



CITIES AS GROWTH
ACCELERATORS:
FOSTERING NATIONAL
AND URBAN DEVELOPMENT
POLICIES FOR SUCCESS



CITIES AS GROWTH
ACCELERATORS:
FOSTERING NATIONAL
AND URBAN DEVELOPMENT
POLICIES FOR SUCCESS

Title

Cities as Growth Accelerators: Fostering National and Urban Development Policies for Success

Editor

CAF

This document was prepared for the Vice Presidency of Social Development, CAF
by The Growth Dialogue Institute

José A. Carrera, Vice-president of Social Development
Hely Olivares, Principal Executive of Social Development

Director of the project

Danny Leipziger, Managing Director of The Growth Dialogue Institute

Authors

Jitendra N. Bajpai
Elisa Muzzini

Review and edition

Bárbara Zamora, Samuel Fernández

Translation and edition

César Montufar, Ana Gerez

Graphic design

Estudio Bilder / Buenos Aires

Cover photo

Steven Wei

The views expressed in this publication are the responsibility of the authors and do not necessarily represent the official position of CAF.

The digital version of this book is available at: scioteca.caf.com

© 2016 Corporación Andina de Fomento
All rights reserved

CONTENTS

Introduction	9
1 — Global urbanization trends	13
Overview of Urbanization in Sub-Saharan Africa, South Asia and East Asia	14
Growth Drivers and Inhibitors	17
Towards more sustainable and productive urbanization	19
2 — Main Urbanization Trends in Latin America	21
Key features of urbanization in Latin America	22
Urbanization and economic development trends in Latin America	23
The evolution of the urban system in Latin America	26
3 — Nexus Between Urbanization, Trade and Growth in Latin America: The Role of Connective Infrastructure	33
Connecting Beyond and Behind Borders	35
Connecting Cities and Bridging Spatial Disparities	37
Connecting people to opportunities within cities	41
4 — Concluding Remarks and Policy Observations	45
References	47

FIGURES

Figure 2.1	Urbanization and Economic Development in Selected Latin American Countries, 1960-2013	24
Figure 2.2	Night Light Pollution Image of South America, 2006	27
Figure 3.1	Modal Shares of Travel in Selected Latin American Cities (2007)	42

TABLES

Table 2.1	Competitiveness Ranking of Latin American Cities Within Top 60 World Cities	30
Table 3.1	Estimated Transport Externalities in Selected Large Cities of Latin America	43

BOXES

Box 2.1	Estimates of Agglomeration Economies: A Review of the Literature	25
Box 3.1	Korea: A Successful Case of Spatial Transformation	38
Box 3.2	Metropolitan Management in Seoul	39
Box 3.3	The CAF and Argentine Cities	40

ACRONYMS

BRT	Bus Rapid Transit
COP	Conference of the Parties (to the United Nations Framework Convention on Climate Change)
EMDE	Emerging Markets and Developing Economies
FDI	Foreign Direct Investment
FMI	International Monetary Fund
IFI	International Financial Institutions
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Private-Public Partnership
SDG	Sustainable Development Goals
SEZ	Special Economic Zones
SSA	Sub-Saharan Africa

INTRODUCTION

There is ample evidence to support the view that urbanization is strongly correlated with income gains, and that productivity is enhanced by agglomerations. It is also well known that migration and the pull towards cities, because of the potential for employment and better public services, is an inexorable phenomenon; we see its effect in rising urban populations worldwide. What is sometimes less well recognized is that over-concentration in a single primary city in developing countries can be to the detriment of the growth of secondary or intermediate size cities. Indeed, Duranton (2014) finds that a single primate city, despite its economic dynamism, may not always serve as growth engine in a mid-sized economy and surely not in larger ones in the absence of thriving secondary cities. Moreover, the existence of large slum populations in and around urban centers both limits the benefits of agglomeration economies and also lowers the well-being of the urban poor, whether measured by indicators of health, access to basic services, affordability of transport or access to decent housing. Indeed, this “double-edged sword of urbanization” lies at the heart of the Habitat III agenda as well as at the core of the achievement of global objectives, such as the Sustainable Development Goals (SDGs).

It is important to recognize that the attainment of individual Sustainable Development Goals (SDGs), such as SDG 11 on housing and sustainable cities, cannot occur or indeed be contemplated in isolation. Consider, for example, the SDGs aimed at employment creation, those dealing with infrastructure, and still others focusing on inequality. The nexus of aims related to improved well-being involves the interaction among these aspects and hence policy discussions need to be comprehensive, integrated, and coordinated. Moreover, the attainment of these goals and many other SDGs will happen or not happen in cities. This is a reality of where new populations will be located, namely, in urban concentrations of various sizes. The direction of this paper, therefore, is to underline the need to see urban development as part of national development strategies and as being indispensable for the achievement of long-term development goals. It is also argued that this process and the way in which the additional 2.3 billion inhabitants

of cities by the year 2050 will be integrated into the economic and social fabric of societies forces us to urgently examine aspects of spatial development.

Literature suggests that *optimal primacy*—defined as the level of primacy that optimizes productivity growth—varies with level of income. Whereas high concentration is important to growth at an early stage of economic development, when infrastructure is scarce and knowledge accumulation is low, its importance declines as growth progresses. On the basis of a cross-country analysis for the period 1960-1995, Henderson (2003) finds that optimal demographic primacy declines linearly with output per worker and that deviation from optimal primacy is very costly in forgone output (see also Henderson, 2000; Davis and Henderson, 2003). Furthermore, the notion that spatially distributed economic activity is beneficial for national growth has been noted in the literature, where the preferences afforded to the capital city or the largest city in the country are well documented as well as the fact that there is less functional specialization of urban centers in emerging markets and developing countries than in advanced economies.

Over-concentration can be potentially harmful for overall productivity if it involves the sacrifice of localization economies stemming from the emergence of manufacturing activities in secondary cities. It can also be detrimental for efforts to control pollution and traffic congestion, manage vulnerability to disasters, and deal with the spread of slum populations in major cities assuming that such challenges are more easily managed with more dispersed populations. Finally, the absence of secondary growth poles can compromise the growth prospects of lagging regions by leading to an outflow of the young and better educated workers who are attracted by better job prospects and bright lights in the largest cities.

The purpose of this paper—“*Cities as Growth Accelerators*”—is to delve into the question of spatial policies from the vantage point of what is best for the achievement of national development goals. National strategies aim to increase economic growth, reduce poverty, and improve welfare for a

large segment of society. In successful countries, one sees a clear link between these national aims and efforts and the process of urban development. Given the costs of overconcentration, the lack of policy effort at coordinating national and urban policies to achieve more spatially equitable development is puzzling. This paper seeks to draw lessons and observations from other parts of the world that can be generalized for the benefit of Latin America in particular and can provide insights for other regions as well. In this context, we are cognizant of the major challenges facing Sub-Saharan Africa, a continent urbanizing rapidly but not benefiting sufficiently economically from that concentration process.

The convening of Habitat III provides a unique opportunity to view the goals of the conference within the broader context of urban development, growth and coordinated spatial policies. It is difficult to examine urban issues in isolation. The location of people and their basic needs, including housing, water and sanitation, electricity, transport, and security are inseparable from economic activity and employment. For this reason, the nexus of national economic development and urban development requires simultaneous attention. The contribution of the paper is in part to find the synergies between urban development policies and national growth approaches and in part to identify ways in which the interventions of governments at national and local levels can be mutually re-enforcing. Areas that merit special attention are connectivity and infrastructure as both investments are critical for promoting more spatially distributed and sustainable development and enhancing overall productivity in Latin America. The pay-offs to these investments are therefore large for economic development and welfare improvements as well as for environmental management.

The organization of the paper is as follows:

- a. Chapter 1 discusses global urbanization trends in the context of growth performance and regional dynamics. The focus is on both population trends and growth drivers with special emphasis on the East Asian experience of rapid urbanization and economic development. Particular attention
- b. Chapter 2 describes the salient urbanization trends in Latin America, including demographic, economic and physical expansion dynamics as well as governance challenges. The focus is on the unique patterns of urbanization and economic development in Latin America, the evolution of the urban system and the new urban challenges associated to the most recent urban trends in the region.
- c. Chapter 3 highlights how urban development and economic growth are strictly interwoven with the geography of trade in Latin America. It describes the nexus between urbanization, trade and economic development in the region, and discusses the catalytic role that connective infrastructure can play to support the development of integrated and sustainable urban systems in the context of Latin America.
- d. Chapter 4 concludes with a focus on policy issues facing the conference. In particular, the paper examines areas where timely interventions by the CAF and others can make a significant impact on the quality of urbanization by its contributions to economic growth and social development.

1 — GLOBAL URBANIZATION TRENDS

This chapter first reviews global urbanization trends, with a focus on Sub-Saharan Africa, South Asia and East Asia; it then compares and contrasts two main models of urbanization and economic development—urban growth led by export-oriented industrialization (typical of East Asian countries) and urban growth led by service-based consumption and informal economies (characteristic of African countries, as well as many South Asian and Latin American economies). Finally, the chapter discusses required interventions and enabling factors for more productive and equitable spatial development, with a focus on connective infrastructure, whose importance for the development of integrated and sustainable urban systems is described in more detail in Chapter 3 in the context of the Latin American region.

OVERVIEW OF URBANIZATION IN SUB-SAHARAN AFRICA, SOUTH ASIA AND EAST ASIA

While all regions have their own unique circumstances, and while it is not the paper's purpose to dig deeply into each of them, the circumstances of Sub-Saharan Africa, South Asia and East Asia are illustrative of different sets of challenges to sustainable economic growth and urbanization and it is therefore useful to examine them in the content of Habitat III. In addition to looking at national development goals terms of incomes and livelihoods, poverty reduction, and

health status, there are environmental concerns highlighted by COP21¹ and embodied in the green growth agenda that is currently being discussed in other fora. Similar to our views on the importance of connecting national and urban agendas in the interest of productivity enhancing spatial development, we believe that growth should be sustainable from an environmental point of view, not because of political ideology, but rather out of sheer national necessity. The interplay of this triad of objectives involving growth, urban development, and environmental management can be seen in three regional contexts as elaborated below.

Sub-Saharan Africa. The continent has witnessed a rapid rise in urban populations and can expect to see a further rise in urbanites of up to 50 percent within the next decade in a dozen or more cities (see Freire, Lall, & Leipziger, 2015). Despite good economic progress in the period 2000-2010, Sub-Saharan Africa (SSA) is now facing a secular downturn due to low commodity prices, declining demand from China, and renewed financial stress caused by over-borrowing in some countries, lack of competitiveness in others, and a failure to use fiscal space when available. In the absence of high commodity prices, sources of growth are elusive. This is troubling for urban populations, some of which are growing at unprecedented rates in urban environments without prospects of formal employment or even decent informal wage incomes. Countries heavily dependent on energy exports, such as Nigeria, suffered large losses, ranging from 6 to 12 percent of GDP—with the Republic of Congo and South Sudan suffering even larger income declines (IMF, 2015).

In SSA, governments need to both find sources of growth and urban sources of employment in tradable sectors to enhance productivity of urban development, and promote sustainable growth of secondary cities to counterbalance the growth of

¹ The twenty-first session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) took place from 30 November to 12 December 2015, in Paris, France.

primary cities that are already teeming with people. Without new sources of growth and more spatially equitable development, governments will not have the fiscal resources to deal with the growing need for urban infrastructure investments, not to mention investments in human capital required to make cities more productive. In addition, several countries have suffered setbacks from natural disasters (including Ebola) or from internal conflicts. Going forward, most countries in SSA will be highly vulnerable to the impact of climate change. The ongoing process of climate change is expected, over time, to have significant adverse effects, with more frequent natural disasters and adverse pressures on productivity in agriculture—the largest employer in SSA countries (IMF, 2015). The question is how to break this vicious cycle and where to begin.

Many argue that the starting point for more spatially equitable development in SSA needs to be investments in energy (Foster & Briceño-Garmendia, 2010) since every economic activity needs it and households require it. Yet, when looking at electrification rates in SSA, not only are they low, but the gap between access to electricity in the capital cities and that available in the second or third largest city is shockingly wide. This situation persists despite the continent's abundance of clean and efficient hydropower, a woefully underutilized resource. A triple-win for potential employment and growth, household welfare gains for the poor, and management of the future energy balance can be captured via hydro-investments in SSA. Hence, a major national program of energy related infrastructure investment with a focus of connecting secondary cities to electricity grids could help to spur new growth in the region (Foster & Briceño-Garmendia, 2010).

South Asia. The sub-continent, and here we refer to India and Bangladesh in particular, are exhibiting among the highest economic growth rates among Emerging Markets and Developing Economies (EMDEs), and in the case of India even surpassing the remarkable growth performance previously only seen in recent decades in China. South Asia is home to 6 of the world's 28 megacities (that is, those with populations of at least 10 million as of

2014): Bangalore, Delhi, Dhaka, Karachi, Kolkata, and Mumbai (UN-DESA-Population Division, 2014). Looking at India first, it is worth noting that a) the pace of poverty reduction is not as strong as that seen in China, b) the pace of urbanization that is occurring is massive and has already produced 58 cities with populations exceeding 1 million inhabitants; and c) urban expansion has produced in India 6 of the 10 most polluted cities in the world based on airborne PM 2.5 emissions (WHO and WB as reported in Financial Times²). It should also be noted that 3 of the remaining 4 most polluted cities are located in Pakistan. In terms of annual emissions, India is on pace to overtake China as the world's greatest source of particulates, a designation that will result in worsening health indicators in India before long. Combined with other aspects of pollution, India is sacrificing future economic welfare with an unhealthy energy mix.

In the case of Bangladesh, the issue is the extremely high population density (the highest in the world excluding city states and small islands) and the proportion of the population near the coast, where the climatic risks are highest. Population density has many benefits, but it also has its limits, and these may already have been reached in the major urban centers of Bangladesh. Given its exceptionally high population density, Bangladesh has to increase the economic density of its urban areas and urbanize even more forcefully than did countries that have already undergone this transformation (Muzzini & Aparicio, 2013).

India and Pakistan, with relatively young populations, need to invest in secondary growth poles—in order to do so, both countries need to divert investment funds from the largest cities and also have a national strategy on the strategic location of economic activity. India has a plethora of export processing zones that are given extra incentives; yet these are not connected, as they were in East Asia, to viable export activities of sufficient scale. Thus, territorial planning, including land use planning,

². Article published in the Financial Times on 18 November 2015.

land zoning and land pricing lie at the core of incentivating movement of populations to cities of more manageable size. This problem plagues as well other countries in Asia as seen, for instance, in the spatial and urbanization challenges facing Vietnam (see World Bank-Ministry of Planning and Investment of Vietnam 2016).

In all these cases, urban sprawl is endemic and cities do not have the resources nor the capacity to provide strategic infrastructure and services to promote more sustainable urban development; and in spite of the strategic importance of urban development for national growth, most national development strategies in South Asia are not aligned with urban policy, the latter often left to individual states in the case of India to deal with. In federated countries like India (as well as in federal countries in Latin America such as Mexico, and Argentina), the answers lie with fiscal redistribution and revenue sharing and other principles of fiscal federalism, examined, *inter alia*, by Bird; Bahl, Ingram, and Wetzler; and Stren. Nevertheless, national development strategies need to be based on a solid understanding of where economic activity will be located and favor an urbanization pattern that taps the economic potential of all urban areas. Hence, to address the most binding constraints to sustainable urban development in South Asia—that is, underinvestment in infrastructure and the absence of coordinated territorial development and spatial planning efforts, the key intervention is infrastructure spending and the most pressing goal is connectivity (see Yusuf, 2014; Glaeser, 2008; Ellis & Roberts, 2016, among others).

East Asia. East Asia's urban areas included eight megacities with populations over 10 million, 123 large cities with one to 10 million people, and 738 intermediate and small cities with 100,000 to one million people. Almost 200 million people moved to urban areas in East Asia in the decade from 2000-2010. Yet, most of East Asia's population still lives in rural areas, with only 36 percent of the region's population in urban areas. Rapid urbanization is therefore likely to continue for decades, requiring proactive policies to provide land, housing, and services for the new urban residents. The Pearl

River Delta in China—which includes the cities of Guangzhou, Shenzhen, Foshan and Dongguan—has overtaken Tokyo as the world's largest urban area in both size and population, with more inhabitants than countries such as Argentina, Australia or Canada. China's government-implemented urbanization dominates East Asia with 600 of the region's 869 urban areas located in the country, which also has more than two-thirds of East Asia's total urban land. Despite the visibility of megacities, most population and urban growth in the region is now happening in intermediate and small cities (see World Bank, 2015).

There is a strong correlation between urbanization and income growth in East Asia: both have been led by export-oriented industrialization, as is well documented (see World Bank, 1993; Leipziger, 1993, among many). Economic output per capita increased throughout the region as the percentage of people living in urban areas went up. East Asia accounted for almost two-fifths of global growth in 2015, more than twice the combined contribution of all other developing regions. Growth has remained resilient and is expected to ease only modestly, from 6.5 percent in 2015 to 6.3 percent in 2016 and 6.2 percent in 2017-18. The forecast reflects China's gradual shift to slower, more sustainable and balanced growth. The Philippines and Vietnam have the strongest growth prospects, both expected to grow by more than 6 percent in 2016 (see World Bank, 2016a) and both face issues of increasing urban populations.

Despite appearances, urban expansion in the region has been relatively spatially efficient. Urban population densities in the East Asia region have, on average, been increasing. Most urban areas outside China became denser. Although many Chinese urban areas declined in population density, the country's overall average urban population density remained stable. Overall, the rate at which urban areas expanded physically varied widely between countries. Mostly rural countries had the highest spatial expansion rates (such as Lao PDR and Cambodia), while industrialized Japan had the lowest rate of increase despite containing the second-largest amount of urban land behind China. However, expanding urban areas often cross a

number of administrative or political boundaries such as municipal borders, which fragments government management and revenue sources. Efficient urban outcomes need to match physical expansion with access to jobs, affordable housing, public transportation, and health and education services, in particular to expand opportunity for disadvantaged communities. Environmental impacts and risks are also a major concern in East Asia given the magnitude of urbanization and future climatic risks (see Bigio, 2016).

East Asia has also been among those regions that have successfully in many instances decentralized the delivery of basic services to lower levels of government. There are well known advantages in terms of greater accountability and more efficient delivery. There are also counter arguments in terms of political capture at the local level and inefficiency of infrastructure delivery where scale is an important element (see Mansuri & Rao, 2013). What has become clear is that devolution of responsibilities without financing will not work and that devolution requires a much higher degree of coordination, such as was previously provided (at least in theory) by national efforts. This process of fragmentation may well require new models of metropolitan governance, and, in some cases, strategic consolidation of authority (see World Bank, 2015).

GROWTH DRIVERS AND INHIBITORS

The current slowing of the global economy is dampening the growth prospects of developing economies, and importers of energy and raw materials are not doing much better than exporters. While large economies such as China can rely to a degree on domestic demand to sustain a portion of

their growth, the longer-term performance of smaller economies depends upon the strength of external demand for their tradables. Despite lower growth of global trade, outward orientation still provides the best guide for resource allocation, productivity, and competitiveness (see the Commission on Growth and Development, 2008; 2009).

The confluence of rapid income growth, fast urbanization, and export driven development is seen most clearly in the experience of East Asian countries, where growth and urbanization has been led by industrialization. However, the experience of many Sub-Saharan African countries (as well as several countries in Latin America and South Asia) is one of growth led by non-tradable services and low-productivity informal economies, raising questions about the long-term sustainability of the growth process and urbanization. The rest of this chapter contrasts these two urban growth models —urban growth led by export-oriented development and urban growth led by service-based consumption and informal economies.

The East Asian Growth Pattern: Urban Industrialization and Growth

Past rapid growth in East Asia was a function of strong demand mainly from the advanced economies for the manufactures produced by the likes of Korea, Malaysia and Thailand and the competitiveness of manufactures. Other developing countries in South Asia, Sub-Saharan Africa and Latin America benefitted much less for this demand because their product offerings were not as competitive, their firms less outward oriented and entrepreneurial, and governments less committed to export-led growth. The export prowess of the successful East Asian economies buoyed domestic growth rates through the demand pull mechanism; their swift ascent up the industrial learning curve and the acquisition of world class manufacturing capabilities steadily increased total factor productivity that magnified the supply push exerted by rising factor inputs. The focus on manufacturing and the efficiency

of manufacturing, the products of which were continually tested in global markets, gave East Asians an edge not attained by other regions.

High levels of domestic resource mobilization—supplemented by inflows first of ODA and subsequently of FDI—enabled the front running East Asian economies such as Korea, Singapore and Taiwan to deepen industrialization, to invest in complementary energy, transport, and telecommunications infrastructure and in urban services so that bottlenecks encountered by industries proved to be manageable and did not compromise their growth momentum. There is little evidence of infrastructure building ahead of demand—as in China during the past five years (see Richburg, 2011). In Korea, China and other Southeast Asian economies, industry did periodically encounter infrastructure constraints whether of energy or road or of port infrastructure; however, the abundant supply of capital and the capacity to construct the needed facilities in record time meant that constraints did not persist nor lead to a loss of export markets. In effect, infrastructure supply responded with a lag and the lag was short in duration. In many other late starting economies in South Asia and Sub-Saharan Africa, the limited competitiveness of relatively protected industrial producers³—often small in size—was further undermined by the inadequacy of energy and transport infrastructures that persisted.

In this connection, East Asia was able to realize many of the agglomeration and scale economies that accrue from large industrial cities. These productivity gains were not always the result of nationally coordinated and implemented urban plans. Nevertheless, policies were designed to dramatically improve productivity. A few cities—the capital city and a handful of others adjacent to natural harbors—grew as industries

3. African, Latin American and South Asian countries favored import-substituting industrialization behind tariff walls and were slow to perceive the advantages of export led growth. Hence their competitiveness was undermined by the smallness of scale, slow progress up the learning curve and less technology transfer whether from investment in the latest equipment, FDI or participation in GVCs.

emerged and flourished and labor streamed in from the countryside. Special Economic Zones (SEZs) generally in the vicinity of port cities attracted FDI and served to catalyze industrialization. Hong Kong and Singapore were SEZs in their entirety; starting in 1965, Taiwan established highly successful zones in Kaohsiung City, Nantze and Taichung; and Korea joined the others shortly thereafter by allocating space for industrial parks and zones in Ulsan, Kuro, Masan, and Iri (Richardson, 2004). The reason why the East Asian cities were able to maintain productivity is because in East Asia, the development of an urban industrial ecosystem (with the zones often serving as a seedbed) generated substantial spillovers, including income gains for the expanding urban workforce, and national gains that provided the resources that could be ploughed into urban housing, infrastructure and services.

The Africa's Urban Growth Pattern: Services Based Consumer Cities with Informal Economies

Some commentators including Jedwab (2010; 2013) have pointed out that Sub-Saharan African cities—and many also in South Asia and Latin America—are not on an industrializing trajectory; in fact both Sub-Saharan Africa and Latin America are deindustrializing⁴ and only 6 percent of the Sub-Saharan Africa's workforce is employed in manufacturing ("More a Marathon than a Sprint", 2015). The economy of these cities revolves around an informal sector⁵ and non-tradable services. The driver of growth is urban consumption—not industrial production supported by exports. Modest growth rates frequently keyed to the trade in primary commodities (which supports urban consumption) (Jedwab, 2010; 2013), while low rates of local revenue generation and insufficient investment

4. Brazil is one of the countries where the process of deindustrialization has attracted much attention. See the review by Williamson & Zagha (2013); Nassif, Feijó, & Araújo (2015).

5. Close to 83 percent of the employment in Kenya in 2012—10 million people—is of an informal nature. See Njeri Kinyanjui (2015).

in urban housing and infrastructure have resulted in urbanization that is not productivity augmenting and may in fact depress productivity because of congestion and pollution. The widening gap in urban services between the primary city and intermediary cities and worsening income inequality are other manifestations of failed urban policies, and lack of coordination between the national and urban agenda. While the problem might be most severe in the large, overcrowded, metropolitan agglomerations, such as Lagos and Johannesburg, secondary cities where many urban populations reside are not necessarily faring any better due to poor planning, inadequate investment, and politics. The limited scale of tradable sectors and local revenue mobilization adversely affects growth, employment, and productivity as well as the supply of local infrastructure services.

Looking ahead, increasing populations especially in Sub-Saharan Africa, South Asia and the Middle East together with climate change that could reduce cultivable land, employment and agricultural yields, will most likely accelerate the pace of urbanization (Henderson, Storeygard, & Deichman, 2014). A continuing dearth of manufacturing industry⁶ will mean that more people must find jobs in services sector; hence, productivity gains from urban agglomeration will depend upon the emergence of clusters of tradable services. Moreover, urban sustainability in a warming world, with all environmental risks it entails for coastal cities and cities in dry interior regions, will call for much greater attention to the design of cities (e.g. compactness, locating houses away from steep slopes and areas subject to flooding) and the resilience of infrastructure, services and underpinning institutions (see Bigio, 2016).

TOWARDS MORE SUSTAINABLE AND PRODUCTIVE URBANIZATION

Urbanization is well past the halfway mark worldwide (54 percent in 2014) and it has breached 80 percent in Latin America. By the middle of the century over two thirds of a larger global population (6 billion plus) (UN-DESA, 2014) will be residing in cities. Perhaps a fifth will be living in megacities (currently the 28 megacities are home to 12 percent of the urban population) and the rest in secondary cities. Raising living standards and meeting the SDG goals will be a major challenge for countries low on the income scale especially those that are most exposed to climate change. Both countries that are highly urbanized and others that are still at an intermediate stage need a long-run national strategy and urban policies to improve living conditions —i.e. reduce the numbers living in slums⁷— and extract the maximum productivity benefits from the increasing concentration of economic activity in cities, while promoting the sustainable development of secondary cities in line with their economic potential. Countries at an earlier stage of urbanization enjoy greater potential flexibility. However, others in highly urbanized Latin America can also improve on their current performance through targeted investments and through a process of retrofitting and incremental change.

Research has uncovered a number of spatial policies that can harness the growth potential of urban areas, thus making all cities more productive, livable, and climate resilient. In this paper we will focus on one of these factors, and arguably among the

⁶ Rodrik (2015) persuasively argues that the heyday of industrialization as a growth driver is past. The progress of factory automation lends credence to his claim.

⁷ Approximately a quarter of all urban dwellers live in slums —30 percent in Asia and 62 percent in Africa. See UN-HABITAT (n.d.).

most important, which is infrastructure, in particular connective and transport infrastructure. Well-planned and nationally coordinated investments in connective infrastructure critically support the growth of productive activities in line with cities' economic potential. It also is the basis for promoting growth of tradable sectors by increasing connectivity among cities within the national economy and international connectivity with trading partners. The quality and adequacy of connective infrastructure is thus a necessary condition for realizing agglomeration economies, whether from individual urban centers, from a network of cities or from industrial corridors that knit cities together into seamless production systems. More and better connective infrastructure is part of the solution to help raise growth by easing troublesome bottlenecks, and enabling firms to harvest the potential agglomeration economies (localization and urbanization economies as well as economies of scale) inherent in cities, as it will be described in more detail in Chapter 3 in the context of Latin America. There has been mounting realization of the dearth of such investment across the world⁸ and of the need to give it the attention it deserves. The creation of the Asian Infrastructure Investment Bank (AIIB) has helped to galvanize international support for infrastructure development through public initiative, which it is hoped will crowd in private funding and expertise. Nevertheless, infrastructure gaps remain a significant challenge (Spence, Kanbur, Leipziger, & Manyika, 2015).

While it is clear that infrastructure can be a key growth driver, it is useful to take note of a number of enabling factors, which will influence the effectiveness of any infrastructure push aimed at enhancing productivity and growth. These enabling factors involve current and future global circumstances as well as the effectiveness of national economic strategies. First, absent a pick-up in global

economic growth, infrastructure spending directed at exports will deliver less “bang for the policy buck”. This is not to say that investing in removing binding infrastructure constraints is not the right policy, but rather that its financing needs to be designed with global conditions in mind. It is noteworthy in this context, that the IMF has advocated increased infrastructure investments in the advanced economies as both a national as well as global growth driver. The consensus is that the returns to smart infrastructure spending would be even higher in emerging market economies. Second, countries need to increase domestic resource mobilization and enhance implementation capacity in order to bankroll expensive and long gestation infrastructure: the IFIs and international capital markets can only supplement not displace domestic investment (see World Bank, 2016b). Resource mobilization that is not matched with the capacity to plan and implement efficiently and minimize leakages leads to enormous waste. Hence a corollary to increased domestic resource mobilization revolves around the capability of the public sector and the integrity of its governance. Third, the ability to attract FDI and private investment more generally for infrastructure, via public-private partnerships (PPPs) in particular, depends on local governance and the degree to which domestic investment can crowd-in private investment, at home but even more critically from abroad.

8. The infrastructure gap and the urgency of closing it in the face of looming climate change is made by Bhattacharya, Oppenheim, & Stern (2015); See also the equally persuasive case made for infrastructure investment in the U.S. in the President's report (2016, ch.6) in USA-Council of Economic Advisors, 2016); Rodrik (2016) argues in favor of the public role; and Qureshi (2016) makes the case from the angle of sustainability

2 — MAIN URBANIZATION TRENDS IN LATIN AMERICA

This chapter provides an overview of the most salient urbanization trends in Latin America, explores the pattern of urbanization and economic growth, and outlines the recent evolution of the urban system in the region.

KEY FEATURES OF URBANIZATION IN LATIN AMERICA

Latin America is the most urbanized region of the world, with an urbanization rate of 80 percent, almost twice that of Asia and Africa, and higher than highly developed countries. Latin America is also a highly diverse region with urbanization patterns differing widely across countries. About half the region's population is concentrated in Mexico and Brazil (18.5 and 33 percent, respectively). The countries in the Southern Cone (Argentina, Uruguay and Chile) are the most urbanized, followed closely by Brazil, which, from the 1970s onwards, has seen particularly rapid urbanization. Central America shows lower urbanization rates than the rest of the region, but it is progressing constantly. In spite of the diversity, there are common features characterizing the urban transition in Latin America —urbanization has been explosive, highly concentrated and unequal.

A key feature of urbanization in Latin America is that the rural-urban shift occurred in less than 40 years. Latin America experienced explosive urbanization over the period 1950-90 fueled by mass migration from rural areas. The number of cities increased six-fold, and the region went from 40 percent of the population living in cities at the beginning of this period to 70 per cent forty years later. It is also noteworthy that the 40 percent level achieved in 1950 was the earliest among regions, only reached by East Asia in 1994 and Sub-Saharan Africa in 2013. Currently, Latin American

urbanization has decelerated, and the evolution of urban population tends to be limited to natural growth only. From a demographic perspective, urbanization processes are mostly completed across the region and, since the year 2000, the annual average urban population growth rate has been less than 2 per cent, a figure that broadly corresponds to natural population growth. Yet, the region is still adding urban population. By 2050, UN-Habitat predicts Latin America's cities will include 90 percent of the region's population.

Latin America's urban system is highly polarized and dominated by large cities, which contribute disproportionately to the regional economy. Latin America's 198 largest cities —defined as having populations of 200,000 or more— contribute 60 percent of the region's GDP, and the ten largest cities alone generate half of that output. Latin America is the region with the largest concentration of population in mega-cities. Within the 10 top cities are four mega-cities with populations of 10 million or more —Buenos Aires, Mexico City, Rio de Janeiro, and São Paulo. By contrast, China's top ten cities, for instance, contribute around 20 percent of the nation's GDP. The primacy of the largest cities, mostly capitals, is notable both in terms of concentration of population and national economy. Buenos Aires, Lima, Montevideo, and Santiago contribute over half of their national GDP and account for more than 30 percent of their countries' population. By comparison, the shares of national population and GDP concentration in Sao Paulo and Rio de Janeiro, the two mega-cities of Brazil, stand at 15 and 25 percent respectively and the share of Mexico City is over 20 percent of population and national GDP (McKinsey Global Institute, 2011). The lower concentration in mega-cities in Brazil and Mexico is explained by that fact that both countries have a group of second-tier cities that act as a counterbalance and therefore constitute a more diverse urban network. The same is seen, although to a lesser extent, in Colombia, where geographic and economic conditions have led to more polycentric models of urban development.

On average, Latin American cities largely suffer from the world's highest level of social and economic inequities. While Latin American countries have made significant progress in their fight against poverty, and the proportions of urban poor have fallen, in absolute

terms numbers are still very high. About 124 million urban inhabitants live in poverty, or one in four urban dwellers. Similarly, at the regional level, the proportion of population living in slums has fallen over the past two decades, but in absolute terms the number has increased to 111 million people, that is, almost one fourth of the region's urban population. In the Latin America region, the richest 20 per cent of the population has an average per capita income nearly 20 times the income of the poorest 20 per cent and it exceed 30 time in those countries with the greatest inequality. Guatemala, Honduras, Colombia, Brazil, Dominican Republic and Bolivia have the most unequal distributions of income in the region, all with coefficients above 0.56. Costa Rica, Ecuador, El Salvador, Peru and Uruguay have lower inequality, with Gini below 0.50. These differences notwithstanding, when one looks at access rates for sanitation, for example, or for affordable and accessible transport, the region does not score well (CAF, 2015).

URBANIZATION AND ECONOMIC DEVELOPMENT TRENDS IN LATIN AMERICA

Urbanization has been accompanied by economic growth in the region. However, a comparative analysis among Latin American countries reveals significant differences in the pattern of urbanization and economic growth, suggesting that country-specific forces affect the relationship between the two patterns. For instance, Argentina has continued to urbanize (albeit at a lower rate than other countries in the region), but its economy has grown less than other highly urbanized countries. GDP per capita

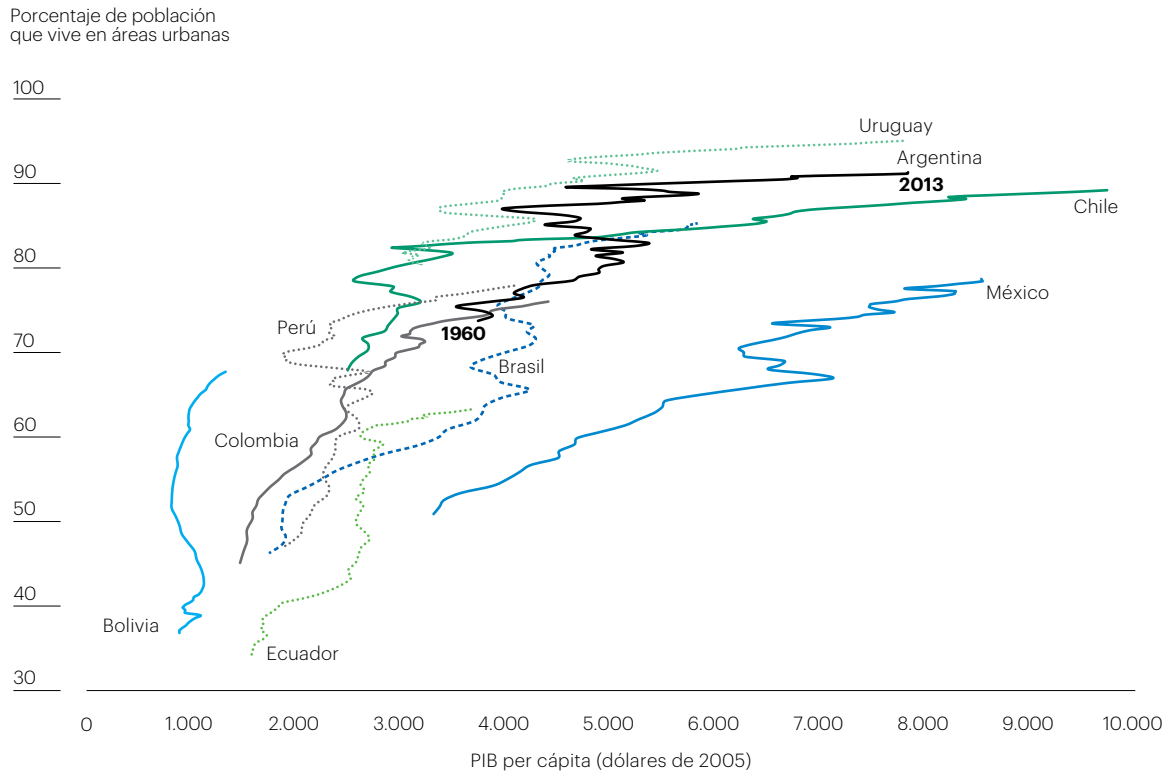
has grown by 1.6 percent annually over the period 1960 through 2012 in Argentina, compared to 2.7 percent in Chile, 1.9 percent in Mexico, and 2.4 percent in Brazil. Colombia's GDP per capita has grown by 2.1 percent over the same period, and Peru's by 1.6 percent. Countries such as Panama and Costa Rica with significantly lower urbanization have higher or comparable levels of economic progress, whereas neighboring Bolivia shows a distinct pattern of urbanization without economic growth. From 1960 through 2013, the correlation between the percentage of urbanized population and GDP per capita is more than 0.95 percent for Brazil, Colombia, and Mexico; 0.82 percent for Chile; and 0.56 percent for Peru, and 0.47 in Argentina. Bolivia is an outlier with a correlation of only 0.27 percent (see Figure 2.1).

It is important to note, however, that urbanization defined by country-level official definitions is not necessarily comparable across countries. The classification of an area as 'urban' is a purely administrative decision and varies considerably between countries, and the administrative boundaries of a city often fail to accurately delineate a city's true built-up extent. Ideally, for consistent analysis of urbanization trends, cities should be defined using functional, not administrative, criteria. Beyond the differing definitions of agglomerations that complicate cross-country comparisons, the official definitions tend to apply numerical census or qualitative criteria that differ across countries. In the Latin America region, a common, albeit partial, criterion considers urban to be settlements of more than 2,000 or 2,500 inhabitants. Defining urban areas based on population alone has the major drawback of not explicitly accounting for population density, which is an important factor in delineating the urban-rural nexus.⁹

9. For instance, a recent study finds that when density-based criteria are used to define urban areas, the population living in urban areas in Argentina is lower than the official figures. That analysis revealed that for 91 percent of Argentina's population to be considered urban (in line with its official urbanization definition), all people living at densities as low as 17 people per square kilometer (km²) would have to be considered urban dwellers. In comparison, countries that use population density to define urban areas use significantly higher threshold values that average around 730 people per km² (Muzzini, Eraso Puig, Anapolsky, Lonnberg, & Mora, 2016).

FIGURE 2.1

Urbanization and Economic Development in Selected Latin American Countries, 1960-2013



Note: GDP = gross domestic product. Percentage of population living in urban areas is based on national definitions of urbanization.

Source: Muzzini, Eraso Puig, Anapolsky, Lonnberg, and Mora (2016)

Given their weight in the regional economy, cities are critical to growth and the creation of jobs in Latin America. The agglomeration economies present in mega-cities and large cities, if nurtured well, hold great potential for further growth and innovation given their endowment of diverse mix of economic activities, educated and high skill workers, and soft and hard infrastructure. Research suggests that positive productivity gains are associated with agglomeration economies, proxied by the population size and density of the cities, in the region. For instance, a recent study on Argentina finds that a doubling in the population size of the agglomerations is associated with a growth in labor productivity of 2.2 percent in Argentina, after

controlling for cities and firms' characteristics (Muzzini, Eraso Puig, Anapolsky, Lonnberg, & Mora, 2016).¹⁰

¹⁰ The regression analysis uses wages as dependent variable to capture labor productivity across 29 of the largest agglomerations in Argentina. Agglomeration economies are proxied by the population size of the agglomerations. The effect of the size of the agglomerations on average labor productivity is positive and statistically significant when controlling for firms and city-specific characteristics, such as type of business, education, experience, or other demographic controls. The estimated elasticity implies that a doubling in the population size of the agglomerations is associated with a growth in labor productivity of 2.2 percent. The results are consistent with evidence of the higher labor productivity associated with agglomeration economies and indicate an attraction effect of large cities.

**Box 2.1 —
Estimates of Agglomeration Economies: A Review of the Literature**

Positive productivity gains associated with agglomeration economies are generally found in the literature. There is, however, a great deal of variability in the magnitude of reported estimates, which makes comparing results against a benchmark a challenging task. A comprehensive review of the empirical literature on elasticities of agglomeration carried out by Rosenthal and Strange (2004) argues that doubling urban size increases productivity between 3 and 8 percent. Limited evidence exists, however, on the factors explaining such a wide range of estimates. Melo, Graham, and Noland (2009) make an attempt to understand the range of elasticities found in the literature by identifying some key characteristics that affect the magnitude of the results. They undertake a quantitative review of the empirical literature on agglomeration by analyzing 729 elasticity measures taken from 34 different studies. These studies differ in the use of estimation method, time period, country of study, level of spatial aggregation, economic sector and definition of agglomeration economies. The authors use regression analysis to distinguish the contribution of different study characteristics to the variance of estimates.

Factors such as country specific effects, industrial coverage, and definition of agglomeration economies, can give rise to large differences in the results reported in the literature. For instance, the coefficients of the individual country and continent dummy variables indicate that the heterogeneity of urban systems across continents and countries explain in part differences in the magnitude of the productivity returns to agglomeration. The results suggest that China, Japan, and Sweden tend to exhibit smaller estimates of agglomeration elasticities than the US, while there are higher effect sizes for countries in South America, and smaller effects for North America. The results also show that service industries tend to derive considerably larger benefits from agglomerations. The size of the elasticity for service industries is about 8 percentage points higher than the size of the elasticity estimates for the aggregate economy. This result is consistent with the hypothesis that service industries tend to be more dependent on proximity to large urban areas because of urbanization economies. These findings highlight the need to consider the results of agglomeration estimates in context and that there is no reason to expect similar estimates of comparable magnitude between sectors, across urban areas, or among countries.

And in Mexico, a study based on a comparable methodology finds that doubling in the size of the agglomerations is associated with a growth in labor productivity of 4.2 percent based on 2000-10 data (Ahrend, Farchy, Kaplanis, & Lembcke, 2014). However, a great deal of variability in the magnitude of reported estimates exists, which makes comparing results against a benchmark a challenging task (see Box 2.1). The next section

looks at the evolution and growth trajectories of different segments of the urban system in Latin America and identifies the constraints that may be preventing cities from fully taking advantage of agglomeration economies.

THE EVOLUTION OF THE URBAN SYSTEM IN LATIN AMERICA

Available evidence points to a possible rebalancing of the hierarchy of cities in the region: the population growth of the top 10 cities in Latin America is decreasing relative to the growth of secondary cities. In part their slowdown is attributable to the fact that the largest cities are more established geographic areas, while the higher growth of intermediate cities is partially explained by the increases in the number of such cities, as small towns grew and passed into the category of intermediate cities. There is also significant variation in the rates of population growth across the top 10 cities. Buenos Aires continues to maintain its demographic primacy (mostly due to its peri-urban areas), growing at an average rate of 1.3 percent annually, at a higher rate than Santiago (1 percent), or Mexico City and Rio de Janeiro, which both had average annual growth of 0.9 percent for 2000-10, and slightly below São Paulo (1.4 percent); on the contrary Bogotá had significantly higher annual growth of 3.1 percent during the 2001-2010 period.

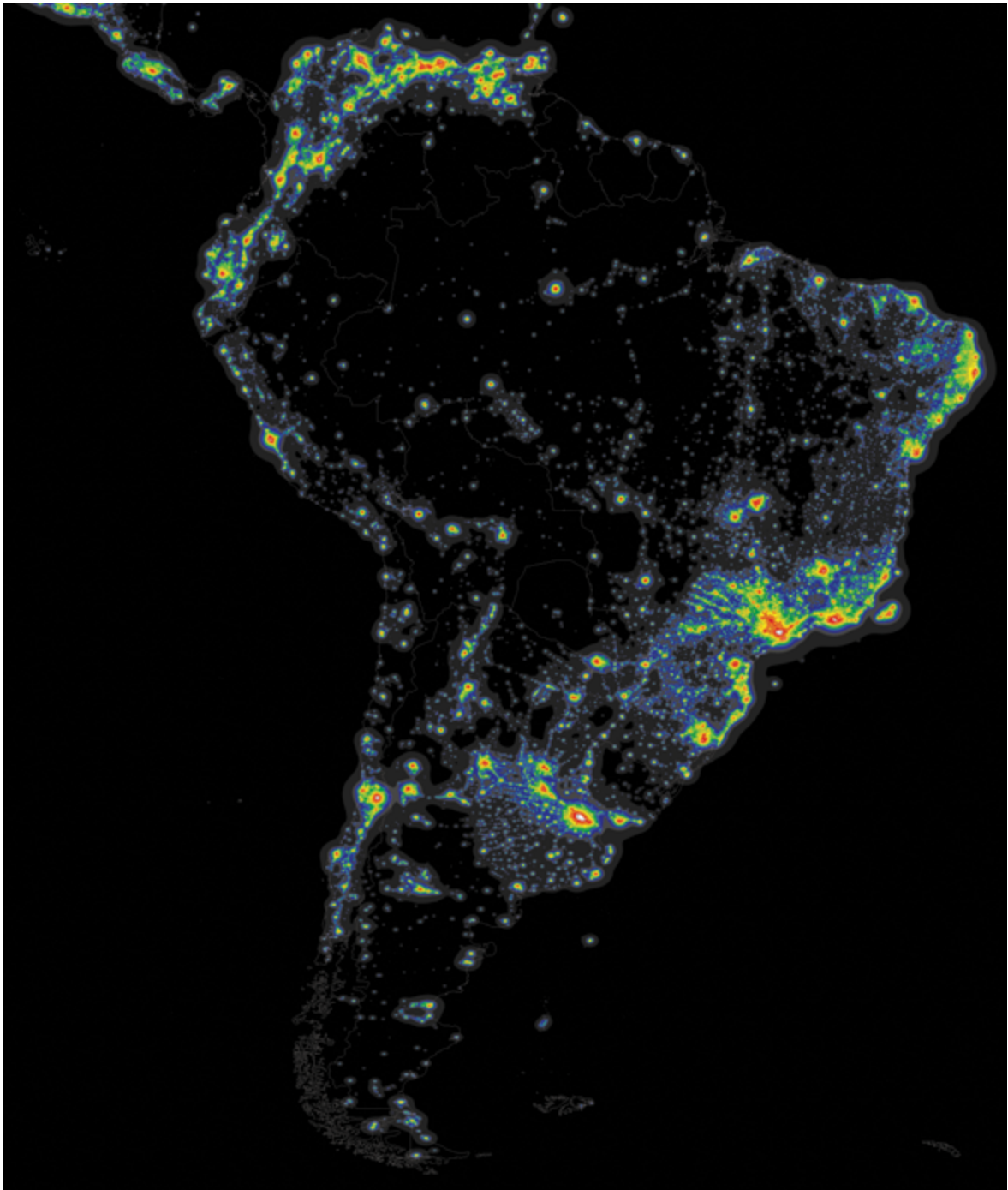
From an economic perspective, preliminary evidence indicates that the relative weight in the economy of top 10 cities is also declining. Although the biggest cities continue to contribute disproportionately to GDP, their economic growth no longer exceeds that of the rest of the region's economy. Since 1970, growth rates in Brazil's São Paulo and Rio de Janeiro have dropped from above the national average to below the average. Other leading cities in the region have also recently grown more slowly than either their national economies or their midsize peers. For instance, Mexico City metropolitan region has posted a slower pace of growth than the average of the nation's 45 lower-tier cities, defined as those with populations of 200,000 to 10 million (McKinsey Global Institute, 2011).

While the growth rate of top 10 cities has started to decelerate over time, some of the lower tier cities have experienced faster growth. In recent decades, intermediate cities, where most of the increasing urban populations live, have grown at a rate somewhat higher than the top 10 cities. Today, 188 high-growth secondary cities account for almost one-third of the region's GDP and could generate almost 40 percent of GDP growth to 2025 (McKinsey Global Institute, 2011). Particularly dynamic are the border cities that benefit from investments in industry and cities in economic corridors. Medium size cities that are growing faster than their national economy include those situated on the outskirts of the largest agglomerations. Among the most dynamic secondary cities are Puebla, Cuernavaca, Pachuca and Toluca near Mexico City; Campinas and Santos located less than 100 km from São Paulo, the three cities —Ciudad Juarez, Tijuana and Nuevo Laredo at the border of Mexico with US; and Cancun, a tourist destination. Among other secondary cities, promising examples of secondary cities showing more dynamism compared to the largest agglomerations include Belo Horizonte, Florianópolis and Curitiba (Brazil), Medellín (Colombia), Merida (Mexico) and Viña del Mar (Chile). A recent study found that secondary cities in Patagonia are growing faster than average as the result of the growth in their resource-based economies (Muzzini et al., 2016). Nevertheless, in other countries, the role of intermediate cities is still marginal, as seen in limited number of intermediate size cities in Peru and the continued primacy of Buenos Aires.

This recent trend reflects the maturity of development in the largest agglomerations, which demands de-industrialization of mega-cities to promote service sector growth, as well as the emergence of development constraints associated with over-concentration, such as congestion, pollution, increased land prices, law and order concerns, taxes and burdensome regulations, limited access to credit and low level of innovation (McKinsey Global Institute, 2011). The economic growth of secondary cities has been associated with greater specialization and dispersion accompanying the new phase of industrialization. The increasing

FIGURE 2.2

Night Light Pollution Image of South America, 2006



Source: Light Pollution Atlas (2006)

complexity of the industrial structure result in the location of new plants outside the largest cities, while the increased emphasis on export production is contributing to dispersion forces since the plants producing for exports don't have to be located close to internal markets. However, initial evidence suggests that many of the top 10 cities in the region have started to run up against constraints to agglomeration economies as they struggle to cope with the demand of urban expansion in terms of provision infrastructure and services and core-periphery connectivity. In secondary cities diseconomies of scale have not yet started to outweigh the benefits of economies of scale and localization economies (Bethell, 1998).

Despite deceleration in population growth, the built-up space of the large agglomerations continues to expand. Over time, average urban density of most global cities and secondary cities has declined as their built-up area footprints have exceeded population growth (Shlomo, 2012). A similar trend is apparent in Latin American cities, in particular mega-cities. In Latin America, the overall geographical footprint of the region's mega-cities and its satellite urban centers continues to spread outwards. Large cities are engulfing small towns and rural land on their periphery. A study of 25 randomly selected Latin American cities (UN-HABITAT, 2012) shows that in the year 2000 their average density was 70 persons per hectare in comparison with 200-400 persons per hectare of large Asian cities. Between 2001 and 2010 the land area of Rio de Janeiro expanded at a rate five times the rate of its population growth causing the city density to drop by one-third. Similarly, Mexico City experienced de-densification of 60 percent over a span of three decades. Thus urban de-densification or sprawl continues to be the general pattern of city expansion in the region.

This expansion process transforms the geography of cities and takes different forms —clusters of cities, polycentric metropolitan area or simply a large mass of contiguous urban centers. The shape and form are conditioned by the local topography (e.g., valleys and ocean) and the adopted policies and regulations regarding transport supply,

land development and decentralization of jobs. Overall, Latin American cities are predominantly monocentric compares to the cities in the EU, US and Asia where cities tend to develop multiple centers of employment concentrations as they expand. The night light image of South American shown in Figure 2.2 displays the different physical forms each mega-city region (e.g., Sao Paulo, Rio de Janeiro, Santiago, Caracas, Bogota and Buenos Aires) have taken.

As a result of the urban sprawl, the provision of basic services has not kept pace with the requirements of peripheral areas. Besides overconsumption of land, poorly serviced and managed low density urban expansion in Latin American cities has been detrimental to the environment, the quality of living in informal settlements, and the mobility of peripheral communities where many poor live. This trend reflects the insufficiency of land use planning; poor regulation and control; and a lack of integration between transport, land development, and the provision of affordable housing. Such a pattern of low-density, unplanned urban expansion detracts from the realization of agglomeration economies in cities of all sizes. It also raises governance issues and fails to address persistent social and spatial inequities.

As cities expand beyond their administrative boundaries the problem of metropolitan coordination across local governments and national agencies exacerbates the planning, financing, delivery and management of basic services within newly urbanized areas. The administrative borders of fast growing Latin American cities rarely correspond to the functional relations that they develop with neighboring settlements, towns and sometimes states. With this mismatch between the political and functional boundaries, the governance of urban agglomerations has become difficult and faces severe coordination problems across the local entities in promoting healthy growth of the agglomeration economy and its supporting infrastructure and services. Often fragmentation of governance causes sub-optimal and insufficient provision of transport infrastructure and services in the periphery and

to the adjacent towns. The territorial, land-use and transportation planning and management continue to be stymied by the territorial division into separate municipalities. Moreover, post mid-1980s the countries promoted decentralization of political power to the sub-national levels but they have yet to develop an efficient and effective framework for inter-governmental relations. In many cases the distribution of responsibilities between levels of government has not been supported by either a corresponding re-allocation of resources or the requisite strengthening of institutional capacity.

While the mega-cities are the economic powerhouse of their respective countries, they also face the most significant coordination challenge due to the number of municipalities involved. For instance, the metropolitan regions of Mexico City, Buenos Aires, Santiago and Sao Paulo comprise 41, 32, 52 and 39 municipalities respectively. A recent OECD study finds that for each doubling in the number of municipalities per 100,000 inhabitants within a metropolitan area, labor productivity in the metropolitan area decreases by 5-6 percent (OECD, 2015). Although the finding reflects the city governance conditions of OECD cities, it does highlight the potential for productivity gains that exist for the Latin American mega-cities in establishing an effective governance framework for co-ordination across their local bodies. Cities around the world have adopted some form of metropolitan governance structure ranging from informal coordination mechanisms between local bodies to the creation of a metropolitan level authority to plan and manage selected functions of all local entities. Usually these entities undertake planning and coordination functions for major cross-jurisdictional infrastructure investments and services (e.g., transport and solid waste), spatial development strategy, and the protection of ecological and environmental services (e.g., watershed management, air pollution and open spaces) within their territory.

The large cities of East Asia region, with the exception of city-states such as Singapore and Hong Kong, are facing similar metropolitan level

coordination challenges. In Korea, following the decentralization of power to local bodies in mid-1990s, large cities struggled with the fragmentation of regional governance issues and subsequently, initiated the formation of metropolitan agencies. Seoul Municipal Government encompassing 25 districts was established with an elected assembly that was headed by the mayor. Only in 2005 was a Metropolitan Transport Authority created for the Seoul Metropolitan area to address the urban mobility concerns. And in 2012 similar institutions were established in Pusan and Ulsan metropolitan areas. Some large cities like Jakarta, Manila, Bangkok and Kuala Lumpur have yet to create an efficient and effective way to integrate land development and transport planning, regulation and investment measures across their local bodies.

In Latin America, Lima has made progress in metropolitan management with the establishment of the Metropolitan Municipality comprised of a provincial council and 42 municipalities (Klink, 2008). The Brazilian government has developed a law on the creation of inter-municipal consortia to strengthen the institution and organization capacity of local bodies to effectively implement city, regional and metropolitan functions. However, limited progress has been made. A few municipalities of Bolivia and southern states of Brazil and Ecuador have initiated inter-municipal cooperation to achieve economies of scale in service deliveries through pooling of resources mainly for road maintenance, tourism promotion and environment protection. The regional transport coordination commission of Bogota has focused on integrating the urban transport, land use and air quality strategy for the city region.

Overall, Latin America cities are falling behind other regions in competitiveness. According to a recent assessment of competitiveness of 120 global cities (EIU, 2012), the overall competitiveness score of thirteen large Latin American cities ranged between a minimum of 39 (Guadalajara) and a maximum of 49 (Buenos Aires) out of 100, the best score. In comparison, East Asia, a high growth region, had 12 of its large cities out of its 25 with scores above 50. The assessment was based on a global survey

to measure the competitiveness of each city using 31 indicators under eight thematic categories: economic strength, human capacity, institutional effectiveness, global appeal, financial maturity, physical capital, environment and natural hazard, and social and cultural characteristics. The ranking of surveyed Latin American cities across the thematic categories (Table 2.1) illustrates the areas of strengths and weaknesses of each city and their category specific ranking among the top 60 cities. Overall cities have not performed well in particular in areas of physical infrastructure and institutional effectiveness. And there is room for improvement in most areas of competitiveness including and in particular, in tradable products and services.

High inequality and segregation significantly affect the ability of cities to generate prosperity as well as their livability. Inadequate spatial policies have contributed to create this uneven geography of opportunities within cities described above. Urban

populations, especially in the top 10 cities, are spatially divided and segregated by income with uneven access to economic opportunities, public transport, basic services, decent education, and green spaces. As housing policies have failed to respond to the needs of the poorest populations, many peri-urban areas are becoming poverty traps; in parallel, the tendency to create gated communities contribute to maintain or strengthen spatial segregation and inequalities.

Paradoxically, while urbanization has stabilized in the region and most countries have largely completed the urban transition, urban challenges are becoming more complex. Latin America needs a second urban transition, toward urbanization that is more productive, equitable and sustainable. To move toward this new urban paradigm, the Latin America region needs to upgrade its largest cities, while helping secondary cities to growth and to do so in a smarter way. Unless the largest cities significantly

TABLE 2.1

Competitiveness Ranking of Latin American Cities Within Top 60 World Cities

Cities	Overall	Economic Strength	Physical Capital	Financial Maturity	Institutional Effectiveness	Socio-cultural Characteristics	Human Capacity	Environment & Natural Hazard	Global Appeal
Buenos Aires	60					59	43		27
São Paulo				39		47			38
Santiago							32		50
México City				52			43		41
Rio de Janeiro				41		48			49
Panama		55			53				
Lima							43		55
Bogota		55						11	57
Monterrey		49							
Medellín									
Belo Horizonte								26	
Porto Alegre								47	
Guadalajara								24	

Source: EIU (2012)

enhance their productivity, address issues of social segregation and inequality, and improve the efficiency of their urban forms, their growth rates are expected to remain below the average for the region's secondary cities—and constitute a potential drag on Latin America's overall rate of growth. Put differently, Latin America needs spatial policies that enable the largest cities to fully take advantage of the benefits of agglomeration economies, while controlling costs, equalizing opportunity and improving the quality of living. In parallel, policies need to focus on promoting the sustainable growth of the most dynamic secondary cities in line with their comparative advantages, and on creating an equal playing field country wide through the provision of basic services and connective infrastructure. The following chapter describes how spatial interventions in connective infrastructure —if well-coordinated at the national, regional and city level— can be catalytic to support the growth of an integrated urban system and to promote spatial development in line with the economic potential of cities of all sizes.

3 —
**NEXUS BETWEEN
URBANIZATION,
TRADE AND GROWTH
IN LATIN AMERICA:
THE ROLE
OF CONNECTIVE
INFRASTRUCTURE**

As urbanization is fundamentally interwoven with global trade, this chapter discusses the nexus between urbanization, trade and economic growth in the context of Latin America, and highlights the catalytic impact that investment in connective infrastructure can have to support the shift toward more productive and sustainable spatial development in the region.

With the decline in tariff and trade barriers, Latin American countries are now far more integrated in the global economy than in the 1980s. The region has almost doubled the share of exports in its overall GDP. The proportion of industrial products in the region's export has steadily risen to 50 percent, though it varies across countries, and remains far below the East Asia's 80 percent (de la Torre, Didier, Ize, Lederman, and Schmukler, 2015). Urbanization and export performance are closely linked. On one hand, increased export orientation is influencing the urbanization dynamics of Latin American countries. The large cities, predominantly located along the coast, serve as the gateway for international trade. On the other hand, urban development has been affected by the recent slowdown in international trade in the region. The slowdown has exposed the vulnerabilities of the prevailing trade pattern that is characterized by limited diversification in composition and high concentration in a few destination markets. It has in particular revealed the economic vulnerability of the more specialized secondary cities to changes in global prices and demand for primary commodities. The question is how the region can address the current vulnerabilities in the trade regime; one approach is an increase in intra-regional trade, as seen in Asia, in ways that strengthen the economic potential and resilience of both large and secondary cities.

There are many factors which affect productivity and ultimately trade performance; however, for most countries, deficiencies in connective infrastructure is seen as one of the key constraints to expanding internal and external trade. Evidence shows that proximity to markets matters for firms' productivity. Evidence from Brazil and the United

States indicates that doubling the distance to dense metropolitan centers reduces productivity by 15 percent and lowers profits by 6 percent (Henderson, 1994; Sveikauskas, Townroe, and Hansen, 1985). Hence secondary cities close to a primary one have a definite advantage. Reduced transport costs will lead to gains in productivity and scale economies which will in turn improve the export potential of products and services beyond city borders.

Connectivity is a constraint not only for urban economies, but also for national economies. According to the World Bank's Logistics Performance Index (LPI), a composite measure of the quality of logistic services, reliability of supply chains used by producers and exporters, and the degree of national support for infrastructure and service provision, performance rankings for Latin America (except for Chile and Panama) were between 50th (Mexico) and 121st (Bolivia) among the 160 countries surveyed (World Bank, 2014). The lowest ranking countries were severely affected by poor performance in the transport sector, perhaps due to the underinvestment of the past decades (Guerrero, Lucenti, & Galarza, 2009; Calderon and Servén, 2010). In 2010, countries in Latin America spent on average of 3 percent of GDP on infrastructure, while East Asian economies invested over 7 percent of their GDP. In the LPI ranking eight out of the 11 East Asian economies were among the top 50 countries. For these top performing countries, transport and logistics services have been the backbone of their export oriented economies and urbanization processes. The GDP of East Asian countries doubled since 1970, and now represents 40 percent of the global GDP and more than half of the global trade and capital flows (de la Torre et al. , 2015). As noted in the World Bank's East Asian Renaissance Report (Gill & Kharas, 2007), the story of East Asia's success is built on the high productivity and performance of its cities.

The rest of this chapter discusses the critical role that connectivity plays and can play in Latin

America at the regional, country and local level. It is argued that the promotion of productivity of cities, trade competitiveness, and sustainable economic growth is related to spatial development and the performance of a competitive system of inter-connected cities.

CONNECTING BEYOND AND BEHIND BORDERS

The competitiveness of cities in a global environment rests on their capacity to develop and sustain a comparative advantage in tradable products and services; thus the growth trajectory of Latin American economies will depend to a significant extent upon the export competitiveness of its cities. The world's most competitive cities maintain ties with the frontiers of ideas and technologies and attract FDI in activities that provide knowledge transfers. However, cities with limited connectivity, resulting in a high share of transport and logistics costs, will not be either competitive nor attractive to foreign investors. It is noteworthy that compared to East Asia, Latin America's export bundle is much more transport intensive with high weight-value ratio due in part to the reliance on primary commodity exports. Land transport based trade among neighbors is limited, not above 10 to 20 percent in most countries excluding the border trade between Mexico and US. Consequently, cross-border trade depends heavily on maritime transport. Air transport is used mainly for high value, time sensitive products, but the world share of air freight used by the region is only 3

percent compared to 20 percent in East Asia and 50 percent by the advanced countries (de la Torre et al. , 2015). Therefore, quality of port services, freight clearance and custom services, port access to road and/or rail, intermodal transfer facilities, storage facilities, and the quality of shipping line services become important determinants of trade competitiveness.

On average, for example, 40 percent of shipping price differences between the LAC region and the US and EU markets is the result of port and airport inefficiencies (Guerrero et al. , 2009). Most countries are served by the branch lines of shipping companies that connect them to the two regional hubs - Panama and Jamaica. Only these hubs are directly served by global shipping companies. Hence, low port efficiency, lack of direct shipping links to major markets and limited competition in maritime transport sector increase overall transport costs in Latin America. Moreover, although Latin American countries are closer to US, a large economic market, the average ocean freight rate for export to US is almost 70 percent higher than those paid by exporters from Netherland (Guerrero et al., 2009) and more expensive than container shipping from Shanghai.

In addition, the global production system is changing rapidly with the steady decline in transport costs, accelerated use of communication technologies, multi-modal supply chains, and new practices of outsourcing, inventory management and packaging. The production cycle has become more geographically fragmented and intermediate products come from the places that are specialized and offer unique cost advantages, creating a web of intermediate producers in different countries. This trend has led to the emergence of China as a global manufacturing and product assembly center along with many other regional production centers like Bangkok, Kuala Lumpur, Manila, Singapore, Jakarta and Hanoi.

Unlike East Asia, most countries in Latin America are poorly connected with each other. Countries are large (e.g., Brazil and Argentina) posing challenges for internal connectivity; topographical

and environmental constraints (e.g., Amazon forest and Andean mountains) severely separate countries and create barriers within countries; and a large share of the population and urban settlements are near the coast, far from the borders with their neighbors. In Colombia, for instance, geography poses serious challenges for interregional transport. A relatively large number of cities are dispersed across mountainous terrain and far from coastal ports. Bogotá, the country's primary production center, is more than a day's drive from either the Atlantic and Pacific coasts, where agricultural products for export, fossil fuels, and raw materials are concentrated (Samad, Lozano-Gracia, & Panman, 2012).

Consequently, for most Latin American countries the cost of developing and operating land-based road and rail connections between production centers across countries has remained extremely high. This limits the potential for building efficient inter or intra-industry cross border linkages. However, the story of the three Mexican cities (Ciudad Juarez, Tijuana and Nuevo Laredo) at the border with US is a good illustration of how neighboring countries can nurture cross-border production networks for automobile, electronics and appliance industries —when transport costs do not pose almost insurmountable barriers. Similarly, in 1980s Singapore formed a growth triangle with Johor Baru in Malaysia and Riau island of Indonesia. Singapore supplied capital, technology and entrepreneurship while the other two centers provided relatively low cost land and labor. And the Southern China, PRC, established a cluster of industries in Guangzhou and Shenzhen cities with the capital originating in Hong Kong, China.

Distance from markets is a challenge in need of urgent attention in most Latin American countries, as it prevents cities from reaching their full economic potential and taking full advantage of the benefits of agglomeration economies. The share of logistics costs to GDP in the largest economies such as Argentina, Brazil, Chile and Colombia are two to three times the 9 percent level observed in EU countries (de la Torre et al.,

2015b). The landlocked countries such as Bolivia and Paraguay need road and/or rail access to ports in neighboring countries (Uruguay and Chile) to overcome the inland barriers to their exports. In other words, there is plenty of room for improvement. In addition, improved internal logistics can facilitate commodity shipments from surplus to deficit regions and helps in reducing price variations between regions. By making timing of delivery reliable, manufacturers reduce inventory holdings and adopt leaner, JIT production techniques. A well-developed logistics increases consumer's choices and producer's sources of supply and brings more markets within the reach of producers. The process ushers product diversification and scale advantages in using transport hubs, warehouses and logistics services with other producers. According to Evenett and Venables (2002), 40 percent of the trade growth in East Asia arose by offering new product lines and extending exports of existing product lines to new trading partners. There is a virtuous circle of benefits that begins with better transport connectivity and end up with better economic performance.

To conclude, the future prosperity of Latin America in export diversification will be closely tied to the expansion of hard and soft connective infrastructure to overcome the constraints posed by physical geography and ease internal and cross-border bottlenecks. In parallel, Latin American countries need to actively nurture intra-regional trade and cooperation to build a region-wide competitive production network of cities. Large countries with an export-oriented industrial base and human capacity, such as Brazil, Mexico, and Argentina, need to take steps to strengthen the competitiveness of their metropolitan cities and their connectivity to global, regional and internal markets, including their lower tier cities and lagging regions. For instance, these countries may find common interest in developing SEZs, industrial parks, and in some cases IT businesses in strategic locations, such as towns closer to a large city market, country borders and at the gateways of export or internal distribution (port, airport, rail hubs, logistics services, etc.).

CONNECTING CITIES AND BRIDGING SPATIAL DISPARITIES

Connecting cities increases the economic efficiency of the entire urban system. In every country the hierarchy of urban settlements includes (a) market towns that can capture economies in marketing and distribution of agricultural produce; (b) secondary cities providing locational advantages for different industries to develop; and (c) large dense cities as places of diversity and for frequent and effective exchanges between firms, industries and knowledge workers. Transport and logistics services facilitate movement of people and goods between the hierarchy of agglomerations and within them. But the level of interactions between any two urban areas depends upon their economic masses and the transport costs (including time) to overcome the distance between them. Because of this phenomenon, smaller cities and towns, which develop at the periphery of large cities or adjacent to megacities, usually within an hour of commuting time, are the ones that are most advantaged, while more distant ones are handicapped (Bertaud, 2016). For instance, the clustering of lower-tier cities near Sao Paulo, Rio de Janeiro, Mexico, Santiago and Buenos Aires attests to this phenomenon. But that does not preclude emergence of distant towns and cities that are specialized centers (e.g., Monterey in Mexico), tourist destinations, deliberately established administrative centers or, agricultural hubs, such as Brasilia and Manaus in Brazil. There are fewer examples of such success stories in the smaller Latin American countries. In all cases city growth is driven by increasing economic density, that is, concentration of firms and industries, which are attracted to the city to internalize location-specific productivity gains in production,

operations and marketing. The growing cities enhance their utility by providing quality transport access to consumers, amenities and services, land, and composite goods.

Transport connectivity is essential to increasing economic density, and can play an important role to enhance the location-specific productivity of firms and industries in mega-regions. The process of increasing density strengthens agglomeration economies and generate additional benefits to the firms and industries by increasing opportunities for sharing, matching and learning with other firms, industries and service providers. Studies have found that population and employment density of settlements fall between 6 and 15 percent with the doubling of distance to a highway or railways (Redding & Turner, 2014). While the emergence of peripheral cities help to decongest megacities by offering cheaper land and housing, it also worsens the problem of sprawl and de-densification. The peripheral cities become home for the mature industries and workers who move out from their mega-city as seen in the case of San Paulo and Rio de Janeiro. By 2010 the city of Sao Paulo was left with only 23 percent of employment in industry while tertiary sector represented over 75 percent of total output and 61 percent of jobs. The question is what role transport can play to enhance the productivity of firms and industries in these mega-regions.

Since the effect of investing in connective infrastructure is similar across economies at different stages of development, the urbanization history of Japan and Republic of Korea are worth reviewing. After the World War II, the four cities of Japan situated along the Pacific coast —Tokyo, Yokohama, Osaka and Kobe— became the major industrial centers. To reduce congestion resulting from the rapid growth of these centers, the 1962 Spatial Development Plan promoted development of an industrial belt by connecting the four agglomerations by a multi-modal transport system including the bullet train, other railways, expressways and ports. Multi-modal transport investment took into consideration the fact that

different sectors respond differently to different modes of transport, and the mode choice behavior of people is different from firms. The transport investment enhanced mobility of workers and at the same time permitted relocation of industries from the congested core to surrounding new industrial estates. The skill and diversity of the labor force in the urban core helped to replace the standardized products of manufacturing with high-tech products (Cox, 2012).

The large urban centers of South Korea underwent economic transformation over three decades and underpinned the country's export oriented growth strategy. Transport and logistics policies and investments were critical components of the government's strategy to stay competitive in response to the evolving globalization pressures. Multi-modal transport network offered a mix of modes that were most appropriate for different markets and their users (see Box 3.1).

**Box 3.1 —
Korea: A Successful Case of Spatial Transformation**

In less than four decades, Korea's urbanization level reached 91 percent, up from 29 percent in 1960. The three major cities —Seoul Pusan and Taegu— were magnets for rural migrants. In the 1960s Seoul alone absorbed 60 percent of the migrants into labor-intensive export activities and was the primary growth driver with one-third of all manufacturing and two-fifth of national population. By the 1970s, Korea entered into its capital-intensive growth phase by developing heavy and chemical industries. The shift gave more locational preference to smaller port cities (Inchon, Ulsan, Pohang) and at the same time, a process of de-concentration began (due to increasing costs in the two major cities) that favored both satellite cities to those primary cities and the development of other areas (see Henderson, Lee, & Lee, 2001). Although in 1983 six cities of more than one million people were home to 53 percent of urbanites, the picture in 1993 would be quite different. The southeastern corridor of the three largest cities —Seoul, Daegu and Pusan—, which served as the spine of economic development and logistics services for global trade, would see their share of national employment fall from 44 percent to 28 percent. The share of manufacturing in Seoul declined from 30.5 percent in 1981 to 18.9 percent by 1995, and secondary cities took up the slack because manufacturing remained the driver of growth in Korea.

This was not accidental insofar as government policy to promote local industrial development and de-concentration from Seoul was backed up by a vigorous program of infrastructure investments. The government maintained sustained support to the expansion of high quality transport and logistic infrastructure as the structuring element of urbanization, regional development and export competitiveness. Almost 106 thousand kilometers of national roads provided 30 minutes access to every part of the country. A high-speed rail connecting Seoul to Pusan corridor reduced journey time from 6 hour and 40 minutes by rail in 1960 to less than two hours. The high-speed rail extension to Inchon now connects the Pusan's port with Inchon's port, airport and logistics center. In 2004, the rail sector was reformed to liberalize access to rail track use. Multimodal centers, integrated logistics terminals and numerous provincial logistic complexes were opened. It has been documented that Korean productivity was aided and abetted by localization economies emanating from high quality infrastructure investments in secondary cities (Henderson et al. 2001). Going beyond the case of Korea, there is evidence that investments in inter-regional infrastructure helps the spatial distribution of economic activity (Davis & Henderson, 2003), a process also fostered by fiscal decentralization.

In both Korea and Japan, public policy played an important role in planning and determining the location of investments in connective infrastructure. Infrastructure investments were directed to reorganize the spatial geography of economic activities and promote specialization at desired locations. The experience of East Asian countries shows that enhancing competitiveness and productivity of cities as an integrated system is pivotal to the success of national economic development strategies. In both cases, there were over-arching economic development agencies, MITI in Japan, and the Economic Planning Board in South Korea that ensured a) consistency of policy, b) coordination of policy actions across sectors, and c) integration of investment plans so that both ministries and business understood well what the public investment program was expecting to deliver. Thus spatial development, infrastructure planning,

and national growth strategies were exceptionally well coordinated, producing excellent results. Much of this was replicated in other countries, with the most success seen in China in recent decades.

The issue of metropolitan governance and management, which was discussed earlier, is also relevant for connectivity as relatively few metropolitan regions manage to integrate well their transport systems, let alone their governance structures. Financing and politics are usually the stumbling blocks to successful integration of metropolitan city efforts. It is the case in many metropolitan areas, that the mega-city includes many administratively distinct and politically independent entities. This creates distinct disadvantages for service delivery, especially in transport, and it can very severely affect the fortunes of the working poor. Afterall,

Box 3.2 — Metropolitan Management in Seoul

Seoul Metropolitan Region (SMR), which includes the provinces of Seoul, Incheon and Kyonggi, had a population of about 3.2 million in 1960, which increased to 11.9 million in 1980 and 25.6 million by 2012. The growth of Seoul continued to spread and ultimately formed a network of cities with Seoul at the center. With rising land value and housing shortage in Seoul, people moved to satellite cities while industries shifted to outer areas. To connect the region and address its mobility needs, Seoul embarked on constructing a subway network that opened its first line in 1974 and expanded to 825.2 km (13 lines) by 2014. To abate the traffic congestion and declining use of public transport Seoul instituted congestion charges in the center city and expanded bus lanes (almost 160 km). In 2005, a Metropolitan Transport Authority was established to coordinate investments and policies within the SMR. To manage and restrain development within SMR the first Capital Regional Management Plan (1984-96) was adopted. Besides land zoning the plan proposed congestion charges on development and an overall ceiling on industrial activities; however, the plan failed to constraint development and came under criticism. With the decentralization of power to mayors of cities in 1995 and the economic crisis of 1997 the attitude of local governments had shifted towards growth instead of dispersal. The second capital plan of SMR (1997-2011) emphasized the need to attract high tech industries, and to develop the SMR as a polycentric region with an integrated regional transport network. Moreover, with the increasing incomes and the knowledge based economic transformation of Korea, the demand for environmentally sustainable practices in municipal services and their living environment is also increasing.

Source: Hae & Ahn (2015)

Box 3.3 — The CAF and Argentine Cities

Argentina’s urban panorama is characterized by a large concentration of economic activity in Greater Buenos Aires (more than a third of national GDP originates there) and a further concentration in the next 5 cities, all considerably smaller but still accounting for another large part of output if not population. This spatial concentration in the center of the country leaves many smaller yet fast-growing urban centers in the provinces without distinct sources of growth (World Bank, 2016a). The government is attempting through a Plan Belgrano for the ten northern provinces to promote economic growth and provide better basic services.

The CAF announced in May 2016 that it would provide a total of \$ 2billion in infrastructure and social development lending to Argentina over the next four years with a heavy concentration on northern provinces. This effort can be seen as a move to both develop the north and also help make northern urban concentrations more productive and better connected to the rest of the country. This regional development plan should be seen as part of Argentina’s push to find new sources of economic growth and to link provincial growth opportunities with national goals of greater inclusion.

large segments of the working poor spend large chunks of their day going to and coming from jobs. Management of metropolitan transportation thus becomes a critical feature of pro-poor interventions. One successful example of transport coordination and integration was the alignment of the Sao Paulo metro system with the urban light rail expansion that reached into poor neighborhoods and significantly reduced travel times (see World Bank, 2012). A binding constraint is lack of collective action that can only be overcome with strong efforts at coordination. One successful example of metropolitan coordination —the case of Seoul— is presented in Box 3.2.

In a national development context, improvements in connectivity are also needed to bridge spatial disparities within urban systems by connecting lagging and leading regions. Due to the high rate of urbanization, it is no surprise that urban-to-urban migration is now the most prevailing spatial movement in Latin America. Labor migration is now more pronounced between cities than from

rural to urban areas in Latin American countries. It mostly occurs from lagging to leading regions (see World Bank, 2016a). Despite a high degree of urbanization, there are lagging regions in all countries of Latin America which are far from leading regions and economically distant from megacities, such as the parts of southern Mexico, western Brazil, northern Argentina and Andean regions. The rate of poverty (i.e., proportion of poor in the population) in these areas is high though the mass of poverty (total number of poor) remains concentrated in the largest cities. Efforts to better integrate lagging regions to stimulate real economic activity are high priorities for most governments, and in the end, may well rely on transport connectivity as a major and early intervention.¹¹

¹¹. See Plan Belgrano for Argentina and Box 3.3 for a major announced program by the CAF

CONNECTING PEOPLE TO OPPORTUNITIES WITHIN CITIES

In cities, transport connects people with opportunities and producers with consumers. Improvements in transport infrastructure (such as roads and rail, metro and BRT) and services produce savings in time and costs of interactions, and in return it enhances the productivity of urban workers, businesses and industries. The full benefits of transport improvements goes beyond road users by enabling clustering of urban activities at high access locations, a process which improves efficiency of interactions within clusters, and consequently enhances overall urban productivity. But as travel demand exceeds network capacity the resulting traffic congestion begins to impose costs of delays directly on city road users and indirectly on the productivity of urban economy, primarily by decreasing the locational advantages of cluster activities in congested areas.

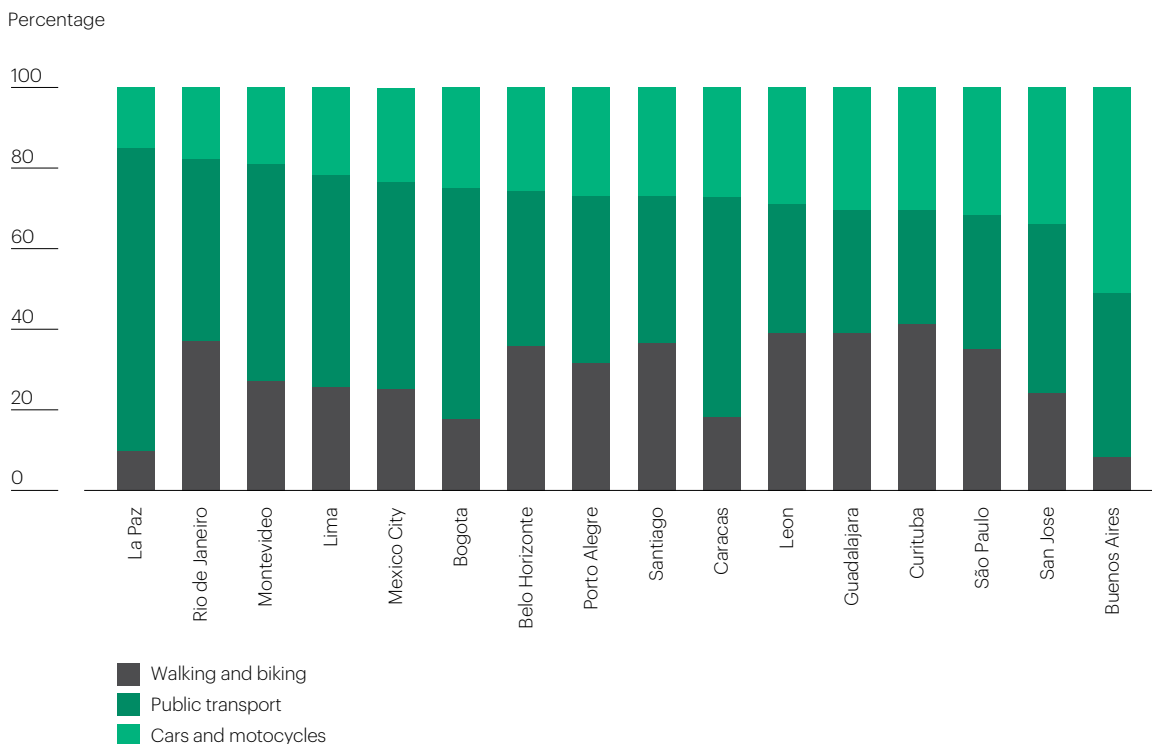
In metropolitan cities of Latin America private vehicular use (automobiles and motor cycles) usually outpaces the road capacity causing congestion and long commute times for workers, with significant variations in modal shares across cities (see Figure 3.1). Average motorization rates in Ecuador, Peru, Bolivia and Colombia are between 50-70 vehicles per 1000 inhabitants; it is much higher (viz., 100 to 185 vehicles per 1000 persons), however, in much of the region, especially if compared to Asia's average of 50 in 2009. In Mexico City, two new cars enter into circulation every time a child is born (Jiron, 2011). During 2000-2010, the average annual growth rate of motorized vehicles in most countries in the region exceeded 5 percent. And in Brazil it reached 16.7 percent per year, though almost 38 percent of registered vehicles were motorcycles (Hidalgo & Huizenga, 2013).

This trend of rapid motorization and inadequate public transport services is a matter of serious concern for most large cities and more so in Mexico City and Buenos Aires. The rising levels of urban air pollution, traffic delays, fatalities in road accidents and carbon emissions, the “negative externalities” of transport, are taking a toll on the urban economy and lives of urban residents. It is jeopardizing the region-wide drive to reduce carbon emissions in support of climate change goals. In 2007, the estimated average economic value of these externalities was US\$1,000 per person per year in selected large cities of the region. The city with lowest aggregate externalities per person was Curitiba at US\$591 per person per year, almost 11 percent of the Curitiba resident's average annual income, while the largest externalities per person per year estimated for Mexico City was US\$1,325, representing about 22 percent of the average annual income of city residents. These are indicative figures but illustrate the degree to which large cities are experiencing motorization linked diseconomies, despite popularity of public transport use in many cities (see Table 3.1).

To manage transport sustainability issues, cities need a set of mutually interdependent measures with three broad objectives — (a) to reduce overall travel demand (Vehicle Miles/Km travelled, “VMT or VKT”) by shaping urban development and its activities, (b) to limit use and ownership of personal motorized modes (cars and motor cycles) while promoting the use of affordable and accessible public transport and non-motorized travel (walk and bike), and (c) to reduce emissions by promoting low carbon fuel and vehicle technologies. However, in most Latin American cities, the demand for affordable and reliable public transport is outpacing the supply, particularly in peri-urban areas where a high share of the working poor are obliged to live. For instance, in Mexico City beyond the 201 km network of metro system, residents are obliged to use two to three separate shared taxis or micro-buses (“colectivos”) to get to job sites. The lack of good connectivity in peri-urban areas has increased both time and cost of travel significantly and the poor suffer the most. This is a worldwide phenomenon, with estimates showing, for example, that workers in the greater

FIGURE 3.1

Modal Shares of Travel in Selected Latin American Cities (2007)



Modal share for passenger urban mobility in selected cities (2007) (OMU CAF, 2010—all cities except La Paz; FTS survey; UNCRD-IDB, 2011 for La Paz)

Source: Hidalgo & Huizenga (2013)

Johannesburg, South Africa metro area spending a large proportion of wages on transport costs and also traveling many hours to and from work.

For large cities of the region, intra-urban spatial inequity, especially as seen in the distances between where people work and where they live, is a main driver of persistent inequality. Of course, outlying areas also suffer from inadequate access to a range of public services and to inferior service delivery, in education and health in particular. The concept of accessibility, a measure of the potential for accessing opportunities (jobs, school, clinics, playfields

etc.) within a pre-defined threshold (usually time or cost), helps to analyze spatial disparities in accessing economic and social opportunities in a city. For instance, if the threshold is assumed to be one hour then the job accessibility of a location will be the number of jobs that the residents of that particular location can access within an hour. Accessibility of a neighborhood can be improved either by improving transport services to opportunities or by bringing opportunities closer to that neighborhood. By maintaining citywide adequate level of job accessibility a city improves worker's access to a wider mix of jobs, facilitates matching of skills with jobs, and permits

TABLE 3.1

Estimated Transport Externalities in Selected Large Cities of Latin America

Metropolitan areas	Travel time	Traffic fatalities	CO	HC	NOx	SO ₂	PM	CO ₂	Economic value
	Minutes/person/day	Deaths/100,000 people/year	Ton/millon people/day						USD/person/year
Belo Horizonte	46.00	7.30	35.0	8.33	5.18	0.187	0.312	813	709.56
Bogotá	67.93	6.94	71.0	9.76	7.02	0.243	0.141	1021	983.17
Buenos Aires	64.62	6.92	74.9	19.82	9.20	0.633	0.693	1733	962.11
Caracas	62.20	5.96	126.4	20.29	8.61	0.765	0.444	1284	927.38
C. de México	87.57	11.29	128.3	20.77	8.40	0.400	0.426	1328	1325.51
Curitiba	40.41	4.20	39.1	9.47	4.60	0.174	0.313	775	591.10
Guadalajara	65.60	15.84	93.0	9.58	8.46	0.229	0.343	1142	1114.33
León	60.99	14.33	57.4	6.32	6.32	0.147	0.221	822	1114.99
Lima	72.85	6.32	96.1	8.58	10.55	1.627	0.625	1441	1049.79
Montevideo	45.18	10.78	39.4	6.18	4.45	0.603	0.528	668	758.49
Porto Alegre	40.26	11.40	51.8	12.58	6.10	0.293	0.410	1040	719.64
Río de Janeiro	59.72	12.29	63.4	14.00	9.84	0.318	0.468	1449	981.47
San José	45.86	7.93	65.3	10.49	6.37	1.088	0.699	1099	735.77
Santiago	86.59	5.35	11.6	1.28	2.17	0.348	0.232	1036	1156.22
São Paulo	55.56	14.20	68.6	16.93	6.19	0.490	0.437	1200	961.90
Promedio	66.00	9.60	78.1	14.34	7.56	0.512	0.440	1264	1014.40

Note: data on travel time, fatalities and emissions from OMU CAF (2010), economic value estimated by the authors. Assumptions: 310 days per year; value of time: USD 2.35/h; value of life: USD 1673.584/fatality; value of emissions: carbon monoxide (CO) – USD 1000.0/ton; hydrocarbons (HC) – USD 2200.0/ton; nitrogen oxides (NOx) – USD 2500.0/ton; sulfur dioxide (SO₂) – USD 800.0/ton; particulate matter (PM) – USD 30,500.0/ton; carbon dioxide (CO₂) – USD 20.0/ton.

Source: Hidalgo & Huizenga (2013)

efficient interactions among various economic actors. The process enhances productivity and livability of an agglomeration economy. Therefore, accessibility measures, the outcome of transport and land use interactions, are useful tools to expose issues of spatial inequities that exist in cities and around cities.

For instance, the development of Buenos Aires, over the past two decades, has been characterized by low population density with peripheral growth consisting of high income, gated communities and

low income housing. In the past, spatial growth of cities was largely shaped by railway networks. But after 1980 the expansion of highways connecting the center city with periphery of Greater Buenos Aires has accelerated low-density development and dependency on the use of motorized personal modes of transport. This trend of low density, auto-oriented periphery development with limited supply of public transport services is severely limiting access to economic opportunities for low income residents of areas that are highly dependent on public transport. A

study of accessibility and growth (Peralta Quiros & Mehndiratta, 2015) suggests that Buenos Aires has grown largely in areas with poor transit employment accessibility.

Similarly, many residents of Mexico City's peripheral communities which are not served by the 201 Km metro system spent over 3 hours (see the city-wide average commuting time in Table 3.1) travelling to and from work and incur between 20-25 percent of daily wages in travel expenditures. Moreover, transit employment accessibility reduces informality as seen in the case of Sao Paulo. Between 2000 and 2010 a study found that improvement of public transport services had reduced informality rates (participation in informal sector jobs) on average 16 percent faster compared to areas that faced delays in upgrading public transport services (Moreno-Monroy & Ramos, 2015). These trends co-exist with improvements in income distribution that is noteworthy in Brazil and that is more due to labor market gains via employment than to transfer programs (see Frischtak, 2012).

Today, transportation experts increasingly consider accessibility to be a better measure of intra-urban connectivity than traditional mobility. It is at least as important for metropolitan residents to be able to access a range of activities, such as jobs, via the transportation system, than it is for systems to simply move vehicles faster and reduce travel times. However, when it comes to the question of how effectively urban transport infrastructure connects people and jobs within and across metropolitan areas, strikingly little is known. There are few comprehensive national databases of the spatial geography of public transport services, and even fewer metropolitan areas use factors like job accessibility via transit to drive investment decisions. The scope for connecting poverty mapping to affordable transport access is an area for additional analytic effort, leading to important policy considerations to improve income inequalities in urban areas. Given the limited resources and the competing investments needs in large cities, it has become increasingly important to understand not just the location and frequency of public transport, but ultimately how

well public transport aligns with where people work and live. The achievement of many 2030 SDGs will revolve around the way in which cities and national administrations deal with accessibility and affordability of transport concerns.

4 —
CONCLUDING
REMARKS
AND POLICY
OBSERVATIONS

The interests of national governments to find sources of economic growth that are sustainable and more equally shared among members of society have never been greater. This reality stems from the following factors: first, globalization has run into some setbacks and global investment rates have not kept pace despite historically low interest rates with the amounts needed to further the economic expansion that is in the interest of emerging and developing economies in particular; second, the issue of sustainability is uppermost in the global agenda as global warming threatens parts of the globe and increases economic uncertainty, nowhere more clearly than in cities; and lastly, the issue of inequality has increased in importance, even as significant gains in absolute poverty reduction have been achieved, and it is clear that the achievement of SDGs will require a major effort in the world's cities to deal with inequalities of opportunity and inequities of economic and social outcomes.

The conclusion to be derived from this fresh reality in 2016 is that a major effort in the world's cities is indispensable for the period 2016-2030, during which the urban landscape will undergo significant shifts. Whereas past decades may have needed to deal with rural poverty, and there clearly are major challenges remaining in that ambit, the name of the game is how to make cities more productive, more manageable, and more conducive to the aspirations of increasing urbanized populations. This challenge is too great to be left entirely to city administrations alone. Local management has tremendous potential advantages, but only if matched both with national infrastructure investments and coordination with national development strategies and policies. Hence our major conclusions begin with the following observations and calls to action to policymakers:

- First, cities, and here we speak not only of primate cities but also of intermediate-sized cities, and more importantly of networks of urban agglomerations, will be where the action will be on job and income creation, improvements in climate change management, and access to vital services that can either facilitate or retard the achievement of economic and social goals, such as the SDGs.

- Second, to be effective, national development policies must be better aligned with urban policies; in other words, only with coordination policies between cities and national government on vital issues, such as infrastructure investment, employment and skill development, and basic service provision, can real progress be achieved. To be frank, devolution of power must be matched with effective coordination, and this is often lacking in the national economic policymaking circles.

- Third, one of the vital keys to linking cities of various sizes in competitive networks is infrastructure connectivity, an effort that involves national governments, local governments, aid agencies, and the private sector. These efforts can be complementary; however, this necessitates both better planning and effective execution according to a unified strategy for development.

The CAF as well as other external financiers can have a helpful supporting role in all three of the aforementioned challenges. These efforts in Latin America can be replicated in other regions as well by multilateral development efforts that seek to draw in all players, both domestic and external. A significant investment in the policy dialogue between cities and national governments is long overdue. This needs to be a priority for action. Moreover, there is also a pronounced trend to ignore urban problems until they reach crisis levels. This is costly, politically damaging, and societally painful as seen in rising crime statistics and worsening inequality in cities. There is ample evidence that dictates the nature of the problems to be faced going forward; yet, the pace of strategic directions for effective action lags behind. Habitat III provides an ideal opportunity for governments and advisors to take stock and plan more effective interventions for the 2016-2030 period that will in large measure determine whether countries and their increasing urban populations manage to effectively cope with the challenges before them. Time is of the essence and the stakes have never been higher.

REFERENCES

- Ahrend R., Farchy, E., Kaplanis, I., and Lembcke, A.C. (2014). "What Makes Cities More Productive? Agglomeration Economies and the Role of Urban Governance: Evidence from 5 OECD Countries." OECD Regional Development Working Paper. Paris.
- Bethell, L. (1998). *Latin America: Economy and Society Since 1930*. Cambridge University Press.
- Bhat, K. (2011). *Congestion Pricing: An Overview of Experience and Impacts, Climate Change and Land Policies*, Chapter 10. Cambridge, Mass.: Lincoln Institute of Land Policy.
- Bhattacharya, A., Oppenheim, J., and Stern, N. (2015). *Driving Sustainable Development through Better Infrastructure: Key Elements of a Transformation Program*, Brookings. <https://www.brookings.edu/research/driving-sustainable-development-through-better-infrastructure-key-elements-of-a-transformation-program/>
- Cervero, R. B. (2013). "Linking urban transport and land use in developing countries." *Journal of Transport and Land Use* 6.1 (2013): 7-24.
- Cervero, R. B., and Murakami, J. (May 2008). *Rail + Property Development: A Model of Sustainable Transit Finance and Urbanism*. Working paper. UC Berkeley Center for Future Urban Transport, A Volvo Center of Excellence <http://www.its.berkeley.edu/sites/default/files/publications/UCB/2008/VWP/UCB-ITS-VWP-2008-5.pdf>
- Choe, Song-Chueland Kim, Won Bae (n.d.). *Globalization and Urbanization in Republic of Korea*. <http://www.rrojasdatabank.info/facets/facetsp123-137.pdf>
- Commission on Growth and Development (2008). *The Growth Report: Strategies for Sustained Growth and Inclusive Development*. Washington, DC: World Bank.
- Commission on Growth and Development (2009). *Post-Crisis Growth in Developing Countries*. Washington, DC: World Bank.
- Cox, W. (2012). "The Evolving Urban Form: Osaka-Kobe-Kyoto." *Newgeography*. March 22, 2016. <http://www.newgeography.com/content/002750-the-evolving-urban-form-osaka-kobe-kyoto>
- Davis, J., and Henderson, J.V. (2003). "Evidence on the Political Economy of the Urbanization Process." *Journal of Urban Economics*, 53, 98-125.
- De la Torre, A., Didier, T., Ize, A., Lederman, D., and Schmukler, S. L (2015). *Latin America and the Rising South : Changing World, Changing Priorities. Latin America and Caribbean Studies*. Washington DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/21869>
- EIU (Economist Intelligence Unit) (2012). *Hot Spots: Benchmarking Global Cities Competitiveness*. Commissioned by Citi. <http://www.economistinsights.com/sites/default/files/downloads/Hotpercent20Spots.pdf>
- Ellis, P., and Roberts, M. (2016). *Leveraging Urbanization in South Asia: Managing Spatial Transformation for Prosperity and Livability*. Washington, DC: World Bank.
- Evenett, S., and Venables, A.J. (2002). *Export Growth in Developing Countries: Market entry and Bilateral Trade Flows*. University of Bern, working paper, mimeo.
- Foster, V., and Briceño-Garmendia, C. (2010). *Africa's Infrastructure: A Time for Transformation*. Africa Development Forum. Washington, DC: World Bank.
- Freire, M.E., Lall, S., and Leipziger, D. (2015). "Africa's Urbanization: Challenges and Opportunities", in Monga, C., and Lin, J., *Oxford Handbook of Africa and Economics*, Vol. 1. Oxford University Press, pp. 584-602.
- Frischtak, C. (2012). *A Social-Democracia Brasileira: Seu Momento de Definição*, paper for the XXIV National Forum, Rio de Janeiro.

- Gil Sander, F., Blancas Mendivil, L. C., and Westra, R. (June 2015). *Malaysia Economic Monitor: Transforming Urban Transport*. Washington DC: World Bank Group. <http://documents.worldbank.org/curated/en/509991467998814353/Malaysia-economic-monitor-transforming-urban-transport>.
- Gill, I., and Kharas, H. (2007). *An East Asian renaissance : ideas for economic growth*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/517971468025502862/An-East-Asian-renaissance-ideas-for-economic-growth>
- Glaeser, E. (2008). *Cities. Agglomeration, and Spatial Equilibrium*. Oxford University Press.
- Guerrero, P., Lucenti, K., and Galarza, S. (2009). *Trade Logistics and Regional Integration in Latin America and the Caribbean*. Series of working papers, 148. <http://www.iadb.org/wmsfiles/products/publications/documents/35031936.pdf>
- Hae Un Rii, and Ahn Jae-Seob (2015). *Urbanization and its Impact on Seoul, Korea*. <http://gnetmob.com/urbanization/3-urbanization-and-its-impact-on-seoul-korea.html>
- Henderson, J.V. (1994). "Where Does an Industry Locate?" *Journal of Urban Economics* 35(1):83-104.
- Henderson, J.V. (2000). *The Effects of Urban Concentration on Economic Growth*. Working paper of the National Bureau of Economic Research (NBER) No. 7503.
- Henderson, J.V. (2003). "The Urbanization Process and Economic Growth: The So-What Question." *Journal of Economic Growth* 8 (1): 47-71.
- Henderson, J. V., Lee, T., and Lee, J. Y. (2001). "Scale Externalities in Korea." *Journal of Urban Economics*, vol. 49, pp. 479-504.
- Henderson, J.V., Storeygard, A., and Deichmann, U. (29 May 2014). *50 years of urbanization in Africa: Examining the role of climate change*. <http://www.parisschoolofeconomics.eu/IMG/pdf/pse-rues-juin2014-henderson.pdf>
- Hidalgo, D., and Huizenga, C. (2012). "Implementation of Sustainable Urban Transport in Latin America." *Research in Transportation Economics* 40.1 (2013): 66-77.
- IMF (International Monetary Fund) (2015). *Macroeconomic Developments and Prospects in Low-Income Developing Countries*. November 16.
- Jedwab, R. (2010). *African Cities and the Structural Transformation: Evidence from Ghana and Ivory Coast*. <http://www.csae.ox.ac.uk/conferences/2011-edia/papers/149-jedwab.pdf>
- Jedwab, R. (2013). *Urbanization without Structural Transformation: Evidence from Consumption Cities in Africa*. Department of Economics. George Washington University. http://home.gwu.edu/~jedwab/JEDWAB_AfricanUrban_Feb2013.pdf
- Jiron, P. (2011). *Sustainable Urban Mobility in Latin America and the Caribbean*. Technical report. Nairobi, Kenya: UN-HABITAT. <http://www.unhabitat.org/grhs/2013>
- Klink, J. (Dec. 2008). "Building Urban Assets in South America." *LSE Cities*. <https://lsecities.net/media/objects/articles/building-urban-assets-in-south-america/en-gb/>
- Lam, S.H., and Toan, T.D. (2006). "Land Transport Policy and Public Transport in Singapore." *Transportation*. March 2006, Volume 33, Issue 2.
- Leipziger, D. (ed.) (1997). *Lessons from East Asia*. Ann Arbor: University of Michigan Press.
- Light Pollution Atlas (2006). *Map data Google 2016 INEGI imagery*, NASA. Recovered from <https://djllorenz.github.io/astronomy/lp2006/overlay/dark.html>
- Mansuri, G., and Rao, V. (2013). *Localizing Development : Does Participation Work?* Policy Research Report. Washington, DC: World Bank. License: CC BY 3.0 IGO. <https://openknowledge.worldbank.org/handle/10986/11859>

- McKinsey Global Institute (Aug. 2011): *Building Competitive Cities: The Key to Latin American Growth*. file:///C:/Users/Jit/Downloads/MGI_Building_competitive_cities_full_report.pdf
- Melo, P., Graham, D., and Noland, R. (2009). "A Meta-Analysis of Estimates of Urban Agglomeration Economies." *Regional Science and Urban Economics* 39 (3): 332-42.
- Moreno-Monroy, A.I., and Ramos, F. (2015). *The impact of public transport expansions on informality: the case of the São Paulo Metropolitan Region*. <http://www-sre.wu.ac.at/ersa/ersaconfs/ersa15/e150825aFinal01551.pdf>
- Muzzini, E., and Aparicio, G. (2013). *Bangladesh: The Path to Middle-Income Status from an Urban Perspective. Directions in development - Countries and Regions*. Washington, DC: World Bank.
- Muzzini, E., Eraso Puig, B.; Anapolsky, S., Lonnberg, T., and Mora, V. (2016). *Leveraging the Potential of Argentine Cities: A Framework for Policy Action. Directions in Development. Countries and Regions*. Washington, DC: World Bank.
- Nassif, A., Feijó, C., and Araújo, E. (2014). "Structural change and economic development: is Brazil catching up or falling behind?" *Cambridge Journal of Economics*, 4 February 2014. <http://cje.oxfordjournals.org/content/early/2014/11/11/cje.beu052>
- Njeri Kinyanjui, N. (2015). "Can Africa's Informal Sector Spur Growth?" *World Policy Blog*, 7 April 2015. <http://www.worldpolicy.org/blog/2015/04/07/can-africas-informal-sector-spur-growth>
- Norregaard, J., and Rappelin-Hill, V. (2000), *Taxes and Tradable Permits as Instruments for Controlling Pollution: Theory and Practice*. Retrieved from <http://www.imf.org/external/pubs/ft/wp/2000/wp0013.pdf>
- OECD (Organisation for Economic Co-operation and Development) (2015). *The Metropolitan Century: Understanding Urbanization And Its Consequences*. Paris: OECD Publishing. <http://dx.doi.org/10.1787/9789264228733-en>
- Peralta Quiros, T., and Mehndiratta, S.R. (2015). "Accessibility Analysis of Growth Patterns in Buenos Aires, Argentina." *Transport Research Record Journal, Transport Research Board*, No. 2512, TRB, Washington DC, pp. 101-109.
- Redding, S.J., and Turner, M.A. (June 2014). *Transportation Costs and the Spatial Organization of Economic Activity*. National Bureau of Economic Research. Working Paper No. 20235.
- Richardson, B.J. (2004). "Is East Asia Industrializing Too Quickly? Environmental Regulation in its Special Economic Zones." *UCLA Pacific Basin Law Journal* 22.1 (2004): 150-244. http://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?article=2362&context=scholarly_works
- Richburg, K.B. (2011). "In booming China, how much infrastructure is too much?." *The Washington Post*. Digital edition, 22 October 2011. https://www.washingtonpost.com/business/in-booming-china-how-much-infrastructure-is-too-much/2011/10/14/gIQAyWuv4L_story.html
- Rodrik, D. (2015). *Premature Deindustrialization*. National Bureau of Economic Research. Working Paper No. 20935. Issued in February 2015. DOI 10.3386/w20935. <http://www.nber.org/papers/w20935>
- Rodrik, D. (2016). "The Return of Public Investment." *Project Syndicate*. 13 January 2016. <https://www.project-syndicate.org/commentary/public-infrastructure-investment-sustained-growth-by-dani-rodrik-2016-01>
- Rosenthal, S.S., and Strange, W.C. (2004). "Evidence on the nature and sources of agglomeration economies," in Henderson, J.V., and Thisse, J.F. (Eds.), *Handbook of Urban and Regional Economics*. Vol. 4. Elsevier. Amsterdam.
- Samad, T., Lozano-Gracia, N., and Panman, A. (2012). *Colombia Urbanization Review: Amplifying the Gains from the Urban Transition. Directions in development. Countries and Regions*. Washington, DC: World Bank.

- Shlomo, A. (2012). *Planet of Cities*. Cambridge, Mass.: Lincoln Institute of Land Policy.
- Spence, M., Kanbur, R., Leipziger, D., and Manyika, J. (2015). *Restarting Global Growth*, a Bellagio White Paper. Washington, DC: The Growth Dialogue.
- Sveikauskas, L. A., Townrow, P., and Hansen, E. (1985). "Intraregional Productivity Difference in Sao Paulo State Manufacturing Plants." *Weltwirtschaftliches Archiv* 121(4):722-40.
- UN-DESA (Department of Economic and Social Affairs) (2014). *World's population increasingly urban with more than half living in urban areas*. 10 July 2014. <http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>
- UN-DESA-Population Division (2014). *World Urbanization Prospects: The 2014 Revision, Highlights* (ST/ESA/SER.A/352).
- UNESCAP (2015). *The state of Asian and Pacific Cities 2015: Urban Transformation from Quantity to Quality*.
- UN-HABITAT (2012). *The State of Latin American and Caribbean Cities 2012: Toward A new Urban Transition*. Nairobi, Kenya: UN-HABITAT. <http://www.citiesalliance.org/sites/citiesalliance.org/files/SOLAC-ProjectOutput.pdf>
- UN-HABITAT (n.d.). *Background Paper. October 6. World Habitat Day*. <http://unhabitat.org/wp-content/uploads/2014/07/WHD-2014-Background-Paper.pdf>
- USA-Council of Economic Advisors (2016). *The 2016 Economic Report of the President*. The White House. Transmitted to the Congress, February 2016. <https://www.whitehouse.gov/administration/eop/cea/economic-report-of-the-President/2016>
- Vasconez, J., Galarza, N., and Shlomo, A. (Oct 15, 2015). *Preparing Growing Cities for Their Expansion: A Report on Valledupar and Monteria, Columbia*. Maron Institute of Urban Management. NYU, New York. <http://marroninstitute.nyu.edu/content/case-studies/preparing-rapidly-growing-cities-for-their-expansion1>
- Vuletin, G. (April, 2008). *Measuring the Informal Economy in Latin America and the Caribbean*. IMF Working Paper WP/08/102. Washington, DC.
- Williamson, J., and Zagha, R. (2013). Review of the book "The Future of Manufacturing in Brazil: Deindustrialization," in *Debate*, by E. Bacha and M. Baumgarten de Bolle, Jon Williamson Blog. <https://johnwilliamsonblogs.wordpress.com/2013/10/26/review-manufacturing-brazil/>.
- World Bank (1993). *The East Asia Miracle, Economic Growth and Public Policy*. New York: Oxford University Press for the World Bank.
- World Bank (2009). *Reshaping Economic Geography, World Development report*. Washington, DC.
- World Bank (2012). *São Paulo Metro Line 4 Project. Implementation Completion Report*. Washington, DC.
- World Bank (2014). *Connecting to Compete*. Washington, DC. http://d21a6b425f3bbaf58824-9ec594b5f9dc5376fe36450505ae1164.r12.cf2.rackcdn.com/LPI_Report_2014.pdf
- World Bank (2015). *East Asia's Changing Urban Landscape: Measuring a Decade of Spatial Growth*. Urban Development. Washington, DC: World Bank.
- World Bank, (2016). *East Asia and Pacific Economic Update, April 2016: Growing Challenges*. Washington DC: International Bank for Reconstruction and Development, World Bank.
- World Bank (2016b). *World Development Indicators. Structure of demand*. Table 4.8. <http://wdi.worldbank.org/table/4.8>
- World Bank-Ministry of Planning and Investment of Vietnam. 2016. *Vietnam 2035: Toward Prosperity, Creativity, Equity, and Democracy*. Washington, DC: World Bank. © World Bank. <https://openknowledge.worldbank.org/handle/10986/23724> License: CC BY 3.0 IGO

Yusuf, S. (Ed.) (2014). *The Buzz in Cities: New Economic Thinking*. Washington, DC: The Growth Dialogue.

Zegras, C. (2010). "The built environment and motor vehicle ownership and use: Evidence from Santiago de Chile." *Urban Studies*, 47(8): 1793-1817

Download this
publication here:

