mckinsey.com/insights/mg. Reflecting MGI convention, all references to "South" refer to countries in Africa and Latin America and all references to "East" refer to countries in Asia. MGI has published extensively on urbanization. "Urbanization," McKinsey Global Institute, McKinsey & Company, http://www.mckinsey.com/Insights/MGI/Research/Urbanization.

[3] Richard Dobbs, Sven Smit, Jaana Remes, James Manyika, Charles Roxburgh and Alejandra Restrepo, "Urban world: Mapping the economic power of cities," McKinsey Global Institute, March 2011.

[4] Ibid.

[5] Ibid.

[6] David M. De Ferranti "Beyond the City: The Rural Contribution to Development" (World Bank, 2005), 45-47, 167; Angus Maddison, *Monitoring the World Economy, 1820–1992* (Paris: OECD, 1995); Walter Scheidel and Steven J. Friesen, "The Size of the Economy and the Distribution of Income in the Roman Empire," *Journal of Roman Studies* 99 (2009): 9.

[7] There is a large body of literature about urban economics focused on assessing the nature and size of urban economies of scale. See, for example, Edward L. Glaeser and Joshua D. Gottlieb, "The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States" (Working Paper No. 14806, National Bureau of Economic Research, March 2009), http://www.nber.org/papers/w14806; *World Development Report 2009: Reshaping Economic Geography* (Washington, DC: World Bank, 2008); Indermit S. Gill and Chor-Ching Goh, "Scale Economies and Cities," *World Bank Research Observer* 25, no. 2 (August 2010): 235–62.

[8] Forthcoming report from the McKinsey Global Institute.

[9] McKinsey Global Institute Cityscope database. See *infra* note 11.

[10] Ibid.

[11] The McKinsey Global Institute Cityscope is a global database of information about more than two thousand cities that brings together MGI's regional research on cities. The database contains information about the global economy, population demographics, household structure and incomes. Dobbs et al., "Urban world," preface.

[12] Frigyes Ferdinand Heinz and Melanie Ward-Warmedinger, "Cross-Border Labour Mobility within an Enlarged EU," Occasional Paper No. 52, European Central Bank, 2006, 12.

[13] For a synthesis of the broad trends, see Edward Glaeser, *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier* (London: Macmillan, 2011).

[14] "Official Tourism and Travel Guide to Bratislava," Visit Bratislava, http://visit.bratislava.sk/en.

[15] Pittsburgh's progress was acknowledged by President Barack Obama at the conclusion of the G20 Summit in Pittsburgh, PA in 2009: "Pittsburgh was a perfect venue for this work. . . . It serves as a model for turning the page to a 21st century economy, and a reminder that the key to our future prosperity lies not just in New York or Los Angeles or Washington—but in places like Pittsburgh." "Remarks by President Obama at G20 Closing Press Conference" (speech, Pittsburgh, PA, 25

September 2009).

[16] McKinsey Global Institute Cityscope database.

[17] Andrés Cadena, Jaana Remes, James Manyika, Richard Dobbs, Charles Roxburgh, Heinz-Peter Elstrodt, Alberto Chaia and Alejandra Restrepo, "Building globally competitive cities: The key to Latin American growth," McKinsey Global Institute, August 2011.

[18] Ibid.

[19] Ibid.; McKinsey Global Institute Cityscope database.

[20] Cadena et al., "Building globally competitive cities."

[21] Another example of the region's innovation in transportation is Metrocable, a light funicular system connecting hard-to-access low-income neighborhoods on steep hills at the edge of the city of Medellín, Colombia. Other cities of the region, including Rio de Janeiro, have subsequently adopted similar solutions.

[22] Cadena et al., "Building globally competitive cities."

[23] "The Brazilian city Curitiba awarded the Globe Sustainable City Award 2010," Globe Awards, 7 April 2010, http://globeaward.org/winner-city-2010.

[24] Cadena et al., "Building globally competitive cities."

[25] Jonathan Woetzel, Lenny Mendonca, Janamitra Devan, Stefano Negri, Yangmel Hu, Luke Jordan, Xiujun Li, Alexander Maasry, Geoff Tsen, Flora Yu, et al., "Preparing for China's urban billion," McKinsey Global Institute, March 2009.

[26] Dobbs et al., "Urban world."

[27] Ibid.

[28] Woetzel et al., "China's urban billion."

[29] Ibid.

[30] Ibid.

[31] Funding from land sales may decline in importance because the central government has tightened the rules in view of increasing concerns about declining arable land.

[32] Woetzel et al., "China's urban billion."

[33] Yonah Freemark, "Shanghai's Metro, Now World's Longest, Continues to Grow Quickly as China Invests in Rapid Transit," Transport Politic, 15 April 2010, http://www.thetransportpolitic.com/2010/04/15/shanghais-metro-now-worlds-longest-continues-to-grow-quickly-as-china-invests-in-rapid-transit; McKinsey Global Institute analysis.

[34] Based on McKinsey Global Institute analysis. Although China appears to have plenty of capital to mobilize, it can still make its capital investments more efficient. For instance, loans dominate financing and bonds and equity play a rather small part. If that mix were to change so that financing was split more equally between the three, China could cut the cost of capital by 1 to 2 percent. China would help to develop its bond market by expanding the base of bond issuers, allowing interest rates to be set by the market, allowing for increased risk and making efforts to attract more institutional investors.

[35] Indian Census 2011, http://www.censusindia.gov.in. [need a better source]

[36] Shirish Sankhe, Ireena Vittal, Richard Dobbs, Ajit Mohan, Ankur Gulati, Jonathan Ablett, Shishir Gupta, Alex Kim, Sudipto Paul, Aditya Sanghvi and Gurpreet Sethy, "India's urban awakening: Building inclusive cities, sustaining economic growth," McKinsey Global Institute, April 2010.

[37] Bill Lewis, Neeraj Agrawal, Chandrika Gadi, Deepak Goyal, Jayant Kulkarni, Anish Tawakley, Sanoke Viswanathan, Alkesh Wadhwani, Angelique Augereau, Vivake Bhalla, Amadeo Di Lodovico, Axel Flasbarth, Catherine Thomas, Jaya Banerji, Amrit Dhillon, Shampa Shar-Kamath, Uma Khan, Jeanne Subramaniam, et al., "India: The growth imperative," McKinsey Global Institute, August 2001.

[38] In China, the *hukou* system, which registered permanent urban citizens, acted as an impediment to the arrival of migrants early on, but *hukou* has been relaxed given the demand for migrant labor in

China's cities.

39 Sankhe et al., "India's urban awakening."

40 Ibid.

41 "The Constitution (Seventy-fourth Amendment) Act, 1992," India Ministry of Law and Justice, Legislative Department, National Informatics Centre, http://indiacode.nic.in/coiweb/amend/amend74.htm.