URBANIZATION AS OPPORTUNITY

Brandon Fuller and Paul Romer

ABSTRACT

The developing world already packs 2.6 billion people into its relatively dense cities. In 100 years, it could have three times as many urban residents. As their per capita income grows, they will they will also demand more land, perhaps twice as much per person as they do today. Governments can accommodate this increased demand either with a sixfold increase in the average built area of existing cities or with a combined strategy of expanding existing cities and developing entirely new cities. The Commissioners' Plan of 1811, which guided a sevenfold increase in the built area of New York City, shows that a government can manage successful urban expansion on the required scale if it implements a plan that is narrow but strong. China's development of Shenzhen shows that a government can use a new city to unleash systemic reform. The next few decades offer a unique opportunity to speed up progress by following these examples.

CONTACTS

Brandon Fuller
bfuller@stern.nyu.edu
http:urbanizationproject.org

Paul Romer
promer@stern.nyu.edu
http:paulromer.net

Prepared for Rethinking Cities: A Roadmap Towards Better Urbanization for Development, Edward Glaeser & Abha Joshi-Ghani, editors, World Bank, forthcoming 2014.

Marron Institute
ON CITIES AND THE URBAN ENVIRONMENT
NEW YORK UNIVERSITY

Working Paper #1
Date: Feb 6th, 2014

Some 10,000 years ago, humans started reorganizing their social and physical worlds, beginning what Shlomo Angel (2012) calls the urbanization project. Like any project, it reflects human intention. Building dense settlements was something we decided to do. Like any project, it also has a beginning and an end. An almost incomprehensible amount of work remains; nevertheless, the end is near.

Urbanization deserves urgent attention from policy makers, academics, entrepreneurs, and social reformers of all stripes. Nothing else will create as many opportunities for rapid social and economic progress. And although it is hard to comprehend how much work remains, it is even harder to comprehend how quickly the work is being done. This means that the unique opportunities created by rapid growth in the urban population will soon pass.

Human history seems to suggest that we have a lot of time. The urbanization project got started in the 1,000 years after the transition from the Pleistocene epoch to the milder and more stable Holocene interglacial period (Richerson, Boyd and Bettinger, 2001). As the climate began to favor sedentary agriculture, humans started building dense settlements. It took until 2010 for the urban share of the world's population to reach 50 percent (3.5 billion people).

The global population is likely to stabilize between 10 and 11 billion. The limiting value of the urban population is likely to exceed 8.5 billion. If it took 100 centuries to get to 3.5 billion urban residents, is it not safe to assume that it will take many centuries to make room for another 5 billion?

Actually, no. The urban population is growing at a pace that has reached 60 million people a year and is still increasing. The calculations that follow show that we could add more than 5 billion new urban residents in the next 100 years. In all the centuries that follow, we may add at most another billion.

It is not just today's incredible growth that challenges the imagination; it is also the rapid slowdown that is soon to follow. In our lifetimes, we have to build urban accommodation faster than ever before. We also have to prepare for a near future with a stable urban population in which it will be much more difficult to undertake reform or change the configuration of the transit corridors and other public spaces that define urban life.

In developed countries, the urbanization project is basically complete. The remaining urban growth will play out almost entirely in developing countries. In 2010, the urban population in the regions that the United Nations classifies as less developed stood at 2.6 billion. In 100 years, it is likely to be three times larger. Moreover, as Angel (2012) shows, the historical pattern of urban growth suggests that over this time horizon, urban population density in developing cities could easily fall by half.

The developing world can accommodate this urban population growth and declining urban density in many ways. One is to have a threefold increase in the average population of its existing cities and a sixfold increase in their average built area. Another, which would leave the built area of existing cities unchanged, would be to develop 625 new cities of 10 million people—500 new cities to accommodate the net increase in the urban population and another 125 to accommodate the 1.25 billion people who would have to leave existing cities as average density falls by half. These bracketing extremes, and all the intermediate alternatives they suggest, have strikingly different implications for the size distribution of cities and the possibilities for social innovation and reform.
We know that a city can expand its built-up area dramatically and successfully. During the 19th

century, the built-up area of Manhattan expanded sevenfold along a street grid established in 1811 (Angel, 2012).

We also know that new cities can grow dramatically and successfully. Shenzhen, China, has grown from a tiny fishing village in 1980 to a metropolis of more than 10 million today. If Shenzhen were a city-state, it would show the fastest rate of growth of GDP ever recorded (Zeng, 2010). Because it was a new city that started with new rules, Shenzhen pioneered a model based on exports, market incentives, entry-level jobs in manufacturing, and incoming direct foreign investment. After Shenzhen's success, this model spread across the country.

These two large-scale projects show how influential human intention can be. In each case, a few people looked decades ahead and made a plan. No invisible hand guided Manhattan toward rectangular blocks of private property embedded in a public grid of avenues and streets. A real hand did—that of John Randel Jr., the engineer hired by a state commission to survey the island (Ballon, 2012).

Nor did an invisible hand bring foreign firms into China. Deng Xiaoping carried out a clear plan for reform designed to make it socially acceptable for workers raised on Mao's Little Red Book to be hired by foreign "running dog capitalists." The representatives of official multilateral agencies that brought the Washington Consensus to China still criticize his deviation from their orthodoxy. They were certain that the best path for reform was to implement it uniformly across the entire nation. Deng had a different and arguably more realistic model of how to undertake durable social reform in a society that had just emerged from the convulsions of the Cultural Revolution:

> In the beginning opinions were divided about the reform and the open policy. That was normal. … In carrying out the line, principles and policies adopted since the Third Plenary Session of the Eleventh Central Committee, we did not resort to compulsion or mass movements. People were allowed to follow the line on a voluntary basis, doing as much or as little as they wished. In this way, others gradually followed suit. It was my idea to discourage contention, so as to have more time for action. Once disputes begin, they complicate matters and waste a lot of time. As a result, nothing is accomplished. Don't argue; try bold experiments and blaze new trails. That's the way it was with rural reform, and that's the way it should be with urban reform (Deng Xiaoping, 1992).

In creating an entirely new city, Deng's strategy harnessed the same start-up dynamic that brings new technology into many industries. Of the four initial special economic zones in China, Shenzhen was the only overwhelming success. For some reason, a 1-in-4-success rate is viewed as a total failure for policy start-ups but would be an astounding success compared to the 1-in-10-success rate claimed for business start-ups. The low success rate for start-up firms clearly does not imply that it is a mistake to allow start-ups. No one claims that because most start-up firms fail, the only reliable way to raise productivity in industry is to aim only for across-the-board improvement at all incumbent firms. As Deng showed with his famous southern tour one very visible success in Shenzhen was all it took to sustain the momentum of reform after reactionaries counterattacked and the future of the market reform process hung in the balance (Zhao, 1993).

The prospect of creating large new cities in coming decades presents the world with unprecedented opportunities for reforms of all types. To cite just one example, at the lower prices for natural gas made possible by new techniques for oil and gas extraction, it would be cost effective to use existing technology for gas-powered vehicles and power generation to build new cities that use neither

liquid fossil fuels nor coal. For existing cities, switching costs would make this strategy for reducing the enormous health costs imposed by air pollution more expensive. A switch will also be contentious because of the inevitable disputes that will arise about who should bear the much smaller cost of reducing existing levels of pollution. People living in existing cities may be doomed to endure the long wait for local governments to develop both a political consensus around reductions in air pollution and the sophisticated capacity needed to regulate emissions from coal-burning plants and large numbers of gasoline- or diesel oil- burning vehicles. In a new city, a government with little administrative capacity could impose a limit on the allowed types of fuel before people move there and enforce this limit after they arrive. By demonstrating the feasibility and benefits of clean air, a few such cities might speed the development of a consensus for change in existing cities, much as success in Shenzhen spurred reform in the rest of China.

Many other policies, such as transit and pricing systems that enhance mobility without generating congestion, will be less costly and less contentious if they are implemented in the expansion area for a growing city rather than in its existing core. When New York City planned for expansion in 1811, it was already too late to fix the street grid in lower Manhattan. It remains as it was then. Nevertheless, it was possible at very low cost to keep from extending a dysfunctional grid to the rest of Manhattan.

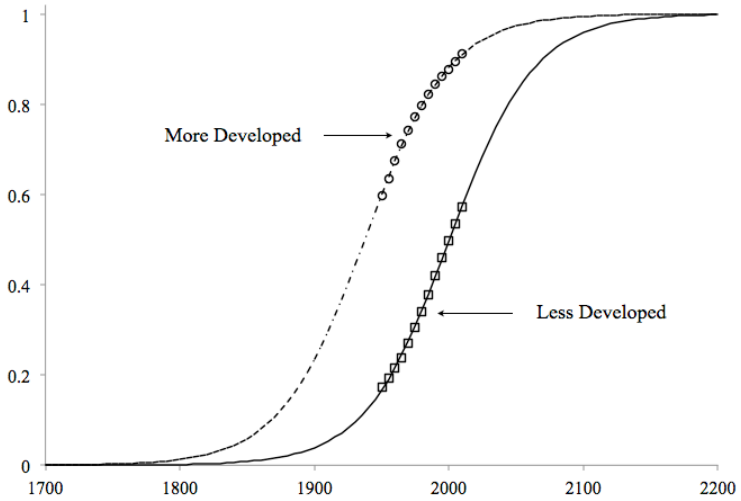
We live in a time when humans can plan both for expansions of urban area that area as ambitious as the commissioners' plan for Manhattan in 1811 and for new cities that could be as influential as Shenzhen. Hundreds of cities could expand as New York did, or emerge out of nowhere as Shenzhen did. But the window of opportunity will not stay open forever. In 100 years, it will be too late. And because the spatial patterns in cities are so durable, the choices we make through intention or inattention will have lasting consequences. Countless generations will live with the layouts and policy defaults that we leave for them in 2110.

THE NEXT 100 YEARS

To estimate how long it will take to complete the urbanization project, it makes no sense to base projections on the type of exponential curve that we use for such measures as income per capita. To estimate the dynamics of growth in the face of an upper bound, the logistic is the natural alternative. A variable x that follows a logistic is constrained to lie between 0 and 1 and grows at the rate $g*(1 - x)$. One advantage of the logistic is that for two curves with similar initial growth rates g, it is a simple matter to calculate the number of years by which one lags behind the other.

The UN publishes data on the total population and the urban population for 1950–2010 (UNDESA, 2012). It also groups the data into two broad aggregates: more developed regions (MDRs) and less developed regions (LDRs). For population, Figure 1 shows the observed data as hollow points and a fitted logistic as a solid or dashed line. The observation for a given year is the population in each region as a fraction of the estimated terminal population for that region. The logistic curves fitted here imply a terminal population of 1.35 billion (standard error 0.023 billion) for MDRs and 9.91 billion (standard error 0.37 billion) for LDRs, roughly in line with the medium fertility variant of the UN's world population projections to 2100.

Figure 1: Observed and projected normalized population for more developed and less developed regions, 1700–2200



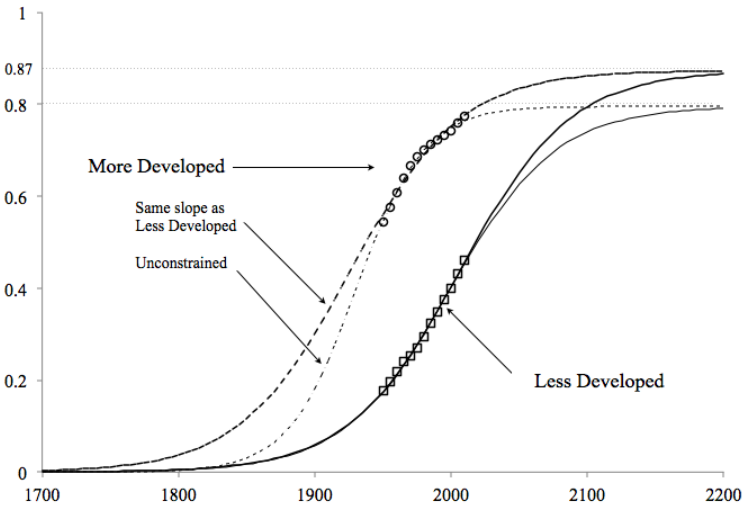
Source: Authors' calculations based on UNDESA (2012).

Appearances notwithstanding, there is nothing especially impressive about the fit here. Many functional forms for distributions, including a standard normal, could generate a good-looking fit. The advantage of the logistic is that its three key parameters—the terminal population, initial rate of growth, and lag between two curves—have a natural interpretation.

At conventional significance levels, the data easily accept the restriction that the initial growth rate is the same for the two regions, 3.17 percent per year (standard error 0.08). The curve for the LDRs lags by 63.5 years (standard error 3.3). This is consistent with other more granular data on health and demographics. For example, today's life expectancy in the low- and middle-income countries that correspond to the LDRs is about the same as in 1960 in the high-income countries that correspond to the MDRs (World Bank, 2012).

Figure 2 shows two pairs of logistic curves for the urban share of the population in each region. For each pair, the model forces the terminal share to be the same in the two regions. The data for the LDRs alone do not pin down a precise value for the terminal share, so the constraint that the terminal shares are the same in the two regions is easily accepted. Our preferred model also forces the initial growth rate to be the same in the two regions. A less restrictive model lets the two growth rates differ. If we assumed that the errors are i.i.d. (independent and identically distributed) draws from a normal distribution, the data would reject the restriction that the growth rates are the

Figure 2: Observed and projected urban share of the population in more developed and less developed regions, 1700–2200



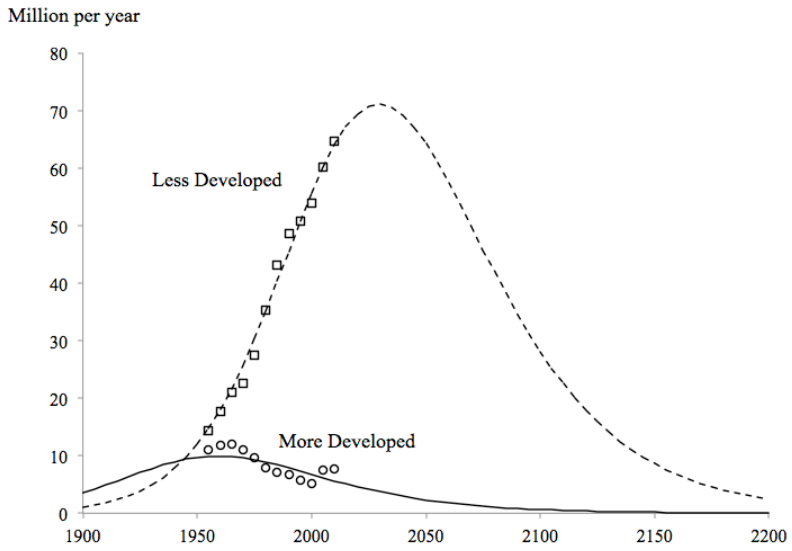
Source: Authors' calculations based on UNDESA (2012).

same, but Figure 3 suggests that the errors for the MRDs are not i.i.d. Instead, they show an oscillation around the underlying trend predicted by the logistic.

One should not put too much faith in any estimate of a limiting value derived solely from a procedure that relies heavily on an ad hoc functional form assumption. We prefer the estimates from the restricted model, with its higher limiting share parameter of 0.87 (standard error, 0.01), mainly because the urban share continues to increase in almost all countries and already exceeds this value in a diverse group of countries that includes Argentina, Australia, Belgium, Chile, Israel, Japan, and Lebanon. Also, for the period when they overlap, the projections from the restricted model of the total urban population are somewhat closer to the ones that result from the detailed country-by-country forecasting procedure that the UN follows than they are to the projections from the unrestricted model. For 2050, the last year for which the UN provides projections, our preferred model suggests a slightly higher share for the LDRs (65.1 percent) than does the UN projection (64.1 percent). The unconstrained estimate (62.6 percent) undershoots to a larger extent.

With the restriction that the growth rate g is the same in the two regions, its estimated value is 2.46% per year (standard error 0.08). The urban share in the LDRs lags farther behind the MDRs (80.0 years, standard error 1.6) than does the curve for total population (63.5 years, standard error 3.3).

Figure 3: Observed and projected number of new urban residents in more developed and less developed regions, 1900–2200



Source: Authors' calculations based on UNDESA (2012).

The estimates for the two logistic curves imply values for the total urban population in each region as well as annual increases. Figure 3 plots the annual increase in millions of new urban residents per year. If Figures 1 and 2 are like plots of a fitted probability distribution function, Figure 3 is like a plot of an implied probability density function. As always, the deviations from the fitted curve, including the oscillation they induce for the MDRs, are more evident using the density rather than the distribution.

By putting the two curves on a single axis, Figure 3 shows the extent to which the remaining process of urbanization is overwhelmingly a phenomenon of the LDRs, and overwhelmingly a phenomenon of this century. These projections imply that the annual increase in the number of urban residents in the LDRs must soon peak and begin to fall. We are already well past the peak in the MDRs.

Table 1: Urban residents and population, 1910, 2010, 2110, and 2210 (billions)

	Urban residents			Population
Year	Less developed	More developed	World	World
1910	0.04	0.14	0.18	0.93
2010	2.6	0.96	3.6	6.9
2110	7.8	1.2	9.0	11.0
2210	8.6	1.2	9.8	11.3

Source: Authors' calculations based on UNDESA (2012).

Table 1 shows the effect of the cumulative influx of new urban residents over 100-year time intervals marked by three years defined relative to the milestone year of 2010: 1910, 2110, and 2210. In each reference year, the table shows the urban population and total population for each region. In the 100 years leading up to 2010, the total worldwide urban population increased by 3.4 billion people. In the next 100 years, the projected increase is 5.2 billion in the LDRs and 0.2 billion in the MDRs. In the 100 years that follow, the projected increase is a mere 800 million, all of it in the LDRs.

INTERPRETING THE LAGS

The persistent lag in the dynamics of population growth and urbanization are a reflection of the puzzling result first noted in the empirical literature on growth in GDP per capita—an absence of unconditional convergence between the MDRs and the LDRs. (See Barro, 2012, for a recent overview of the evidence on convergence.) For measures that are bounded, it makes more sense to base any inference about unconditional convergence on estimates of logistic curves than on the trend in the ratio of the values in the two regions. This ratio can diminish even when the gap between the two curves remains constant. For example, the ratio of life expectancy in LDRs relative to the MDRs has been increasing (Bourguignon and Morrison, 2002), but this is precisely what we would expect to observe for two variables that follow the same logistic and are separated by a fixed time lag. Here, the ratio of the urbanization rate in the LDRs relative to the MDRs increases from 0.32 to 0.59, yet the estimated lag either remains constant (for the constrained estimates) or increases (for the unconstrained estimates).

These persistent lags are puzzling because LDRs today can use technologies that already exist in the MDRs, so growth in the LDRs is catch-up growth rather than growth at the technological frontier. All else being equal, the LDRs should grow faster at any stage of development than the MDRs did at the same level of development, and the lags associated with development should shrink. This has happened in many notable countries, but averaging across countries, the lag for the LDRs shows no sign of falling. This is what one might expect if the advantages presented by the potential for catch-up growth based on MDR technology are offset by a limited capacity for providing the government services that complement these technologies.

Under this interpretation, the relative magnitudes of these lags are suggestive. If development were a one-factor process, we would expect the lag in the behavior of demographics, urbanization, and income per capita between the LDRs and the MDRs to be all the same. Instead, we see that

population in the LDRs lags by 63.5 years (standard error 3.3) and remains constant. Under the preferred model, urbanization lags by 80.2 years (standard error 1.6) and remains constant. (Under the unconstrained model, the lag starts at 70 and grows.)

A rough calculation based on Angus Maddison's data (2012) suggests that the lag in GDP per capita is longer still. To approximate the UN definition of the MDRs, we created an aggregate consisting of Western Europe, Western offshoots, and Japan. In 1870, GDP per capita in our MDR aggregate was about $1,900 (measured in Maddison's unit, 1990 International Geary-Khamis dollars). In the rest of the world, which corresponds roughly to the LDRs, GDP per capita did not reach $1,900 until 1970—a lag of 100 years. In 1900, GDP per capita in the MDR aggregate was $2,950. The LDR aggregate reached this level in 1995—a lag of 95 years. So, GDP per capita lags even farther behind the demographic measures than does urbanization.

Assuming then that government capacity is the limiting factor in the LDRs, the variation in the lags suggests that complementarity with government services is strongest for the private activities that generate rapid GDP growth through technological inflows, weaker for the private activities that drive urbanization, and weakest for the health technologies that influence demographics. People can still urbanize, albeit less efficiently, even if few government services are available (e.g., slums and favelas). When it comes to the spread of health technologies that lengthen lives and reduce fertility, government services may be even less relevant.

This suggests that at the same level of urbanization, the LDRs will have more access to technology but fewer government services than did the MDRs.

PEAK URBANIZATION, WEAK CAPACITY

These arguments suggest that urbanization is peaking in the developing world at a time when the capacity to govern is still in short supply. Despite all the lip service to capacity building in the LDRs, there is little indication that government capacity will be able to increase in time to manage urban life in anything like the way it is managed in rich countries now. A quip attributed to Gordon Brown suggests how far off the time scales might be: "In establishing the rule of law, the first five centuries are always the hardest."

If governance is indeed the scarce factor, one response would be to find ways to let more people move from places with weaker governance to places with better governance (Clemens, Montenegro, and Pritchett, 2008). A parallel strategy would be to export government services from places where the capacity for governance is well developed, to places where it is not. The potential gains from either strategy are much larger than those to be had from further reducing trade barriers to flows of only privately provided goods and services (Clemens, 2011).

Much of the finance and expertise needed to develop new cities in the LDRs could come from the private sector in the MDRs, but these private services depend on complementary government services. For example, new cities might opt to outsource the provision of utility regulation to jurisdictions with more experience in this area. Both the private firms that could provide municipal water and the consumers who could consume it might find it easier to reach an arrangement that benefits both if an independent regulator could prevent the dual risks of *ex post* monopoly pricing by the water company and the pressure for expropriation that unregulated monopoly pricing can foment. A policy of outsourcing utility regulation might be controversial if it were forced on the residents of an existing city, but might not be a deterrent to migrants who consider moving to a new city committed from the beginning to such an arrangement. After all, if large numbers of migrants

are willing to move to a city in a developed country where the voters from the developed country control utility regulation and the migrants have no say, it is possible that large numbers of migrants might also be willing to move to a city located somewhere in the developing world where voters from the same developed country control utility regulation. To be sure, it would be complicated to set up this kind of arrangement, but perhaps no more complicated than setting up yet another free trade area, and the benefits would arguably be much greater.

Building new cities ought therefore to be an important goal alongside the inescapable need to expand existing cities. New cities may offer the best opportunity for experimenting with new solutions to the problem that holds back the potential implicit in catch-up growth: insufficient capacity of local government. Yet even if many new cities are built, most existing cities in the LDRs will also need to expand by a very large factor. With even the most optimistic increase in international trade in government services, severe capacity constraints will force the developing countries that are urbanizing rapidly to prioritize as they manage this expansion. Governments will therefore have to be narrow in the sense of not trying to do too many things, but strong in the sense of doing those few things well.

For most rapidly urbanizing cities, Manhattan's 1811 plan is a good starting point for a feasible model of strong but narrow urban planning. The plan was narrow in that it did not designate densities, land uses, or locations for specific types of cultural, social, and economic development—tasks that even high-capacity governments have trouble getting right. It was also narrow in that it built and financed the streets on a just-in-time basis that took nearly 100 years to complete.

The plan was strong because the government used eminent domain to take, from the beginning, the land that would eventually be needed for those streets. It was strong because it forced landowners to cover the costs of the road construction adjacent to their properties, road construction that increased the value of their land by much more than the levies they paid. Crucially, it was strong in the sense that public land designated for streets was protected for decades from squatting and informal settlement.

As Angel (2008) points out, governments in rapidly urbanizing areas today have the capacity to do what Manhattan did in 1811. These governments can focus first on setting aside the public space for parklands and an arterial grid of dirt roads. Angel refers explicitly to "dirt roads" to emphasize that public space can be taken and protected without the high spending necessary for building all the infrastructure that this public space will eventually support. This spending can be put off until the city expands and new residents begin to demand services. At that time, the arterial road network will sustain a trunk infrastructure capable of delivering needed services. Pilot programs for undertaking this kind of construction in Ethiopia have already shown that planning and setting aside land for an effective arterial grid is a manageable task for existing local governments. (Angel *et al*, 2013.)

An approach to planning that is strong in this sense could also be narrow in the sense that it does not place any constraints on what private developers can do inside a superblock defined by the arterial grid. As long as there is some diversity in the private developers working on superblocks, bad development practices in any one block need not limit the city's overall development. As land becomes more valuable, any mistakes in the superblocks will eventually be torn down and redeveloped. In contrast, because any adjustment to the arterial grid would require coordinated change on a much larger scale, it is unlikely that the grid itself will ever change. As a result, setting aside the public space for the logistic and utility corridors that can sew a city into a single market for labor and goods is a much higher priority than enforcing building codes on structures, imposing

limits on density, or dictating the details of what private actors can do with the superblocks.

A DEVELOPMENT GOAL FOR THIS CENTURY

Humans have done something unique in the animal kingdom. We have shifted from one type of social structure—mobile bands with at most a few hundred members—to a radically different social structure based on stationary urban nests of a complexity and scale that not even the social insects can match. More striking still, these nests have developed into a system of hubs linked by high-volume logistic spokes. The urbanization project is building an integrated social system in which 10 or 11 billion people, spread across the globe, can cooperate. In this system, cities are both locations that facilitate local cooperation and nodes that channel the flows of goods and people that facilitate global cooperation.

Humans have made progress by discovering new technologies that are nonrival, and hence can be shared with anyone else on the planet. The potential for discovering new nonrival goods lies at the heart of technological progress. It also explains why the gains that come from increases in the extent of the market will continue until everyone is part of a single cooperative network of the sort that we are now building.

Because cities are essential to the development of this network, it is critical that people adopt the new social rules that are required to structure the dense interactions of city life. Moreover, it is not enough to strive for rules that are reasonably efficient now. We must also create a dynamic that lets the rules evolve to keep up with changes in our social and technological environment. In a small town, "go on green" is an efficient rule for managing traffic in an intersection controlled by a stoplight. As the population in the town increases, "go on green" can become very inefficient. It must be supplemented by a new rule, "don't block the box."

In this broad dynamic of new technologies and ever denser and broader interactions structured by evolving sets of rules, it is typically the rules that hold us back. Rules that may once have been efficient can become wildly inefficient, yet still be frighteningly persistent.

Because an unprecedented amount of urban area will be built during the 21st century, we have two main ways to establish cities that can work reasonably well for the foreseeable future. First, whenever possible, as urbanization takes place, people should delineate the public space of the logistics network, utility corridors, and parklands before the surrounding private space is occupied. Because the social rules for converting valuable private land into public space are so inefficient after people have occupied the land, it pays to establish the public space before large numbers of private claimants show up. A government that protects a grid of public space in an area that can accommodate large-scale urban expansion can then use the power of individual incentives to build the urban structures in which people will live and work. Even if the government does not, in its early decades, have the capacity either to build out such basics as a municipal water and sewage system, or even to encourage private investors to build such systems, these can be retrofitted later if the arteries are available as utility corridors.

Second, at least in this century, developing countries can create new cities that let people opt in to new systems of rules. A new city like Shenzhen can help a society escape from rules that hold the society back. Using new cities to implement reform makes it easier to strike the right balance between protecting the interests of the community, which often requires changes in rules, and allowing individual freedom, which can ensure that few people are forced to follow new rules that they think are illegitimate. New cities that compete for residents make it possible for a nation, a

region, or the entire world to let new political entities try different types of rules and subject them to a market test based on the decision to opt in. This additional dynamic in the space of rules, one based on entry and exit, can operate alongside the more familiar dynamic based on voice. Moreover, exit and entry are as likely to reinforce the power of voice as they are to undermine it.

To be sure, some new cities will be disappointments, perhaps even failures, just as some new firms are disappointments or failures. Nevertheless, start-ups of both types still create value because the cost of the failures is so small compared to the benefit of even one roaring success.

Together, New York and Shenzhen are models that show how humans can achieve an increase in supply on the required scale. But the market alone cannot replicate their success. Even in the early stages of development, a city requires a local government that is strong enough to protect the public space required for free mobility of goods and people. Instead of hobbling governments out of a fear that they might use even a modicum of strength in some counterproductive way, it would be far better to increase competition between cities.

If we take full advantage of the opportunity we now face and plan both for new cities and the dramatic expansion of existing cities, we can break free from the admission of failure implicit in the Millennium Development Goals—from the sad belief that the only hope for the world's poor is to shame governments into providing more services out of a sense of charitable obligation. The best hope for achieving the intention behind those goals is to shift focus to a single overarching goal: Every family in the world should be able to choose between several cities that compete to attract its members as permanent residents.

REFERENCES

Angel, Shlomo. 2008. “An Arterial Grid of Dirt Roads.” *Cities* 25:146–62.

_____. 2012. *Planet of Cities*. Cambridge, MA: Lincoln Institute of Land Policy.

Angel, Shlomo, David de Groot, Richard Martin, Yohannes Fisseha, Tsigereda Taffese, Patrick Lamson-Hall. 2013. "The Ethiopia Urban Expansion Initiative: Interim Report 2." NYU-Stern Urban Expansion Project Working Paper.
http://urbanizationproject.org/uploads/blog/Ethiopia_Interim_Report.pdf

Ballon, Hilary, ed. 2012. *The Greatest Grid: The Master Plan of Manhattan, 1811–2011*. New York: Columbia University Press.

Barro, Robert J. 2012. "Convergence and Modernization Revisited," NBER Working Paper No. 18295.

Bourguignon, Francois and Christian Morrison. "Inequality Among World Citizens: 1920-1992." *American Economic Review*, Vol. 92, No. 4, 727-744.

Clemens, Michael A. 2011. “Economics and Emigration: Trillion Dollar Bills on the Sidewalk?” *The Journal of Economic Perspectives* 25 (3): 83–106.

Clemens, Michael A., Claudio E. Montenegro, and Lant Pritchett. 2008. “The Place Premium: Wage Differences for Identical Workers Across the US Border.” Policy Research Working Paper 4671. World Bank, Washington, DC.

Deng, Xiaoping. 1992. “Excerpts from Talks Given in Wuchang, Shenzhen, and Shanghai.” The Selected Works of Deng Xiaoping, Vol. 3.
http://www.archive.org/details/SelectedWorksOfDengXiaopingVol.3

Maddison, Angus. 2012. “Statistics on World Population, GDP, and GDP Per Capita.” www.ggdc.net/MADDISON/oriindex.htm.

Richerson, Peter J., Robert Boyd, and Robert L. Bettinger. 2001. “Was Agriculture Impossible during the Pleistocene but Mandatory during the Holocene? A Climate Change Hypothesis.” *American Antiquity* 66 (3): 387–411.

UNDESA (United Nations Department of Economic and Social Affairs). 2012. World Population Prospects: The 2011 Revision. http://esa.un.org/unpd/wpp/index.htm

World Bank. 2012. World Development Indicators database. http://data.worldbank.org/data-catalog/world-development-indicators. Washington, DC.

Zeng, Douglas Zhihua, ed. 2010. *Building Engines for Growth and Competitiveness in China: Experience with Special Economic Zones and Industrial Clusters.* Washington, DC: World Bank / International Bank for Reconstruction and Development.

Zhao, Suisheng. 1993. “Deng Xiaoping’s Southern Tour: Elite Politics in Post-Tiananmen China.” *Asian Survey* 33 (8): 739–56.